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**Impact Of Globalization On Algerian Economic
Activities: Empirical Investigation**

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III. Student Background

Graduates of the Tlemcen University of economic Sciences (Abu-Bakr Belkaid) will work in a globalized world and need to have an understanding of global processes and global development.

I've been interested in international cooperation, global economic growth trends, and particularly, regional economic integration, commercial policy, international finance and processes such as the relationship between competitiveness, innovation and market structure since my university years. During my subsequent research, I focused on the implications of being an African country, the problems of sovereignty, the constraints and opportunities of international integration, as well as the challenges, threats and potentials of underlying globalization.

Actually, «**Globality**» is considered as a proof of the reality and significance of globalization. Which mean that there is no country or company that has not worked at the very heart of its shapes, through the dynamics of globalization which invest even in the peripheral areas through to the most symbolic borders. It is through the interaction, either incurred or assumed, with these dynamics that the future of North Africa is now being structured.

Gross domestic product (GDP) is the key economic indicator: its growth rate in real terms over time indicates an economic expansion or recession, while its (per capita) level gives a rough indication of the average living standard. Moreover, the comparison of the evolution of real GDP in different regions is an important measure of convergent or divergent trends, for example, for the catching up or falling behind of developing countries.

In this study the term globalization that has wide, complex and contradicting effects is tried to be analyzed mainly with its economic dimension on Algerian economic growth.

Globalization has impacted nearly every aspect of modern life and continues to be a growing force in the global economy. While there are a few drawbacks to globalization, most economists agree that it's a force that's both unstoppable and net beneficial to the world economy

Once the research objectives and questions have been determined the next issue I will face involves deciding which source of information will answer these questions.

During the last 4 years, I have been reading a large number of articles, journals, selecting documents obtainable online and textbooks each of which related to my subject. Academic websites like Emerald, InderScience Publishers, Sage, CIPD, Genamics Journal Seek, Athens, Mintel, JSTOR, Oxford Journals, Academic One File and Science Direct, which give further information, will be used to collect data.

To analyze the impact of globalization on the Algerian economic growth inductive approach is chosen because it is based on today's study and results from present analysis. Through my approach I will try to find common definitions of both globalization and economic growth and the link between them in order to enable me to design hypotheses, which I can then look at and develop some general conclusions by interpreting them.

IV. Declaration by Student

I neither declare that this work has been completed by me the undersigned and that I have not used any other than permitted reference sources or materials nor engaged in any plagiarism. All references and other sources used by me have been appropriately acknowledged in the work.

Declared on the: May 15th, 2017

X

Tahraoui Khadidja
Assistant prof. A

V. Abbreviation

ADF: Augmented Dickey-Fuller test

DA: Algerian Dinar

E N P: European Neighborhood Policy

E.G: Engel-Granger test

E.U: European Union

ECM: Error Correction Mode

GSP: Generalised Scheme of Preferences

FAO: Food and Agriculture Organization

FAS: Foreign Agriculture Service

FDI: Foreign Direct Investment

FRR : Fonds de Régulation des Resettles.

G8¹: Group 8 which include:

GDP: Gross Domestic Product

IAI: Istituto Affari Internazionali

IFM: International Monetary Fund

J.J: Johansen and Juselius

MNC: Multi National Companies

OECD: Organization for the

OPEC: Organization of Petroleum-Exporting Countries

TIFA: Trade and Investment Framework Agreement

TIFA: Trade and Investment Framework Agreement

U.N: United Nation

¹ The G7/8 provides an important occasion for busy leaders to discuss major, often complex international issues, and to develop the personal relations that help them respond in effective collective fashion to sudden crises or shocks. The summit also gives direction to the international community by setting priorities, defining new issues and providing guidance to established international organizations. At times it arrives at decisions that address pressing problems or shape international order more generally.

Abbreviation

U.S: United State

UNWTO: World Tourism Organization

VAR: Vector Auto-Regression

WITS: World Integrated Trade Solution

WTO: World Trade Organization

INTRODUCTION

“It has been said that arguing against globalization is like arguing against the laws of gravity” - Kofi Annan-, Former Secretary General of the United Nations

1-1- Introduction

Today, the term '**Globalization**' has become a '**buzzword**' in any economy all over the world, the growing integration of economies and societies all over the universe has been one of the most burning topics in international economics over the past few years.

Globalization is a vast topic, and no one thesis can cover all its aspects; World division of labor, migration and the re-location of industries and labor markets across the globe². Globalization has impacted nearly every aspect of modern life; while some Algerian citizens may not be able to locate Beijing, China on a map, they certainly purchase an overwhelming number of goods that were manufactured there.

Globalization does limit the independence of national governments in certain areas, nevertheless governments retain a wide range of choice, most notably in distributional policies. The weak participants in integration need more rules than the strong ones³. However, there is a danger that the rules will come to favor the strong. At the same time, as global trade becomes more firmly based upon a legal framework, this potentially enhances the power of the developing countries. In other words globalization involves shifts in power but these do not always favor the already powerful.

There is stronger evidence that economic growth itself causes increases in the share of the economy accounted for by international trade⁴, as well as shifts in the composition of trade away from primary products and towards more advanced manufactures; according to **HAL**⁵ the total value (imports plus exports) of Sino-Algerian trade increased fourteen fold⁶ between 2003 and 2012 (rising from 0.6 to 8.6 thousand million dollars).

² Axel Dreher april2006 Does Globalization Affect Growth? Evidence from a new Index of Globalization JEL: F02, F43, C82, H77, O57

³ Paul Collier and David Dollar, (2002), Globalization, Growth and Poverty Building an Inclusive World Economy, Washington D.C, World Bank and Oxford University Press, 2002. Pp. 174

⁴ U.S International Trade Commission,(1997),The Dynamic Effects of Trade Liberalization: An Empirical Analysis, Washington, DC 20436

⁵ **HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

⁶Thierry Pairault, China's economic presence in Algeria, <https://halshs.archivesouvertes.fr/UMR-CCJ>. 2015.

Economic theories generally support the conclusion that trade liberalization has a positive effect on economic growth. Economists disagree as to whether increases in the growth rate of a country's economy after a single episode of liberalization last indefinitely or are time-limited, and some have constructed scenarios in which liberalization might slow economic growth. Some empirical studies have identified a positive linkage between a country's rate of economic growth and its openness to international trade, while others have failed to demonstrate this linkage. One of the unresolved issues in such research is the appropriate quantitative measurement of the concept of "openness"

Economic growth is one of the indispensable elements for economic study⁷ and is influenced by many channels. Economic growth takes place when a country's real GDP increases in time and it is seen as an important indicator of welfare. It puts forward the economic structure of a country, GDP per capita and that country's development level (Takım, 2010).

We investigate the impact of globalization and openness in trade on the economic growth of Algeria by econometric testing using the Granger causality test (Cointegration approach). The key variables used in the study are in log transformation i.e. the log of GDP, log of exports and log of imports. In order to examine the existence of a causal relationship (both long run and short run) between economic growth and globalization in terms of trade openness measured by exports and imports of Algeria, the Granger causality was used with vector autoregression (VAR) methodology. The results of the error correction model (ECM) and Granger causality test suggest a causal relationship between GDP and the independent variables (export, import, agriculture and industry).

The exports show bidirectional Granger causality with economic growth, but imports do not Granger cause GDP and exports. This indicates a positive impact for globalization over trade and economic growth in Algeria. This vital connection may become a footstep for this country which is reluctant to open up their trade barriers. The empirical findings suggest bidirectional causality between exports and GDP, with impacts of globalization in terms of exports affecting economic growth (GDP). Accordingly, more export oriented policies may be recommended with strong checks on imports because expansion of exports may generate more foreign exchange for payment of import bills as well as enhance capital accumulation.

⁷ Okyay Ucan, 2016, The Relationship Between Export And Economic Growth In Turkey, Nigde University, Turkey, European Scientific Journal

This article adds three main contributions to the existing literature on growth

- 1) It studies the mutual impact of trade openness and financial sector development on GDP growth in Algeria.
- 2) It uses Algerian economic growth (GDP), as an alternative to Globalization to measure its the impact on Algerian activities.
- 3) It employs recent econometric techniques of Cointegration (E-G, J.J test) to estimate the relationship between my modelling variables. This tool makes the estimation possible when the explanatory variables are I (1)

From what was done above, one can formulate the following questions:

How does globalization and trade openness affect our economic growth?

1-2-Organization of the study

1-2-1-Organization

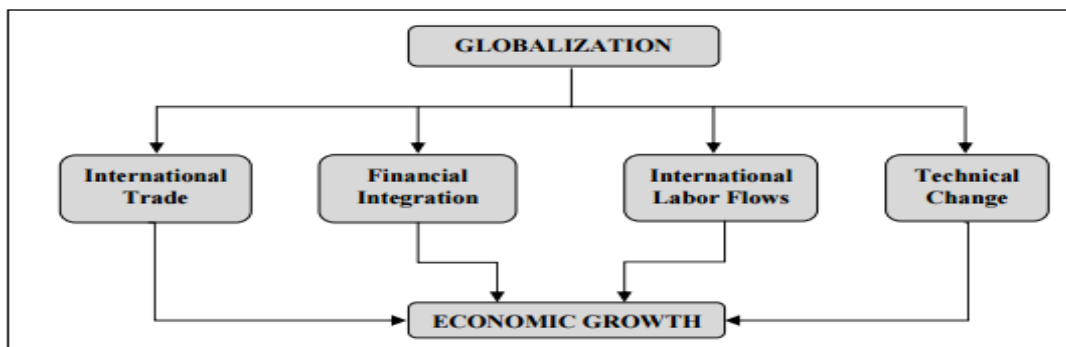
The concept of cointegration was defined by Granger (1981) and after the paper by Engel and Granger (1987) it has become one of the cornerstones in modern times series econometrics, although it was implicitly applied by Sargan (1964) and Davidson ,Hendry, Srba and Yeo (1978) , it's the purpose of this paper to give some simple examples of cointegrated times series and discuss in relation to a very simple economic problem , how cointegration can be useful .Examples of mathematical statistical models which allow such phenomenon are given.

This study is intended to apply cointegration (E.G And J.J techniques) to estimate short and long run elasticities in import demand for Algeria. The introduction part of the study investigates the vast view of globalization and stresses its importance. The second part reviews the existing Algerian economic fields. The third part of the study gives information about the data and methods used in the study. Fourth part of the study states the empirical method and obtained findings in the research. Final part of the study gives concluding remarks and summary of findings.

1-2-2-The significance of this study

Globalization`s effects on the economic growth of any country was started to be displayed more concretely. The current studies show that globalization affects the economic growth of a country through several channels. It is possible to examine this relation between globalization and economic growth on the Figure (01).

Figure 1: The relation between globalization and economic growth



Source: Hussain (2000, pp.2)

As it is seen in Figure (01), four different channels come out along with the globalization. These are international trade, financial integration, international labor flows and technical change. The positive development in these channels, which comes out with globalization, increases the economic growth of a country. This study aims to analyze the effects of economic, social and political globalization on economic growth levels of Algeria.

International liberalization's contribution to the growth process of economies has been of interest to many economists. Imports are a key part of international trade and the import of capital goods in particular is vital to stimulating economic growth, especially in countries characterized by limited productive capacity. The investigation of import demand function has important implications for macroeconomic policy issues (Tang, 2003). Some of which are the impact of expenditure switching through exchange rate management and commercial policy on a country's trade balance; the international transmission of domestic disturbances where import demand elasticities is a crucial link between economies; and the degree to which the external balance constraint affects a country's growth. Relatively large price elasticity would suggest that exchange rate policies are likely to be favorable in improving a country's trade or balance of payments situation (Sinha, 1997). Hence over the years, a substantial amount of research has been devoted to studying the aggregate demand for imports in developing countries as available evidence suggests that most developing countries have registered persistence unfavorable trade balances over the past three decades (Egwaikhide, 1999)⁸. In addition to some policy concerns, previous research is also built upon an important econometric drawback of traditional modeling approach⁹. In this regard, the standard import demand model relates the import demand to relative prices and an activity variable namely gross domestic product in most of the cases, and assumes that import content of each macro component of aggregate expenditure. Imports play an important role in developing economies. However, through it countries can safe goods and services that can't be produced domestically.

⁸ An Econometric Estimation of the Aggregate Import Demand, Function for Sierra Leone, David Bathalomew, Journal of Monetary and Economic Integration.

⁹ **Nigeria, 2012, disaggregate import demand function- Acta Universitatis Danubius. Economica, Vol 8, No 1**

1-3-Literature review

The literature on globalization is vast and rapidly growing. Some of the most influential definitions of globalization have been offered by D. Harvey, *The Condition of Postmodernity* (Oxford: Blackwell, 1989); A. Giddens, *The Consequences of Modernity* (London: Polity Press, 1990); D. Held and A. McGrew, D. Goldblatt and J. Perraton (Eds), *Global Transformations* (Stanford, CA: Stanford University Press, 1999); R. Robertson, *Globalization* (London: Sage Publications, 1992); J.H. Mittelman, *The Globalization Syndrome* (Princeton, NJ: Princeton University Press, 2000); M. Albrow, *The Global Age* (Stanford, CA: Stanford University Press, 1997); M. Waters, *Globalization* (London: Routledge, 2001); and J.A. Scholte, *Globalization* (New York: St. Martin's Press, 2000)¹⁰.

The modern literature on endogenous growth provides tools and models that are useful for elucidating some of the mechanisms linking international integration with long-run economic performance; there has been voluminous work, which highlights the causality between trade openness and GDP growth. Jin (2000)¹¹ asserted that the elimination of trade barriers assist to stabilise the economic growth rate by improving efficiency and return economies. Moreover, trade liberalisations can improve indigenous technology which will lead to more efficient production function, and hence productivity will rise. Levine and Renelt (1992) described the relationship between GDP growth and trade openness by emphasising that the trade liberalisations may offer a greater access to capital goods. Sukar and Ramakrishna (2002) stated that external sector openness reduces the hindrances to international trade and such countries can experience competitively higher GDP growth rate. It is commonly believed that an open trade regime is imperative for economic development.

Up until the mid 1980s, studies of growth focused primarily on the accumulation of physical capital. But, capital accumulation at a rate faster than the rate of population growth is likely to

¹⁰ MANFRED B. STEGER, (2005), *Ideologies of globalization*, Department of Politics and Government, Illinois State University, Normal, IL 61790-4600, USA

¹¹ Rao Muhammad Atif, Abida Jadoon, Khalid Zaman, Aisha Ismail, Rabia Seemab, (2010), *Trade Liberalisation, Financial Development and Economic Growth: Evidence from Pakistan (1980-2009)*, Department of Management Sciences, COMSATS Institute of Information Technology, Abbottabad, Pakistan

meet diminishing returns that can drive the marginal product of capital below a threshold at which the incentives for ongoing investment vanish. This observation led Romer (1990), Lucas (1988), Aghion and Howitt (1992), Grossman and Helpman (1991a) and others to focus instead on the accumulation of knowledge, be it embodied in textbooks and firms as “technology” or in people as “human capital.” Knowledge is different from physical capital inasmuch as it is often non-rivalrous; its use by one person or firm in some application does not preclude its simultaneous or subsequent use by others. The non-rivalrous nature of knowledge suggests increasing returns when output is related to all tangible and intangible inputs, which eliminates the inevitability of diminishing returns to the accumulation of some inputs relative to others

The new models¹² of knowledge accumulation highlight several potential links between international integration and growth. Research has focused on how the international exchange of goods and ideas affects the incentives for knowledge acquisition and on the efficacy of inventiveness and diffusion. Several mechanisms feature prominently in the literature. First, integration of peoples and cultures facilitates the flow of knowledge across national borders. Foreign ideas may be useful for inventing new products, for improving existing products, or for producing goods at lower cost. Second, integration of product markets via international trade affords those who invent or improve products a greater potential market on which to reap returns even as it subjects them to additional competition from foreign rivals. The incentives for innovation may intensify or diminish with integration, depending on whether the scale effect or the competition effect is more powerful. Third, the integration of world markets has general equilibrium implications for input prices and relative output prices.

These price changes affect the cost of innovation as well as the relative attractiveness of alternative directions for industrial research. Finally, international interactions affect not only the incentives for creation of new knowledge, but also those for technological diffusion, with analogous implications for productivity growth. Many authors have examined how one or more of these mechanisms operates in some specific economic environment. Taken together, the literature offers many theoretical insights. Some progress has also been made on the empirical side, although data and methodological impediments have left assessment and measurement lagging behind.

¹² Gene M. Grossman And Elhanan Helpman /Globalization And Growth [Http://Scholar.Harvard.Edu](http://Scholar.Harvard.Edu)

The effects of globalization on growth have also been frequently analyzed with these measures. Until most recently, however, most studies examined them employing cross sections only. For example, Chanda (2001) uses an index of capital account openness to show that more developing countries have suffered from globalization than not, while Rodrik (1998) as well as Alesina et al. (1994) found no effect of capital account openness on economic growth. With respect to foreign direct investment (FDI) there is evidence of a positive growth-effect in countries which are sufficiently rich (Blomström et al. 1992) and a negative one in low income countries (Garrett 2001). Among others, Dollar (1992) analyzed the relationship between economic performance and openness to trade, Frankel and Romer (1996) those between growth and actual flows. Their results show that both openness to trade and actual trade flows are robustly related to growth. All of these studies present, however, only cross sectional estimates. Moreover, they do not adequately control for endogeneity. Their results might therefore reflect unobserved characteristics which do not vary over time instead of being the consequences of globalization or might reflect reverse causality. Some recent studies use panel data to examine the relationship between some dimensions of globalization and growth. Among them, Dollar and Kraay (2001) found that an increase in trade flows and foreign direct investment resulted in higher growth rates. Greenaway et al. (1999) also report a strong relationship between trade and growth. With respect to FDI, Borensztein et al. (1998) provide Edison et al. (2002) summarize the literature on capital account liberalization and economic performance. 2 Studies examining the effects of foreign direct investment on countries' growth rates have been summarized by Durham (2000). evidence of a positive growth-effect – given a minimum threshold stock of human capital. Carkovic and Levine (2002), to the contrary, do not find a robust influence of foreign direct investment on growth. A detailed analysis of the impact of several indicators of financial integration and growth is provided by Edison et al. (2002a). Their results show that no robust relationship exists. While those studies provide very detailed analysis of individual sub-dimensions of globalization, none of them examines the consequences of globalization on economic growth in greater detail.

Theoretical and empirical studies have confirmed the relationship between the country's openness to trade and the higher growth rates and strong tendency towards economic convergence, with the countries with lower per capita income levels growing more rapidly than countries with higher per capita income level (Sachs and Warner 1995, 8–12). Greater exposure to global opportunity costs, arising from trade policy reforms, would force

continuing efficiency in the domestic market as well as in external markets (Kaplinsky 1998). Particularly in a small open economy, country's national welfare is theoretically highest with free trade as under perfect competition a small, price-taking country will gain by abolishing the tariffs, whereas any type of intervention by the government reduces the national welfare. Free trade is considered as the optimal policy for small economies with many trading partners, as the increase of imports has both an impact on the domestic price level and on the production volume in domestic sectors competing with imported goods, which contributes to the reallocation of available resources in the most productive sectors¹³. The resources will not be used to produce goods that could be imported at a lower price. Trade liberation also increases the productivity by providing less expensive or higher quality imported intermediate goods and technology, as well as increases the variety of goods (Dornbusch 1992).

From the early 2000s the academic debates have become more diversified, arguing that methodological problems with the empirical strategies employed in the earlier research leave the results open to diverse interpretations, that open trade policies are significantly associated with higher economic growth (Rodriguez and Rodrik 1999). The direct effects of the country's openness to trade as well as the causality (i.e. is economic growth induced by more trade or vice versa) remain subjects for dispute too. The role of the country's openness to trade on the economic growth should not be underestimated and should be looked along with other determinants of growth. Also, systematic criticism has been made on (global) liberal trade policy, e.g. Reinert (2004), Reinert and Reinert (2011), and Chang (2002), and on the effect of the Washington consensus and the IMF free trade policies in Latin America and Africa, where authors refer that liberal trade policy has reduced the wealth, or at least diminished the growth rates when compared to the protectionist 'bad policy' years, of several countries. Mercantilism as a wider economic concept and protectionism as an actual practical tool are main alternatives to liberal trade model.

To measure globalization, most of these studies employed proxies like trade and capital flows or openness to these flows. Using these proxies, Beer and Boswell (2001) examined the consequences of globalization on inequality¹⁴. Li and Reuveny (2003) analyzed their effects on democracy. As Heinemann (2000) shows, more globalized countries have lower increases

¹³ Axel Dreher april2006 Does Globalization Affect Growth? Evidence from a new Index of Globalization JEL: F02, F43, C82, H77, O57

¹⁴ Beer and Boswell (2001)

in government outlays and taxes. Vaubel (1999) found them to have **lower government consumption**

Although theoretical literature often feels apprehensive about the protectionism, in recent history waves of interventionist and protectionist measures have occurred across the countries, imposing barriers to imports from other countries, controls on capital movement, etc. The trends of protectionism stem from the concepts of mercantilism and economic nationalism, stipulating that the wealth of a country should be measured by its currency reserves, stock of precious metals and a political intervention in economic affairs is necessary to maximize that stock. Thus, the gains from international trade rise solely from **exporting** and country's commercial policy should be based on extensive government regulation of international trade and creating conditions in the domestic economy that enable country to prevail over other countries in a contest for export supremacy (Irwin 1991; Rankin 2011). Early 'balance of trade' argument was strongly related to the view that 'one man's gain must be another man's loss' (Finkelstein 2000 in Reinert and Reinert 2011, 13). The more recent concepts – neo-mercantilism and transnational mercantilism respectively from the early 20th century and the early 2000s – have widened the scope of mercantilism, stressing the importance of promoting economic growth by expanding exports, seeking for a balance of trade surplus and increasing the level of **government foreign reserves**, to achieve social or political objectives (Cesaratto 2010; Reinert and Reinert 2011). Neo-mercantilist countries encourage state promotion of sectors related to the production of goods which will be exported abroad to ensure that these companies will be competitive internationally¹⁵ and to decrease the foreign competition in the local market, promote large companies to compete with international industries, as well as manipulate monetary policy for the purpose to increase the competitiveness of local companies in international markets. The views that in a global general equilibrium, if **some countries increase net export, some other countries must increase their net imports, have been outlined (Stiglitz 2012)**, stressing that countries with persistent trade deficits might face difficulties to finance the deficit as well as high levels of net imports weaken aggregate demand which might lead to the fiscal deficits. The logic of 'net importers versus net exporters' has been outlined as applying to the EU trade policy (Papadimitriou and Wray 2011, 3). Managing Global Transitions Baltic Pathways from

¹⁵ Axel Dreher april,(2006), Does Globalization Affect Growth? Evidence from a new Index of Globalization
JEL: F02, F43, C82, H77, O57

Liberal Trade Model to Neo-Mercantilism. At the same time, the effects of trade openness on budget balance are unclear. For example, according to Combes and Saadi-Sedik (2006, 3): while in theory, the net effect of trade openness on budget balance is ambiguous, empirically trade openness increases country's exposure to external shocks regardless of whether it is related to the natural openness, which is based on structural determinants of trade openness, e.g. the size of the country and its geographical characteristics; or to trade-policy openness, which is determined by decision makers.

Additionally, trade openness affects budget balance directly, and here the effects of natural openness and trade-policy induced openness go in opposite directions: contrary to natural openness, trade-policy induced openness improves budget balances. [. . .] Governments, including for developing countries, may often resist liberalizing their trade regimes, arguing that their budget situation is already difficult and reducing tariffs will lead to larger budget deficits. Even if trade openness increases a country's exposure to external shocks and thereby adversely affects its budget balances, an outward looking policy strategy should lead to an overall strengthening of its budget balances. One can conclude, in the early mercantilist views balance of trade-argument was based on the **zero-sum game approach**. Thus, according to the mercantilist views the gains from international trade will result from exporting, in generalized terms the effects to the deficit countries as well as surplus countries should be analysed, especially in an economic bloc without the absence of a mechanism redistributing surpluses. The systematic effects of modern mercantilism and related problems to both sides of partnership have become visible during the on-going Euro zone crisis, especially related to the German-Greek trade partnership (Varoufakis 2011).

The effects reported might therefore appear only because other important aspects of globalization¹⁶ are omitted from the regressions. Most dimensions of globalization are strongly related to each other, so including them separately in a regression induces collinearity problems. Excluding those dimensions which are not the primary focus of the analysis – the method preferred in the literature – can, however, severely bias the coefficients estimated. Moreover, it is not obvious that all dimensions of globalization affect economic performance in the same direction. Since the overall effects of globalization are what matters, the lack of an overall measure and an analysis of its relationship with growth is a serious

¹⁶ Axel Dreher april2006 Does Globalization Affect Growth? Evidence from a new Index of Globalization JEL: F02, F43, C82, H77, O57

omission. The only study trying to measure overall globalization is A.T. Kearney/Foreign Policy Magazine (2002).

They calculated a globalization ranking using various subgroups. Their ranking is, however, only available for three years. Moreover, important dimensions of globalization are omitted. The measure can therefore not be used in an empirical investigation.

Some scholar's attempts to identify the impact of openness on growth from cross country evidence at the macroeconomic level¹⁷. The final verdict may have to wait for further work using alternative datasets, variables, instruments, and empirical specifications. But the available body of empirical work shows that, once earlier methodological problems such as endogenous and omitted variable bias are addressed, there is no further evidence of a significant causal connection between **openness and growth**. The results might seem disappointing. After all, they fail to provide an answer to the question that motivated the literature in the first place. However, we next argue that there is in fact something important to learn from this literature. We learn that the question: "Does trade openness promote growth?" does not have a simple and unconditional answer. As formulated..., may be this is not the question we should be asking, we should look for a more specific questions.

For others, the core benefit of globalization is comparative advantage – that is, the ability of one country to produce goods or services at a lower opportunity cost than other countries.

While the idea seems simple on the surface, it quickly becomes counterintuitive when examined deeper. The theory suggests that two countries capable of producing two commodities at different costs can benefit the most by exporting the good where the comparative advantage exists.

For example, a developing may have a comparable advantage in producing cement and the United States may have a comparative advantage in producing semiconductors. While the U.S. may be able to produce cement more efficiently than the developing country, the U.S. would still be better off focusing on semiconductors because of its comparative advantage. This is why globalization is powerful as a driver of global consumption between countries of all capabilities.

¹⁷ Juan Carlos Hallak and James Levinsohn January 2004 Fooling Ourselves: Evaluating the Globalization and Growth Debate School of Public Policy The University of Michigan Ann Arbor, Michigan 48109-1220 Discussion Paper No. 509

Empirical evidence suggests that there is a positive growth effect in countries that are sufficiently rich when it comes to globalization. For investors and economies, globalization also provides the opportunity to reduce volatility on output and consumption, since products and services can be imported or exported with greater ease.

Most of the empirical studies that examine the effects of globalization on economic growth are done after 2006¹⁸. The main reason for that, most of the studies used the globalization index which is prepared by Dreher (2006) (Some of them used financial integration, liberalizing, trade and financial receptivity variants, representing globalization). When surveying the literature that analyses the globalization's effects on economic growth, studies that are done after 2006 are taken into account. Dreher (2006) analyzed the relation between globalization and economic growth with panel data analysis technique by using the data of 123 countries from years 1970 to 2000. He found out that globalization affects the economic growth in a positive way. Afzal (2007) analyzed the globalization's effects on economic growth with an error-correction model by using the Pakistan's data from years 1960 to 2006. He used trade receptivity and financial integration variants, representing globalization. He arrived at a conclusion of the powerful connection between economic growth and trade gap and financial integration and he also found out that this connection leads to a development on economic growth in long terms. Shaikh and Shah (2008) analyzed the globalization's effects on Pakistan's economy with the help of Computable General Equilibrium Model. Results of the analysis show that globalization affects Pakistan's macro economy performance in a positive way and leads to a fast economic growth. Chang and Lee (2010) analyzed the connection between general globalization index and its components, which are economic, social and political globalization indexes, and the economic growth of 23 OECD countries, whose data is collected between years 1970 and 2006, with the help of cointegration analysis. The result of the analysis show that there is a weak connection between variants and causality in short terms but in long terms there is a one way connection from general, economic and social globalization to economic growth. Polasek and Sellner (2011) analyzed globalization's effects on the regional growth of 27 European Union (EU-27) countries, data of which is collected between the years 2001 and 2006, by using the Spatial Chow-Lin Procedure, which is formed by writers. Polasek and Sellner (2011) found out that globalization, thanks to the trade gap and direct foreign investment, affects many region's economic growth in a positive

¹⁸ Cuneyt Kilic, January 2015, Effects of Globalization on Economic Growth: Panel Data Analysis for Developing Countries, Faculty of Economics and Business Administration, Canakkale Onsekiz Mart University, Canakkale 17000, Turkey e-mail: c_kilic2006@hotmail.com

way. Rao (2011) analyzed the connection between globalization and economic growth for Singapore, Malaysia, Thailand, India and Philippines in the extent of Slow growth model (1956). According to the results of the research; as the globalization grows in these countries, the growth percentages of stabilized status goes higher too. Cuneyt Kilic Mutascu and Fleischer (2011) analyzed the connection between globalization and economic growth in Romania between the years 1972 and 2006 by using the Unrestricted Vector Autoregressive Model (UVAR). Mutascu and Fleischer found out that in middle and long terms globalization would maximize the economic growth. Acikgoz and Mert (2011) analyzed the causality connection between economic, social and political globalization and economic growth in Turkey between the years 1970 and 2008 by using the Auto-Regressive Distributed Lag (ARDL), which is defined by Pesaran (2011). They found out that in Turkey; there isn't a causality connection from economic globalization to economic growth but there is a causality connection from social and political globalization to the growth. Leitão (2012) analyzed the connection between economic growth, globalization and trade in the U.S.A between the years 1995 and 2008 by using the panel data technique. He found out that globalization increases or provokes the economic growth. Ray (2012) analyzed if there is a causality connection between globalization and economic growth in India by using the Granger causality test. He found out that there is a mutual causality connection between globalization and economic growth. Umaru (2013) analyzed globalization's effects on Nigeria's economic performance between the years 1962 and 2009 by using the Annual Average Growth Rate (AAGR) technique. Umaru (2013) found out that globalization affects petrol, manufacturing industry and solid mineral sectors in negative ways, but it affects the agriculture, transportation and communication sectors in positive ways. Meraj (2013)¹⁹ analyzed the connection between the trade gap and economic growth in Bangladesh between the years 1871 and 2005 by using Auto-Regressive Distributed Lag (ARDL) and Granger causality test. Meraj (2013) found out that globalization has positive effects on developing countries' (like Bangladesh's) trade and economic growth. Ying (2014) analyzed the connection between social and political globalization and economic growth in ASEAN countries between the years 1970 and 2008 by using Fully Modified Ordinary Least Squares (FMOLS) technique. Ying (2014) found out that economic globalization affects economic growth in a positive way but social and political globalization affects it in negative ways.

¹⁹ Cuneyt Kilic, January 2015, Effects of Globalization on Economic Growth: Panel Data Analysis for Developing Countries, Faculty of Economics and Business Administration, Canakkale Onsekiz Mart University, Canakkale 17000, Turkey e-mail: c_kilic2006@hotmail.com

1-4-Historical Background

One can say that the term globalization is considered as one of the defining trends of the 21st century. Rapid international development drives growth in the increasingly dense web of connections between developed and developing countries around the world. Advances and cost reductions in communications technology and transportation have made it ever easier to collaborate with associates in other countries and remote locations. Trade is international since the flint stone trade of Neanderthal human and globalization is a subject of history since first ages. It existed when the Silk Road started in China and reached to the frontier of the Persian Empire and enlarged towards the Roman Empire and during the Roman Empire, the Persian Empire and the Dynasty of China. Another example is the Golden Age of Islam²⁰: Early global economy created by Muslim merchants and explorers that ended up with the globalization of crops, commerce, knowledge and technology in the Old World-wide and the times that more integration was achieved along the Silk Road during the Mongol Empire. With the accession of Portuguese and Spanish Empires to every corner of the world in the 16th and 17th centuries after they had reached India, global integration continued through the enlargement of European trade. During their dynasties Roman and Ottoman Empires developed “world systems” consistent with their hegemony in the “discovered” world and Pax Romana and Pax Ottoman constituted examples of globalization that “effects and compasses the whole world” in 19th century with the Pax Britannica known as the world order developed by Britain. The development in the automation network with the Industrial Revolution accelerated the globalization process. Two significant world wars and then the competition between the United States of America (USA) and the Union of Soviet Socialist Republics (USSR) carried humanity into a very dangerous point. Consequently, the reality that instead of “power” “norm” should operate in order to alleviate the tension between these two blocs loomed large.

The main idea of the Conference on Security and Co-Operation in Europe (CSCE) was the originating point of the appearance of this norm. With the Final Act adopted at the Helsinki Conference which is the first step of the conference and hence second wave of globalization a

²⁰ Murat Ali DULUPÇU and Onur DEMİREL, Isparta ,2005,Globalization and Internationalization , European Commission (226388-CP-1-2005-1-DE-COMENIUS-C21).

general agreement on the subjects of security, economy, trade, energy and humanity between the two blocs was achieved. Thereafter, Summits of Belgrade 1977-78, Madrid 1980-83, Vienna 1986-89 and Paris 1990 were held. New rings were added with the Summits of Copenhagen 1990, Moscow Meeting on Human Dimension 1991, Prague-Vienna Confidence Building Measures 1992 and Helsinki. Finally significant contributions were done to the formation of a smoother world in 200s in the “democracy and human rights” framework with the come up of “full respect for human rights” as a consequence of Lisbon 1996 and Istanbul 1999 Summits of the Organization for Security and Co-Operation in Europe (OSCE).

In the USSR the Perestroika reforms were accepted by Gorbachev in 1985 which means the restructuring of the planned economy in order to modify it. Partial liberalization of the world of business was aimed. In this process Glasnost aimed to decrease the level of corruption in the public sector through openness and transparency.

This background today resting in the dusty pages of history books in fact constitutes the infrastructure of immense contemporary changes.

1-5-Globalization: The vast term

1-5-1-Definition of Globalization

How are you doing to write your thesis, dissertation, or even your working paper right now? Are you on your laptop, or maybe a tablet or even your cell phone? When a company like Dell is building a computer, the computer may be assembled in India (a developing country), though certain complicated parts were built in China (a transitional country), while the research and development were done in the United States (as you probably know, a developed country). All this is possible due to **globalization**.

One of the terms that is used by everyone regardless they are businessmen, politicians or academicians and whose meaning and nature are not settled is the term “globalization”. The origin of the word globalization is “*global*”. The word *global* may take different meanings in different languages. The most common meaning however is the 3D geometric figure. According to Meydan Larousse the term global means “*undertaken entirely*”. This is the meaning attributed to the word global by Western languages. Besides, the term means “*homogeneity*” in French. Hence the term means both “*entirety*” and “*homogeneity*”.

The American Defense Institute²¹ defines globalization as “fast and continuous inter-border flow of goods, services, capital (or money), technology, ideas, information, cultures and nations”. According to the Institute, through globalization an unprecedented integration among economies is occurring, an information reform is being experienced, and markets, corporations, organizations and governance are becoming more international.

Globalization is a term²² in heavy current usage but one whose meaning remains obscure, often even among those who invoke it.

Globalization is defined as a process²³ that, based on international strategies, aims to expand business operations on a worldwide level, and was precipitated by the facilitation of global

²¹ Murat Ali DULUPÇU and Onur DEMİREL, Isparta ,*Globalization and Internationalization pdf*

²² Simon Reich, what is globalization ?, working paper ,the Helen Kellogg institute for international studies , December 1998

²³ How Globalization Affects Developed Countries |

Investopedia <http://www.investopedia.com/articles/economics/10/globalization-developed-countries.asp#ixzz4Zots05yP>

communications due to technological advancements, and socioeconomic, political and environmental developments.

Globalization is defined here as the latest stage of a process²⁴ where technological, economic, ecological, cultural, and military trends, traditionally observable on a geographically limited scale and scope, are extended to the entire globe. First separately, but increasingly in a synergistic manner – and therefore ever accelerating - these trends lead to the emergence of new players with new and different (power) relationships among them.

The term globalization is defined as the process²⁵ of international integration arising from the interchange of world views, products, ideas, and culture. From an economic standpoint, globalization is typically defined as the increase in the global trade of goods, services, capital, and technology. This growth in trade has been especially acute between developed countries like the United States and emerging markets like China.

Globalization is not the same as globalism, which points to aspirations for an end state of affairs wherein values are shared by or pertinent to all the world's five billion people, their environment, their roles as citizens, consumers or producers with an interest in collective action designed to solve common problems. Nor is it universalism—values which embrace all humanity, hypothetically or actually.

²⁴ Matthias Finger, Globalisation and governance, Newsletter of the IUCN Commission on Environmental, Economic and Social Policy (CEESP), 1999

²⁵ www.thebalance.com/globalizationgoodorbadfordevelopedcountries

1-5-2-Globalization VS Globalism

Most of us would think that globalization and globalism refer to the same phenomenon. However, there are huge differences between the two.

Globalism, at its core, seeks to describe and explain nothing more than a world which is characterized by networks of connections that span multi-continental distances. It attempts to understand all the inter-connections of the modern world and to highlight patterns that underlie (and explain) them.

In contrast, globalization refers to the increase or decline in the degree of globalism²⁶. It focuses on the forces, the dynamism or speed of these changes. In short, consider globalism as the underlying basic network, while globalization refers to the dynamic shrinking of distance on a large scale. Globalism is a phenomenon with ancient roots. Thus, the issue is not how old globalism is, but rather how “thin” or “thick” it is at any given time. As an example of “thin globalism,” the Silk Road provided an economic and cultural link between ancient Europe and Asia. Getting from thin to thick globalism is globalization — and how fast we get there is the rate of globalization. Of course, the Silk Road was plied by only a small group of hardy traders. Its direct impact was felt primarily by a small group of consumers along the road. In contrast, the operations of global financial markets today, for instance, affect people from Peoria to Penang. Thus, “globalization” is the process by which globalism becomes increasingly thick/intense.

The general point is that the increasing intensity, or thickness, of globalism — the density of networks of interdependence — is not just a difference in degree from the past. An increasing “thickness” changes relationships, because it means that different relationships of interdependence intersect more deeply at more different points. At the same time, it is important to note that globalism does not imply universality. After all, the connections that make up the networks to define globalism may be For example, at the turn of the 21st century, a quarter of the U.S. population used the World Wide Web. At the same time, however, only one-hundredth of one percent of the population of South Asia had access to this information network. Since globalism does not imply universality and given that globalization refers to dynamic changes, it is not surprising that globalization implies neither equity — nor homogenization. In fact, it is equally likely to amplify differences — or at least make people more aware of them. Both globalism and globalization are all too often defined in strictly economic terms, as if the world economy as such defined globalism. But other forms are equally important. There are four distinct dimensions of globalism: economic, military, environmental — and social. Economic globalism involves long-distance flows of goods,

²⁶Joseph Nye, 2002, Globalism Versus Globalization : What are the different spheres of globalism — and how are they affected by globalization? , The Globalist, www.theglobalist.com

services and capital and the information and perceptions that accompany market exchange²⁷. These flows, in turn, organize other processes linked to them. One example of economic globalization is low-wage production in Asia for the United States and European markets. Economic flows, markets and organization — as in multinational firms — all go together. Environmental globalism refers to the long-distance transport of materials in the atmosphere or oceans or of biological substances such as pathogens or genetic materials that affect human health and well-being. In contrast, examples of environmental globalization include the accelerating depletion of the stratospheric ozone layer as a result of ozone-depleting chemicals or the spread of the AIDS virus from central Africa around the world beginning at the end of the 1970s. Military globalism refers to long-distance networks in which force, and the threat or promise of force, are deployed. A well-known example of military globalism is the “balance of terror” between the United States and the Soviet Union during the Cold War a strategic interdependence that was both acute and wellrecognized. What made this interdependence distinctive was not that it was totally new, but that the scale and speed of the potential conflict arising from interdependence were so enormous. Military globalization manifested itself in recent times in the tragic events of September 11. Here, geographical distances were shrunk as the lawless mountains of Afghanistan provided the launching pad for attacks on New York and Washington some 4,000 miles away. The fourth dimension is social and cultural globalism. It involves movements of ideas, information, images and of people, who of course carry ideas and information with them. Examples include the movement of religions or the diffusion of scientific knowledge. In the past, social globalism has often followed military and economic globalism. However, in the current era, social and cultural globalization is driven by the Internet, which reduces costs and globalizes communications, making the flow of the division of globalism into separate dimensions, as presented above, is inevitably somewhat arbitrary.

Nonetheless, it is useful for analysis, because changes in the various dimensions of globalism do not necessarily go together. For example, economic globalism rose between 1850 and 1914 and fell between 1914 and 1945. However, at the same time as economic globalism was declining during the two World Wars, military globalism rose to new heights as did many aspects of social globalism. Take, for example, the worldwide influenza epidemic of 1918-19, which took 21 million lives. It was propagated by the flows of soldiers around the world. Does this suggest that globalism declined or rose between 1914 and 1945? It depends on the dimension, or sphere, of globalism one is referring to. Based on the historic evidence, we should expect that globalism will be accompanied by continuing uncertainty. There will be a continual competition between increased complexity and uncertainty on the one hand and efforts by governments, market participants and others to comprehend and manage these systems on the other. To conclude, we should not expect or fear that globalism will lead to

²⁷ Joseph Nye, 2002, Globalism Versus Globalization : What are the different spheres of globalism — and how are they affected by globalization? , The Globalist, www.theglobalist.com

homogenization²⁸. Instead, it will expose us more frequently and in more variations to the differences that surround us.

²⁸ Joseph Nye, 2002, Globalism Versus Globalization : What are the different spheres of globalism — and how are they affected by globalization? , The Globalist, www.theglobalist.com

1-5-3-Globalization: Is it a process, condition or ideology?

As Michael Freeden notes that the term ‘globalization’ does not mean an ideology, but ‘a range of processes nesting under one rather unwieldy epithet’. MANFRED B. STEGER In other part arises from the fact that global flows occur in different physical and mental dimensions, usefully divided by Arjun Appadurai into ‘ethnoscapes’, ‘technoscapes’, ‘mediascapes’, ‘finanscapes’, and ‘ideoscapes’²⁹. Moreover, as I noted elsewhere, since its earliest appearance in the 1960s, ‘globalization’ has been used in both popular and academic literature to describe a wide variety of phenomena, including a process, a condition, a system, a force, and an age.⁷ Given the different meanings of these concepts, their indiscriminate usage invites confusion. A sloppy conflation of process and condition, for instance, encourages circular definitions that possess little explanatory power. For example, the often-repeated truism that globalization (the process) leads to more globalization (the condition) does not allow us to draw meaningful distinctions between causes and effects. I use the term globality to signify a future social condition characterized by thick economic, political, and cultural interconnections and global flows that make currently existing political borders and economic barriers irrelevant. Yet, it should not be assumed that ‘globality’ refers to a determinate endpoint that precludes any further development. Rather, this concept points to a particular social condition destined to give way to new, qualitatively distinct, constellations. For example, it is conceivable that globality could eventually be transformed into something we might call ‘planetary’—a new social condition brought about by the successful colonization of our solar system. Moreover, we could easily imagine different social manifestations of globality: one based primarily on values of individualism and competition, as well as on an economic system of private property, another embodying more communal and cooperative social arrangements, including less capitalistic economic relations. These future alternatives expose the fundamentally indeterminate character of globalization. In my view, the term globalization should be confined to a set of complex, sometimes contradictory, social processes that are changing our current social condition based on the modern system of independent nation-states. Indeed, most scholars of globalization have defined their key concept along those lines as a multidimensional set of social processes that create, multiply, stretch, and intensify worldwide social interdependencies and exchanges while at the same time fostering in people a growing awareness of deepening connections between the local and the distant³⁰. At its core, then, globalization is about the unprecedented compression of time and space as a result of political, economic, and cultural change, as well as powerful technological innovations³¹. The slogan ‘globalization is happening’ implies that we are moving from the modern socio-political order of nation states that gradually emerged in the

²⁹ A. Appadurai,(1996), *Modernity at Large: Cultural Dimensions of Globalization* (Minneapolis: University of Minnesota Press).

³⁰ The literature on globalization is vast and rapidly growing. Some of the most influential definitions of globalization have been offered by different scholars*.

³¹ For a magisterial analysis of these changes, see M. Castells, *The Information Age: Economy, Society and Culture*, 3 vols. (Oxford: Blackwell, 1996–1998).

seventeenth century toward the ‘postmodern’ condition of globality. Indeed, like ‘modernization’ and other verbal nouns that end in the suffix ‘-ization’, the term ‘globalization’ suggests a dynamic best captured by the notion of ‘development’ or ‘unfolding’ along discernable patterns. Such unfolding may occur quickly or slowly, but it always corresponds to the idea of change, and, therefore, denotes the alteration of present conditions. This crucial focus on change explains why globalization scholars pay particular attention to shifting temporal modes and the reconfiguration of social and geographical space.

While ‘globalization’ has, indeed, remained a rather ‘unwieldy epithet’ in the academic world, it was successfully decontested in public discourse during the late 1980s and 1990s³². With the collapse of Soviet-style communism in Eastern Europe, loosely affiliated power elites concentrated in the global North stepped up their ongoing efforts to sell their version of ‘globalization’ to the public³³. Seeking to make a persuasive case for a new global order based on their beliefs and values, these ‘globalists’ constructed and disseminated narratives and images that associated the concept of globalization with inexorably expanding ‘free’ markets. Their efforts at decontesting the master concept ‘globalization’ went hand in hand with a rising political belief system I have referred to as globalism. It endows the buzzword ‘globalization’ with norms and values that seek to cultivate consumerist identities in billions of people around world³⁴. By the mid-1990s, large segments of the population in the both the global North and South had accepted globalism’s core claims, thus internalizing large parts of an overarching normative framework that advocated the deregulation of markets, the liberalization of trade, the privatization of state-owned enterprises, the dissemination of ‘American values,’ and, after 9-11, the support of the global War on Terror under US leadership.

A comprehensive University of Maryland poll conducted in 2004 in 19 countries on four continents found that even after five years of massive, worldwide demonstrations against ‘corporate globalization’, 55 percent of the respondents believed that globalization was positive for them and their families, while only 25 percent said that it was negative (20 percent were unsure). Surprisingly, popular support for globalization was especially high in poor countries of the global South³⁵. Representing what Pierre Bourdieu and Zygmunt

³² However, over the last few years, there have also been some emerging points of agreement among globalization scholars. For a discussion of these points, see M.B. Steger (Ed), *Rethinking Globalism* (Lanham, MD: Rowman and Littlefield Publishers, 2004), pp. 1–4

³³ These power elites consist chiefly of corporate managers, executives of large transnational corporations, corporate lobbyists, high-level military officers, prominent journalists and public-relations specialists, intellectuals writing to a large public audience, state bureaucrats and influential politicians. It is questionable whether these social elites actually constitute a coherent ‘transnational capitalist class’ (in a Marxist sense), as Leslie Sklair suggests. In my view, Mark Rupert’s concept of a ‘transnational historic bloc of internationally oriented capitalists, liberal statesman, and their allies’ seems to come closer to an accurate description of the loose, heterogeneous, and often disagreeing global alliance of political and economic forces that I have in mind. See L. Sklair, *The Transnational Capitalist Class* (Oxford, UK: Blackwell, 2001); and M. Rupert, *Ideologies of Globalization: Contending Visions of a New World Order* (London: Routledge, 2000), pp. 16– 7, 154.

³⁴ Benjamin Barber famously referred to it as ‘McWorld’. See B. Barber, *Jihad vs. McWorld* (New York: Ballantine, 1996)

³⁵ Poll released by the Center on Policy Attitudes and the Center for International and Security Studies at the University of Maryland (June 4, 2004). ,www.pipa.org/OnlineReports/Global_Issues/globescan_press-

Bauman call a 'strong discourse', globalism has proven to be difficult to resist because it relies on the power of 'common sense', that is, the widespread belief that its prescriptive program ultimately derives from an objective description of the 'real world'³⁶. Moreover, as Judith Butler notes, the constant repetition, public recitation, and 'performance' of an ideology's core claims tend to have the capacity to produce what they name³⁷. Having drawn the necessary analytic distinctions among three key terms involving 'globalization', we can now turn to the morphological analysis of globalism with a critical eye toward its ideological status.

06_04.pdf . . For an analysis of antiglobalist counter-discourses and their corresponding social movements, see M.B. Steger, *Globalism: The New Market Ideology* (Lanham, MD: Rowman and Littlefield Publishers, 2002), Chapters 4 and 5

³⁶ See Z. Bauman, *In Search of Politics* (Stanford, CA: Stanford University Press, 1999), pp. 28–29; and P. Bourdieu, *Acts of Resistance: Against the Tyranny of the Market* (New York: The New Press, 1998), p. 95. 15. J. Butler, 'Gender as performance', in P. Osborne (Ed), *A Critical Sense: Interviews with Intellectuals* (London: Routledge, 1996), p. 112

³⁷ J. Butler, 'Gender as performance', in P. Osborne (Ed), *A Critical Sense: Interviews with Intellectuals* (London: Routledge, 1996), p. 112

1-5-4-Stages of globalization

Through the economical literature we encounter so many points of view about the globalization process and so many ways to approach it that any attempt to define this concept in an exhaustive manner would be useless: the complexity of the globalization phenomenon is simply too large to be covered by one definition. Not to mention that we talk about a process being in progress and it is almost impossible to predict its further evolution.

Tableau 1 Globalization`s stages

Stages	First Stage 1490	Second Stage 1890	Third Stage 1990
Impulse	Nautical developments	Industrialization and its requirements	Multi-National Companies in 1970s, Communication Reform in 1980s, Disappearance of Competitors of the West in 1990s
Process	Profit and then military occupation	Evangelists, then explorers, then companies and finally occupation	Cultural-Ideological effect, therefore countrywide spontaneous effect
Medium	To get the God's religion to the pagans	Burden of the white man, humane mission, racist theories	Highest level of civilization, governance of international community, "invisible hand" of the market, globalization: for everyone's interest
Political Structure	Empires and Colonization	Nation States	Regional and Economic Integrations
Result	Colonialism	Imperialism	Globalization

Source: Yaman, 2001.

First Stage (1490): Started with the overseas discoveries of the West³⁸. The discoveries were followed by the establishment of colonial empires.

³⁸ Murat Ali DULUPÇU and Onur DEMİREL, Isparta, *Globalization and Internationalization pdf*

Second Stage (1890): Second extension of the West started after 1870 and institutionalized in 1890s. The utilized technology after the industrial revolution generated high imbalances between the West and the rest of the world. This difference was resulted with the deployment of Western countries into the markets of countries that had not experienced the industrial revolution and exploitation of the resources in these countries. A merciless competition that curtails profit rates started. This competition previously had remained at the firm level as the land and resources abounded but later on as the free lands become scarce it raised to the national level. Increased competition resulted in conflicts and the First World War.

The world changed in many respects after the First and Second World Wars. Almost all the ordinary balances collapsed and a new formation in the world started. First, balances that collapsed and changed were the former economic powers and political authorities connected to these powers. The empires and monarchies and their colonies which are the power source and scattered into various continents diffused one by one through declarations of independence. When economic and political balances changed, social and cultural values and balances disappeared, the newly gaps were closed by new balances. One of them was USA and the other was USSR. Thereby two poles and two blocs formed in the world. But during the Second World War major changes occurred. When the vast part of Europe was ruined, industrial economy in USA experienced a huge growth.

Third Stage (1990): In the first two stages instable balances aroused. The number of independent states increased, conflicts increased and accelerated. Identity conflicts reached to peak in the underdeveloped countries.

The national markets of the West were insufficient; markets were desired to expand in order to encompass the whole world. In this process there were no competitors against the West like the ones in 1490 and 1890 stages because the third stage both was the factor that engendered the collapse of Soviet Bloc and the West was left alone to conquer the world as a result of this collapse. The third stage was more powerful, widespread and faster than the first two stages because of the hegemony of MNCs³⁹ on the world economy started in 1970s, communication revolution created by putting technological inventions of the West like optical cable, communication satellites, computers, internet in 1980s and disappearance of power balances with the dissolution of the USSR and Europe's turning up as the only focus of power again in

³⁹ Murat Ali DULUPÇU and Onur DEMİREL, Isparta ,*Globalization and Internationalization pdf*

1990s. Therefore globalization has become a process that cannot be reversed and it should be accorded and strategies should be developed against the process.

Continuing globalization process may be divided into many stages encompassing colonization, slave trade, church constructions abroad, inventions in the high-capacity transportation, industrialization, highway constructions among provinces and countries, electrical and electronic infrastructure⁴⁰. On the other hand Robertson claims that globalization which is thought to be peculiar to present day is in fact a process began before the modernity and capitalism and divides this process into five stages and suggests that the last stage started in 1960 is full of ambiguities. A commonly accepted division divides the globalization process into three stages.

1-5-5-Globalization`s characteristics

Globalization has social, political, economic, geographical, and cultural characteristics

1-5-5-1-Social characteristics

One can set the following:

- ❖ Emergence of English as the working language of international relations⁴¹.
- ❖ Massive development and usage of the Internet, providing people with new opportunities.
- ❖ Internationalization of criminal activities (Drugs, Human trafficking).
- ❖ Internationalization of Terrorist activity.
- ❖ Multi-cultural Societies as the ethnicity of people becomes more diverse and mixed.

1-5-5-2-Political characteristics

They are the following:

- ❖ The power shown by Multi-national corporations that is often greater than that of country governments.
- ❖ Governments involve themselves in the affairs of other countries due to the easiness of access to information.
- ❖ Development of Trade Blocs; the EU, NAFTA, G8.

⁴⁰ Murat Ali DULUPÇU and Onur DEMİREL, Isparta ,*Globalization and Internationalization pdf*

⁴¹ <http://andrewhaeipbcc.weebly.com/characteristics-of-globalization.html>

- ❖ Cooperation between countries demonstrated by the UN.
- ❖ Cross Border Pressure groups; Amnesty International, Greenpeace, Friends of the Earth World, Health Organization.

1-5-5-3-Economic characteristics

- ❖ Emergence of global markets
- ❖ Rapid financial transactions and transfers
- ❖ Growth of multi-national corporations⁴²
- ❖ Open foreign investment in foreign countries through opening up of new markets.
- ❖ Development of Trade agreements and global organizations that open countries to foreign companies through Free Trade regulations with the power to punish and reward countries; WTO
- ❖ Development of economic organizations; IMF (International Monetary Fund) the World Bank.

1-5-5-4-Geographic characteristics

- ❖ Unprecedented huge migrations of people from their country to other countries, creating multi-culturalism in many countries.
- ❖ Ease of cross border movement
- ❖ New technologies allowing the quick and cheap transportation of people and products around the world.
- ❖ Use of other countries' Natural Resources by Multi-national corporations exploiting the foreign environments.

⁴² Murat Ali DULUPÇU and Onur DEMİREL, Isparta ,*Globalization and Internationalization pdf*

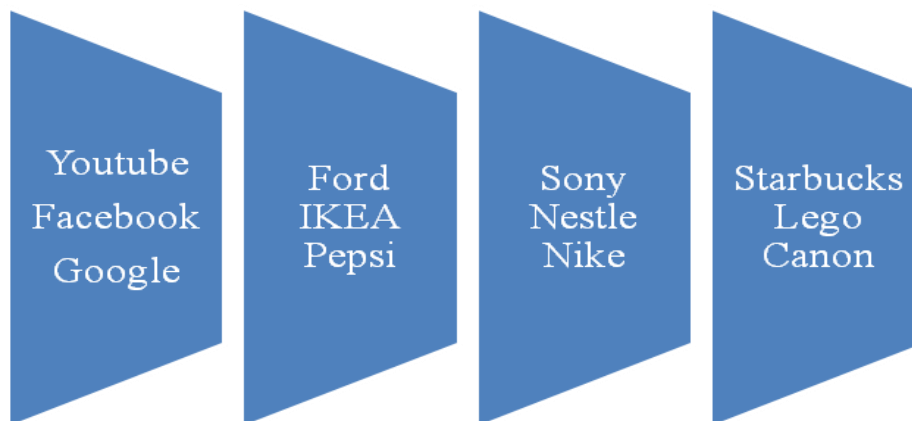
1-5-5-7-Cultural characteristics

The coming features are characterizing the globalization in a cultural way

- ❖ The spread of perceived dominant cultures (Westernization or Americanization) around the world through the TV, movies, music, media, art, sport and the Internet.

The figure bellow gives some growth examples of Global brand (See figure 02)

Figure 2: Globalization brands



Source: the students work.

One can say that, Economic globalization can be characterized with four main streams⁴³.

These are:

- Flows of goods and services,
- Flows of labor/people,
- Capital flows and
- Technology flows.

1-5-6- Globalization effects

We can gain from globalization and it's can be harmful let's start with its positive effects

1-5-6-1-Positive effects:

1-5-6-1-1-Death of Distance

Historically, one of the most important barriers against trade was the distance. It may constitute a barrier against the transportation of goods safely, on time, securely and with acceptable prices. The trade of goods and services has become feasible with technological developments and trade agreements that decrease or eliminate tariffs. In this process the decreases in the prices of overseas transportation by 50%, airline transportation by 80%, transatlantic phone calls by 99% have the key role. Thanks to this process a module printed in Germany can be sent anywhere in the world in less than two days. Furthermore online broadcasting eliminates this two day-lag.

On the other hand another medium that causes the death of distance is the diffusion of production into the whole world. Currently, through FDI, MNCs have diffused their productions to many countries. Hence a Japan car can be produced in Turkey. This in turn means the breakup of production of that car in Japan and exportation to Turkey.

1-5-6-1-2-End of the Nation State

Despite debate on the effects of globalization on nation-state has been continuing since 1970s, foresights about the future of nation-state may differ. For example, some accepting the presence of economic globalization claims that nation-state will survive in current structural form. Articulation of “concurrency of differences” to globalization by Robertson does not mean the negligence of modern roots of globalization because concepts such as nation-state, individual, universality are the components of the field of globalization and survive with interaction. For example, Robertson’s interpretation on the nation-state which is an important element of modern era is that there is no reason to claim that the organized society and particularly the state are about to disappear. On the contrary, as the development of modern nation-state depends on inter-state relations, the definition of state becomes more evident in

the globalization process. In other words, globalization increases the local awareness and solidifies “auto-awareness” instead of eliminating nation-state.

On the other hand, under the conditions of cold war period while ideological and political polarization between two parties let developing countries to develop with the demolition of the Berlin Wall the international ideological combat has ceased and the dependency of these countries on developed Western countries has increased. This, in turn, is more efficient on the countries that have high external debt such as Turkey and mostly limits the functions of nation-state in the area of economy. Therefore a nation-state that could not realize economic growth faces with the problems on income-distribution, social state, technologic innovation, basic needs of the society such as education/nutrition/health, and democracy. In short, nation-state loses its basic function and its function of national integrity runs a risk. In this framework it is obliged to embrace and support the economic policy of globalization.

The structures such as European Union (EU) aim to solve the economic and political problems nation-states that discarding part of their hegemony face. In this framework both the disappearance of nation-states and the sustenance of their existence in an evolved form can be claimed.

1-5-6-1-3-Hegemony of R&D

Investment on knowledge forms the basics of innovativeness and technologic development. This investment that can be measured through R&D, software and education expenditures is increasing in most OECD countries. Today developing countries have significant R&D expenditures. For example, in 2005 China with an average annual growth of 18% between 2000 and 2005 is third after the USA and Japan in terms of R&D expenditure.

Today R&D has entered a new phase and started to globalize. Increasing R&D costs as a result of increased elasticity in cross-border R&D projects, strengthening of intellectual property rights or the taxation of R&D activities, and important policy changes support this tendency. In the 1995-2005 period the number of scientific publications that are jointly written in the international platform tripled. The ratio of cross-border cooperation in total world-wide inventions doubled (from 4% in 1991-3 to 7% in 2001-3). From the beginning of 1990s the ratio of the inventions that have cross-border property in total inventions has increased to 16% from 11%.

The internalization process in the field of research is supported by MNCs final investment models. Much more than 16% of the total industrial R&D expenditures in OECD region in

2004 (it was 12% in 1993) is constituted by R&D done by domestic and foreign affiliates moreover, in most countries the affiliates under the control of foreign investment has more R&D intensities than the domestic firms.

1-5-6-1-4-Cultural Erosion

Globalization`s process supplies two different culture presences simultaneously. The first of them is to reach to upper limit of “particular culture”. This upper limit is the globe. All heterogeneous cultures dissolve in the prevailing culture that covers the whole world. Second presence is related to the “tightening of cultures”. Different cultures flow side by side without any organizational principle. Field of culture that includes more and more cultural movement and complexity constitutes the second stage of the globalization of culture. Therefore there are important discrepancies on the effects of globalization on culture⁴⁴.

Some intellectuals like John Meyer and Daniel Bell believe that globalization brings integration. Cultural globalization indicates common shape of local cultures. The concept used to define this situation is “McDonaldization”. The term means the resemblance of life styles, cultural symbols and behaviors. For example, people from Germany to India, Singapore to Brazil watch the same series (Dallas), wear the same brand (Levi`s) and smoke the same cigarette (Marlboro).

Marshall McLuhan through “global village” conceptualization and Ohmae through “cross-border civilization” definition designate the formation of global culture.

This resemblance certainly does not indicate that local cultures are dependent on global culture. Local cultures have the possibilities to interpret the global and redefine it in their authentic characteristics framework. In this framework a lot of philosophers ranging from Giddens to Friedman, from Robertson to Cox refuse that globalization will combine all societies under a single economic, politic and cultural unit (cultural integration). Anthony Smith declares that “global culture” is problematic. According to him “global culture” is impossible as the term “culture” refers to a plural fact.

If internet, satellite and mobile communication systems and the fact that the committee of Olympics has more members than the United Nations (UN) are taken into consideration, it can be said that cultural globalization diffuses faster than economic globalization. This process causes both the dissolve of local cultures in the global culture and the contributions of

⁴⁴ The culture that spread through the world by globalization is American culture. For example, there is McDonald`s anywhere now in the world. Also, Disney is the character which is the most famous in the world.

local cultures in the global culture. While the corruption of local culture by global culture occurs very easily and spontaneously through technology, communication and interaction, the protection of local cultures and the contribution of it to global culture is a process that should need endeavor and that should be managed.

1-5-6-1-5-Glocalization

The term glocalization is produced with the combination of the terms global and local. The term means “the creation of goods and services that are customized to supply global markets but consistent with local values.

The fact that the terms glocalization and globalization are related to each other is accepted by many authors. For example when Ronald Robertson defines globalization as “the simultaneity of the universality of resolution and the resolution of universality” he actually highlights the simultaneity of globalization and glocalization.

The problem of simultaneous globalization of the local and localization of the global can be denoted as dual-process of macro-localization (globalization of a local value) and micro-globalization (localization of a global value).

Key features of glocalization are as follows:

1. Variety is in the basis of social life.
2. Glocalization does not eliminate all differences.
3. History and culture causes differences in all groups.
4. Glocalization ceases the fear that globalization will wipe all the differences out.
5. Glocalization does not promise a world without any conflict or tension; instead it

makes a more historical view of the complex structure.

In this framework, glocalization that means the modification of globalization according to local conditions differentiate globalization from Westernization, Americanization and even McDonaldization. Now globalization evolves itself in order to include local values.

1-5-6-2-The negative effect:

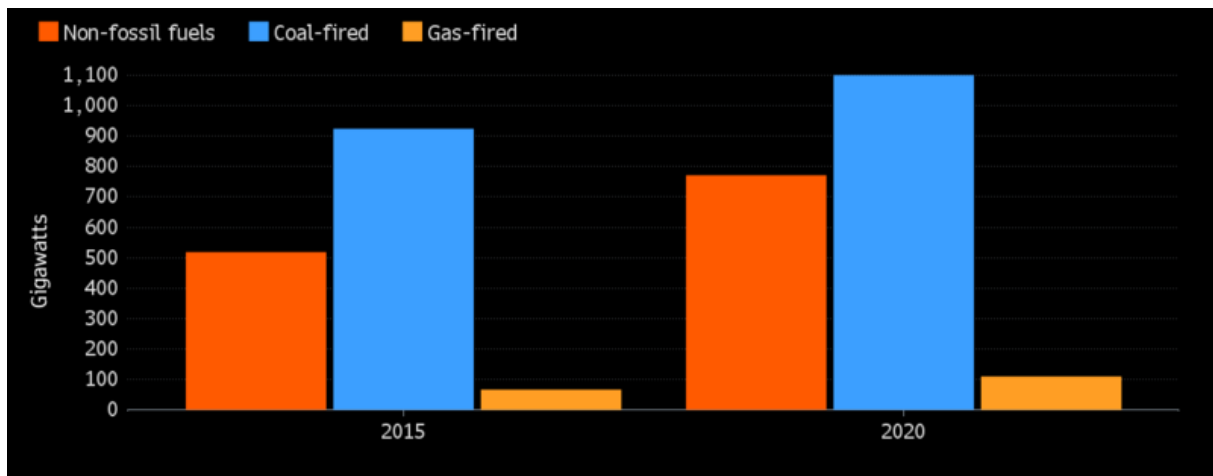
The coming reasons show why globalization is not living up to what was promised, and is, in fact, a very real dilemma:

1-5-6-2-1- Globalization uses up finite resources more quickly

As an example, China joined the world trade organization in December 2001. In 2002, its coal use began rising rapidly (Figure 03).

China’s total power consumption may increase to between 6.8 trillion kilowatt hours to 7.2 trillion kilowatt hours by 2020, with an average annual increase of about 3.6 percent to 4.8 percent from 2016 to 2020.

Figure 3: China’s energy mix



Source: National Energy Administration and China Electricity Council

Note: China’s 2015 coal capacity was calculated by subtracting the Electricity Council’s gas capacity from the NEA’s combine gas and coal capacity.

From the figure (03), we can say that China’s expanding power generation is a boost for coal, gas, an non-fossil fuels. Unfortunately and If the world burns its coal more quickly, and does not cut back on other fossil fuel use, carbon dioxide emissions increase.

1-5-6-2-2-Globalization tends to move taxation away from corporations, and onto individual citizens

Corporations have the ability to move to locations where the tax rate is lowest. Individual citizens have much less ability to make such a change. Also, with today’s lack of jobs, each community competes with other communities with respect to how many tax breaks it can give to prospective employers.

1-5-6-2-3-Globalization sets up a currency “race to the bottom,” with each country trying to get an export advantage by dropping the value of its currency

Because of the competitive nature⁴⁵ of the world economy, each country needs to sell its goods and services at as low a price as possible. This can be done in various ways—pay its workers lower wages; allow more pollution; use cheaper more polluting fuels; or debase the currency by Quantitative Easing (also known as “printing money,”) in the hope that this will produce inflation and lower the value of the currency relative to other currencies. There is no way this race to the bottom can end well. Prices of imports become very high in a debased currency—this becomes a problem. In addition, the supply of money is increasingly out of balance with real goods and services. This produces asset bubbles, such as artificially high stock market prices, and artificially high bond prices (because the interest rates on bonds are so low). These assets bubbles lead to investment crashes. Also, if the printing ever stops (and perhaps even if it doesn’t), interest rates will rise, greatly raising cost to governments, corporations, and individual citizens.

To conclude, one can say, the high cost of a comparative or absolute advantage to a country’s own well-being if mismanaged. For example, China has become a leading worldwide emitter of carbon dioxide thanks to its comparative advantage in manufacturing a wide range of products. Other countries may have a comparative advantage in mining certain natural resources – such as crude oil – and mishandle the revenue generated from those activities.

A final disadvantage of globalization is the increase in wage for workers, which can hurt the profitability of some companies. For example, if a rich country has a high comparative advantage in developing software, they may drive up the price of software engineers around the world, which makes it difficult for local companies to compete.

1-5-6-2-4-Globalization ties countries together, so that if one country collapses, the collapse is likely to ripple through the system, pulling many other countries with it

History includes many examples of civilizations⁴⁶ that started from a small base, gradually grew to over-utilize their resource base, and then collapsed. We are now dealing with a world situation which is not too different. The big difference this time is that a large

⁴⁵ Gail Tverberg, Negative aspects of globalization. Retrieved from: <http://oilprice.com/Finance/the-Economy/12-Negative-Aspects-of-Globalization.html>

⁴⁶ Gail Tverberg, <http://oilprice.com/Finance/the-Economy/12-Negative-Aspects-of-Globalization.html>

number of countries are involved, and these countries are increasingly interdependent. The only countries that remain safe are the ones that have not grown to depend on globalization—which is probably not many today—perhaps landlocked countries of Africa.

One can conclude that The bad side of globalization⁴⁷ is all about the new risks and uncertainties brought about by the high degree of integration of domestic and local markets, intensification of competition, high degree of imitation, price and profit swings, and business and product destruction. It is also about tight credit, deleverage, and declining money flows across local and national boundaries, as creditors tighten credit to both good and bad borrowers, depressing aggregate demand; setting the world economy into a vicious cycle of income and employment declines; and euphoria is succeeded by pessimism and a burst of asset bubbles, perpetuating the downward spiral of the world economy.

From the title above one can resume the following keys:

- Globalization is the process of international integration and the increase in the global trade of goods, services, capital, and technology.
- The core benefits of globalization are explained by comparative advantages of producing certain products in various countries.
- Disadvantages of globalization include the destruction of certain domestic industries, potentially high costs if mismanaged, and increases in wages.

⁴⁷ Panos Mourdoukoutas , The Good, The Bad, And The Ugly Side Of Globalization, [/www.forbes.com/sites/panosmourdoukoutas/2011/09/10/the-good-the-bad-and-the-ugly-side-of-globalization/](http://www.forbes.com/sites/panosmourdoukoutas/2011/09/10/the-good-the-bad-and-the-ugly-side-of-globalization/)

1-5-7-Scale versus Competition

Globalization provides innovators the opportunity⁴⁸ to exploit their new ideas on a larger stage. Firms that develop a new product, improve an old one, or find a better production technique can reap profits not only domestically, but also on sales abroad. This “scale effect” tends to boost the incentive for knowledge acquisition. However, in a more global economy, a successful innovator must share the market not only with other domestic firms, but also with those that produce abroad. The “competition effect” of globalization presents an offsetting disincentive for knowledge acquisition. Grossman and Helpman (2014) consider a world economy in which individuals differ in ability and successful innovators draw different technologies for producing their varieties. The model incorporates complementarities between the productivity of a technology and the ability of the workers that the firm employs. There are neither fixed costs of production nor of exporting. In this setting, the countervailing forces of scale and competition are quite clear: a reduction in trade costs in some country has no effect on the common rate of long-run growth in any of them. The extra profit opportunities that result from greater aggregate demand are exactly offset by the loss of market share to foreign producers. The absence of fixed costs is important for this conclusion. Baldwin and Robert-Nicoud (2008) consider an endogenous-growth model with heterogeneous firms and fixed costs of operation and of exporting, as in Melitz (2003). Then, a decline in trade costs raises the cut-off productivity level needed for a firm to survive and reduces the cut-off productivity level that leads it to participate in exporting. The resulting *selection* of more productive firms increases the intensity of competition in the world market. In the Baldwin and Robert-Nicoud environment, if the extent of international knowledge spillovers remains constant after trade costs fall, the expansion of aggregate demand that results from a fall in trade costs is more than offset by growth in the effective competition in the market, leading to a decline in incentives for ongoing R&D. Competition effects also can dominate when costs of innovation fall with accumulated local research experience but there are no international spillovers of research knowledge. Feenstra (1996) considers a world economy in which two countries develop and produce varieties of a differentiated product. The cost of innovation is inversely related to a country’s own cumulative research experience. One country has greater incentives for innovation than the other and grows faster in the autarky equilibrium. When the

⁴⁸ Gene M. Grossman And Elhanan Helpman, 2014, Globalization and growth, Harvard University and CIFAR

countries open to trade, the rapid growth in the number of competitors in the fast-growing country reduces the profitability of innovation in the slow growing country, and the gap in their innovation rates widens. The consequences for the lagging country can be even more severe in a setting with multiple industries that differ in their potential for innovation and productivity growth. Then, the intensified competition that results from an opening of trade can lead the country with lesser incentives for R&D to specialize in industries that themselves have lesser innovation prospects, thereby exacerbating the initial differences between them. Grossman and Helpman (1991, ch. 8) and Young (1991) make the further point that, with national knowledge spillovers, history and initial conditions can matter for the effects of globalization on a country's subsequent growth. They consider the opening of trade between two otherwise symmetric countries in which one has an initial advantage in a sector with potential for knowledge accumulation. Thanks to its head start, the leading country has a lower cost of innovation, which allows it to undertake more of this activity while the other country does less. In the extreme, a country that would have continued to innovate and grow in autarky can be led by competition with a more advanced partner to specialize in activities that lack substantial growth prospects.

1-6-Globalization and International trade theories

The Globalization's flow leads to the global economy, no nation is self-sufficient. With different levels in trade each of those nations is involved in order to sell what it produces, to acquire what it lacks and also to produce more efficiently in some economic sectors than its trade partners.

The main theoretical foundations of international trade contain the following

1-6-1-Mercantilism

The term Mercantilism contained many interlocking principles⁴⁹. Precious metals, such as gold and silver, were deemed indispensable to a nation's wealth. If a nation did not possess mines or have access to them, precious metals should be obtained by trade. It was believed that trade balances must be "favorable," meaning an excess of exports over imports. Colonial possessions should serve as markets for exports and as suppliers of raw materials to the mother country. Manufacturing was forbidden in colonies, and all commerce between colony and mother country was held to be a monopoly of the mother country.

A strong nation, according to the theory, was to have a large population, for a large population would provide a supply of labor, a market, and soldiers. Human wants were to be minimized, especially for imported luxury goods, for they drained off precious foreign exchange. Sumptuary laws (affecting food and drugs) were to be passed to make sure that wants were held low. Thrift, saving, and even parsimony were regarded as virtues, for only by these means could capital be created. In effect, mercantilism provided the favorable climate for the early development of capitalism, with its promises of profit.

Later, mercantilism was severely criticized. Advocates of laissez-faire argued that there was really no difference between domestic and foreign trade and that all trade was beneficial both to the trader and to the public. They also maintained that the amount of money or treasure that a state needed would be automatically adjusted and that money, like any other commodity, could exist in excess. They denied the idea that a nation could grow rich only at the expense

⁴⁹ <https://www.britannica.com/topic/mercantilism>

of another and argued that trade was in reality a two-way street. Laissez-faire, like mercantilism, was challenged by other economic ideas.

Where a nation tried to impose a positive trade balance (more exports than imports, particularly value-wise) on other nations to favor the accumulation of wealth. This system was prevalent during the colonial era and often undertaken by charter companies receiving a monopoly on trade. Mercantilism represents the antithesis of free trade since trade relations are controlled and aligned to benefit one partner at the expense of the other. Still, mercantilism established the foundations of a global trading system, albeit an unequal one.

1-6-2-Neo-mercantilism

Another recent trade system, which is similar to mercantilism leans on establishing a positive trade balance to meet economic development goals. Export-oriented strategies can be considered a form of neo-mercantilism, particularly if a government establish an incentive and subsidy system (e.g. free trade zones), which confers additional advantages to the factors of production.

Neo-mercantilism can also be a response by some governments to the competitive and disruptive consequences of free trade, particularly if the trade partners are engaged in neo-mercantilist strategies.

The outcome is tariff and non-tariff measures regulating trade and protecting national commercial sectors that are perceived to be subject to unfair competition. Therefore, neo-mercantilist strategies can be controversial and subject to contention.

One can say that, Neo-mercantilism is a form of economic nationalism⁵⁰. It does not reject the market. Instead, it seeks to protect state interests, particularly the political and military standing of a country, by trying to shape the national and international workings of markets. Its aim is to bend markets to suit national objectives or, failing that, to reject efficiency and short-term-profit-driven market calculations in favor of those seen to advance national power

⁵⁰ Charles E. Ziegler University of Louisville, charles.ziegler@louisville.edu Rajan Menon, Neomercantilism and great-power energy competition in Central Asia and the Caspian., University of Louisville

1-6-3-Absolute advantages

Based on a nation able to produce more effectively⁵¹ in an economic sector while using fewer resources (K, L) than any other potential competitors. It therefore has an absolute advantage. Global efficiency can thus be improved with trade as a nation can focus on its absolute advantages, trade its surplus and import what it lacks. The drawback of this perspective is that in theory nations having no absolute advantages should not be involved in trade since they may have little to gain from it. Absolute advantages tend to be an enduring characteristic, particularly for resources.

1-6-4-Comparative advantages

It is clear that having an absolute advantage over a wide array of economic sectors, it can focus on the sectors it has the highest comparative advantages (the difference of its production costs and those of its competitors) and import goods in sectors it has less comparative advantages. The comparative productivity increases the total production level since that even if a nation has no absolute advantages, it can focus on sectors where the total productivity gains are the most significant. Comparative advantages tend to be a temporary characteristic that can change with the evolution of labor costs.

1-6-5-Factor endowments

Expansion of the comparative advantages perspective by underlining that trade is related to the factors endowments of a nation⁵². The most basic endowments are capital, land and labor. A nation will export goods to which it has notable factor endowments and imports goods in which it has scarce factor endowments. As such, nations that have low cost labor available will focus in labor intensive activities while nations having high capital endowments will focus in capital intensive activities. Factor endowments can be improved through capital and human resources investments.

⁵¹ Dr. Jean-Paul Rodrigue, globalization and international trade ,the geography of transport system, people.hofstra.edu/geotrans/eng/ch5en/conc5en/ch5c2en.html

⁵² Dr. Jean-Paul Rodrigue, globalization and international trade ,the geography of transport system, people.hofstra.edu/geotrans/eng/ch5en/conc5en/ch5c2en.html

1-7-Global trade structure

Production's globalization is concomitant to the **globalization of trade** as one cannot function without the other. Even if international trade has taken place centuries, as ancient trade routes such as the Silk Road can testify, trade occurred at an ever increasing scale over the last 600 years to play an even more active part in the economic life of nations and regions. This process has been facilitated by significant technical changes in the transport sector. The **scale, volume** and **efficiency** of international trade have all continued to increase since the 1970s. As such, space / time convergence was an ongoing process that implied a more extensive market coverage that could be accessed with a lower amount of time. It has become increasingly possible to trade between parts of the world that previously had limited access to international transportation systems. Further, the division and the fragmentation of production that went along with these processes also expanded trade. Trade thus contributes to **lower manufacturing costs**. Without international trade, few nations could maintain an adequate standard of living, particularly those of smaller size. With only domestic resources being available, each country could only produce a **limited number of products**⁵³ and shortages would be prevalent. Global trade allows for an enormous variety of resources – from Persian Gulf oil, Brazilian coffee to Chinese labor – to be made more widely accessible. It also facilitates the distribution of a wide range of manufactured goods that are produced in different parts of the world to global markets. Wealth becomes increasingly derived through the regional specialization of economic activities. This way, production costs are lowered, productivity rises and surpluses are generated, which can be transferred or traded for commodities that would be too expensive to produce domestically or would simply not be available. As a result, international trade decreases the overall costs of production worldwide. Consumers can buy more goods from the wages they earn, and standards of living should, in theory, increase. International trade demonstrates the extent of globalization with increased spatial interdependencies between elements of the global economy and their level of integration. These interdependencies imply numerous relationships where flows of capital, goods, raw materials and services are established between regions of the world. International trade is also subject to much contention since it can at time be a disruptive economic and

⁵³ Dr. Jean-Paul Rodrigue, globalization and international trade ,the geography of transport system, people.hofstra.edu/geotrans/eng/ch5en/conc5en/ch5c2en.html

social force as it changes the conditions in which wealth is distributed within a national economy, particularly due to changes in prices and wages. One particular challenge concerns the substitution of labor and capital. While in a simple economy labor and capital (infrastructures) can be reconverted to other uses, in complex economies labor and capital cannot be easily reallocated. Therefore, trade can at the same time lead to more goods being available at a lower price, but with enduring unemployment and decaying infrastructures (unused factories). The Setting of the Contemporary Global Trade System International trade, both in terms of value and tonnage, has been a growing trend in the global economy. It is important to underline when looking at the structure of global trade that it is not nations that are trading, but mostly **corporations** with the end products consumed in majority by **individuals**. The nation is simply a regulatory unit where data is collected since freight movements crossing boundaries are subject to customs oversight and tabulated as trade flows. Inter and intra corporate trade is taking place across national jurisdictions is accounted as international trade.

The emergence of the current structure of global trade can mainly be articulated within three major phases:

1-7-1-First phase (immobile factors of production)

Concerns a conventional perspective on international trade that prevailed until the 1970s where factors of production were much less mobile. Prior to the end of World War I, global trade was mainly structured by colonial relations, but was fairly unregulated. There was a limited level of mobility of raw materials, parts and finished products. After World War I international trade became fairly regulated with impediments such tariffs, quotas and limitations to foreign ownership. Trade mainly concerned a range of specific products, namely commodities, (and very few services) that were not readily available in regional economies. Due to regulations, protectionism and fairly high transportation costs, trade remained limited and delayed by inefficient freight distribution. In this context, trade was more an exercise to cope with scarcity than to promote economic efficiency.

1-7-2-Second phase (mobility of factors of production)

The mobility of factors of production-capital- became possible from the 1980s. The legal and physical environment in which international trade was taking place lead to a better realization of the comparative advantages of specific locations. Concomitantly, regional trade agreements emerged and the global trade framework was strengthened from a legal and transactional standpoint (GATT/WTO). In addition, containerization provided the capabilities to support more complex and long distance trade flows, as did the growing air traffic. Due to

high production (legacy) costs in old industrial regions, activities that were labor intensive were gradually relocated to lower costs locations. The process began as a national one, then went to nearby countries when possible and afterwards became a truly global phenomenon. Thus, foreign direct investments surged, particularly towards new manufacturing regions as multinational corporations became increasingly flexible in the global positioning of their assets.

1-7-3-Third phase (global production networks)

There is a growth in international trade, now including a wide variety of services that were previously fixed to regional markets and a surge in the mobility of the factors of production. Since these trends are well established, the priority is now shifting to the geographical and functional integration of production, distribution and consumption with the emergence of global production networks. Complex networks involving flows of information, commodities, parts and finished goods have been set, which in turn demands a high level of command of logistics and freight distribution. In such an environment, powerful actors have emerged which are not directly involved in the function of production and retailing, but mainly taking the responsibility of managing the web of flows.

1-7-4-Judging Globalization 2000 by the Standard of Perfect International Integration

Perhaps perfect economic integration across national borders is a straw man. The reader is likely to think so by the end of this chapter, even if he or she did not think so at the beginning⁵⁴. But straw men have their purposes, and in this case ample rhetoric exists to justify the interest. A good straw man needs to be substantial enough to impress the crows, and yet not so substantial that he can't be knocked flat. On both scores the proposition of complete international integration qualifies admirably. Consider again the basic statistics of trade integration, a country's total exports of goods and services, or total imports, as a fraction of GDP. With the rapid increase in services included these ratios now average 12% for the United States. The current level of trade likely represents a doubling from 100 years ago. As remarkable as is this evidence of declining transportation costs, tariffs, and other barriers to trade, it is still very far from the condition that would prevail if these costs and barriers were zero. More sophisticated statistics below will document this claim. But a very simple

⁵⁴ Jeffrey Frankel, January 2000, Globalization of the Economy, Kennedy School of Government, Harvard University Cambridge MA 02140 (617) 496-3834 jeffrey_frankel@harvard.edu

calculation is sufficient to make the point. US output is about $\frac{1}{4}$ of gross world product. The output of producers in other countries is thus about $\frac{3}{4}$ of gross world product. If Americans were prone to buy goods and services from foreign producers as easily as from domestic producers, then foreign products would constitute a share of US spending equal to that of the spending of the average resident of the planet. The US import/GDP ratio would equal .75. The same would be true of the US export/GDP ratio. And yet these ratios are only about $\frac{1}{6}$ of this hypothetical level ($\frac{12\%}{75\%} = \frac{1}{6}$). In other words, globalization would have to increase another six-fold, as measured by the trade ratio, before it would literally be true that Americans did business as easily across the globe as across the country.

Other countries are also a long way from perfect openness in this sense. The overall ratio of merchandise trade to output worldwide is about twice the US ratio. This is to be expected, as other countries are smaller. For the other two large economies -- Japan, and the EU considered as a whole -- the ratio is closer to the US level. In almost all cases, the ratio falls far short of the level that would prevail in a perfectly integrated world⁵⁵.

1-8-The importance of economic growth

1-8-1- Liberalization as economic growth engine

Focusing on this investigation is an empirical question: **Does trade liberalization cause economies which liberalize to grow more rapidly than those which do not?** Small differences in economic growth, maintained for extended periods of time, can lead to dramatic differences in standards of living⁵⁶. These differences help account for the interest of policymakers and analysts in learning whether dynamic gains from trade liberalization exist, however small. In order to emphasize this point, and motivate further the discussion in the balance of the report, some examples are presented here. The effects of sustained differences in the rate of economic growth can be illustrated by the so-called

⁵⁵ The average country constitutes about $\frac{1}{2}$ of one percent of world output. (There are about 180 members of the IMF.) Thus in a fully globalized world, the average country would buy or sell 99 $\frac{1}{2}$ percent of its output abroad. Again, most economies fall far short of this degree of international integration. Singapore and Hong Kong are the only two exceptions. Their exports and imports are each more than 100% of GDP, which points up that the denominator of the ratio should really be a measure of gross sales, not a valueadded measure like GDP. In other words, the statistic that globalization must increase six-fold before it is complete, is an underestimate.

⁵⁶ U.S International Trade Commission,(1997),The Dynamic Effects of Trade Liberalization: An Empirical Analysis, Washington, DC 20436

“rule of 72”⁵⁷. If two economies begin with the same income per person, but growth in income per person in the first economy exceeds that in the second by 2 percent per year, in 36 years the faster-growing economy will enjoy approximately double the standard of living in the second economy. If the difference in per capita income growth is 3 percent per year, this doubling of the relative living standard will take place in 24 years, or within a generation. Examples of such sustained differences in growth between countries are numerous. A dramatic example of the consequences of sustained differences in economic growth rates is provided by a comparison of El Salvador and Japan. In the mid-1950s, the per capita income of El Salvador was roughly equal to, or even slightly higher than, that in Japan (Bhagwati (1966)).

In 1993, according to World Bank data, the income of one Japanese person was approximately equal to that of 24 Salvadorans. This difference can be accounted for by a sustained difference of less than 9 percent per year in economic growth per person, maintained over 38 years. Most differences in economic growth between countries can be attributed to causes other than differences in trade policies. Nonetheless, if trade liberalization can be shown to make even a modest contribution to more rapid economic growth, such a contribution would have important consequences for the progress of human well-being, for both the United States and its trading partners.

1- 8-2- Export-led Growth

During the 1970s, several pioneering attempts at systematic multicountry investigation of trade policy and economic performance in the developing countries. Studies by Little, Scitovsky, and Scott (1970) (for the OECD), and by Balassa (1971), calculated effective rates of protection for several developing countries⁵⁸. These studies concluded that post-World War II protectionist policies had artificially encouraged industrialization, suppressed agriculture, and reduced exports by moving countries’ production away from cost-based comparative advantages.

⁵⁷ Technical note.—Under the “rule of 72,” the number of years it takes for a quantity to double can be approximated by dividing its annual growth rate into the number 72.

⁵⁸ The effective rate of protection (ERP) for a specific industry is defined as the percentage increase in value added induced by a country’s tariff structure. ERPs are relatively high when high tariffs are imposed on an industry’s output and low tariffs are imposed on an industry’s productive inputs, and relatively low in the reverse situation. For extreme cases in which tariff protection makes inputs sufficiently expensive relative to output, the effective rate of protection can be negative. Little, Scitovsky and Scott examined Argentina, Brazil, Mexico, India, Pakistan, the Philippines, and Taiwan. Balassa analyzed Chile, Brazil, Mexico, Malaysia, Pakistan, the Philippines, and Norway.

While these studies did not directly calculate impacts on the rate of economic growth, they did argue that developing-country protectionism had suppressed savings and induced large-scale unemployment of labor and underutilization of capacity, all factors which would be expected to have direct consequences for economic growth. The promotion of relatively high-wage manufacturing at the expense of agriculture, in which most of the poorest individuals were employed, was also believed to have worsened income distribution.

In a subsequent multivolume study for the National Bureau of Economic Research, Bhagwati (1978) and Krueger (1978) examined trade regimes of a number of developing economies⁵⁹ using the concept of an effective exchange rate. The effective exchange rate was an attempt to summarize in a single measure the net effect of policies such as import tariffs and surcharges, export subsidies and incentives, import licensing, and exchange rate policies. National policy regimes were classed as “import substituting,” “neutral,” or “export promoting” depending on whether the effective exchange rate for hard currency paid by importers was less than, equal to, or greater than the corresponding rate paid by exporters.

The period from about 1970 to 1985 saw the adoption of the export-led growth paradigm by the East Asian Tigers—South Korea, Taiwan, Hong Kong and Singapore—and their subsequent economic success. While an undervalued exchange rate was used to make their exports more competitive, these countries realized that there was a much greater need for foreign technology acquisition in order to compete in auto manufacturing and electronics industries. Much of the success of the East Asian Tigers has been attributed to their ability to encourage the acquisition of foreign technology and to implement it more efficiently than their competitors. Their ability to acquire and develop technology was also supported by foreign direct investment (FDI).

A number of newly industrializing nations in Southeast Asia followed the example of the East Asian Tigers, as well as a number of countries in Latin America. This new wave of export-led growth is perhaps best epitomized by Mexico’s experience that began with

⁵⁹ These were Turkey, Ghana, Israel, Egypt, the Philippines, India, Korea, Chile, and Colombia. Additional work on Brazil and Pakistan was not published in separate country volumes.

trade liberalization in 1986, which later led to the inauguration of the North American Free Trade Agreement (NAFTA) in 1994.

NAFTA became the template for a new model of export-led growth. Rather than developing nations using export promotion to facilitate the development of domestic industry, the new model became a platform for multinational corporations (MNCs) to set up low-cost production centers in the developing country in order to provide cheap exports to the developed world. While developing nations benefit from the creation of new jobs as well as technology transfer, the new model hurts the domestic industrialization process. (For related reading, see: *Pros and Cons of NAFTA*.)

This new paradigm would soon be expanded more globally through the establishment of the World Trade Organization⁶⁰ (WTO) in 1996. China's admission into the WTO in 2001 and its export-led growth is an extension of Mexico's model, albeit China was much more successful in gleaning the benefits of a greater openness to international trade than was Mexico and other Latin American countries. Perhaps this is partly due to its greater use of import tariffs, stricter capital controls and its strategic skill in adopting foreign technology to build its own domestic technological infrastructure. Regardless, China remains dependent on MNCs illustrated by the fact that 50.4% of Chinese exports come from foreign-owned firms, and if joint ventures are included, the figure is as high as 76.7%.

One can say that, export-led growth in its various guises has been the dominant economic development model since the 1970s; there are signs that its effectiveness may be exhausted. The export paradigm depends upon foreign demand and since the global financial crisis in 2008; developed nations have not regained strength to be the main supplier of global demand. Further, emerging markets are now a much greater share of the global economy making it hard for all of them to pursue export-led growth strategies—not every country can be a net exporter. It looks like a new development strategy will be needed, one that will encourage domestic demand and a greater balance between exports and imports.

⁶⁰ Export-Led Growth Strategies Through History | Investopedia <http://www.investopedia.com/articles/investing/011416/exportled-growth-strategies-through-history.asp#ixzz4hu09PJd7>

CHAPTER 2: ALGERIA AND GLOBALIZATION

"Progress is impossible without change, and those who cannot change their minds cannot change anything." - George Bernard-

2-1-Introduction

Globalization does limit the independence of national governments in certain areas; nevertheless governments retain a wide range of choice, most notably in distributional policies. The weak participants in integration need more rules than the strong ones⁶¹. However, there is a danger that the rules will come to favor the strong. At the same time, as global trade becomes more firmly based upon a legal framework, this potentially enhances the power of the developing countries. In other words globalization involves shifts in power but these do not always favor the already powerful.

As it known that Algeria is a member of the UN, African Union and OPEC (Organization of Petroleum-Exporting Countries). In 2010, the country exported items worth \$52.03 billion, down from \$78.23 billion in 2009.

Algeria's main exports include hydrocarbons and animal products, with the US as its largest exporting partner while its main imports are consumer goods and food materials largely from France. This section presents the various drivers (pilots) of this western thought in Algeria that comprises; technological, political, and economical drivers. In addition to that, different obstacles stand in its spreading like the demographic explosion and low productivity, lagging political and institutional reforms, lack of education, religion and traditions in Algeria.

In the global economy, the market liberalization of recent decades affected international economic⁶², commercial and financial relations. This process created global structures covering all financial markets and opened a new dimension in the efficiency requirements of production, R&D, innovation, investment, etc.

One of the core functions of diplomacy and foreign policy within governments is to foster economic trade in ways that benefit both parties involved.

⁶¹ Paul Collier and David Dollar, (2002), *Globalization, Growth and Poverty Building an Inclusive World Economy*, Washington D.C, World Bank and Oxford University Press, 2002. Pp. 174

⁶² Dr. Gyula Nagy,(2010), *Components and Consequences of Globalisation and the Financial Crisis*, Ph.d Thesis, Széchenyi István University Doctoral School of Regional and Economic Sciences

In this section, we propose an analysis of the degree of trade integration of Algeria in the context of globalization. This is mainly through the use of trade intensity index that we measure the relative affinities of Algeria with each of its partners. We decline these relationships by type of trade (import or export) and by type of product (GDP). In all cases, a diachronic approach allows to trace the development of trade relations of Algeria since the 1970s with particular emphasis on the last ten years. The notion of commercial affinity really refers to the question of the role of close relationships and their impact on the direction of trade flows. In traditional models of international trade, local variables are rarely taken into account. It is as if the comparative advantages and economies of scale are the only factors that determine the type of products traded and geographical orientation. But the profusion of recent studies mobilizing the gravity model puts more light on the invisible factors of international trade.

2-2-Algeria historical trend

The total of imports and exports on the eve of the French invasion (in 1830) did not exceed £175,000. By 1850, the figures had reached £5,000,000; in 1868, £12,000,000; in 1880, £17,000,000; and in 1890, £20,000,000. From this point progress was slower and the figures varied considerably year by year. In 1905 the total value of the foreign trade was £24,500,000. About five-sixths of the trade is with or via France, into which country several Algerian goods have been admitted duty-free since 1851, and all since 1867. French goods, except sugar, have been admitted into Algeria without payment of duty since 1835. After the 1892 increase of the French minimum tariff which applied to Algeria for the first time, foreign trade greatly diminished.

GDP per capita grew 40 percent⁶³ in the Sixties reaching a peak growth of 538% in the Seventies, but this proved unsustainable and growth collapsed to a paltry 9.7% in the turbulent Eighties. Failure of timely reforms by successive governments caused the current GDP per capita to shrink by 28% in the Nineties.

Tableau 2: Trend of gross domestic product of Algeria at market prices (in millions of Algerian Dinars)

Year	GDP	US\$ Exchange	Inflation Index (2000=100)	Per capita income (as% of USA)
1980	162,500	3,83DA	9,30	18,51
1985	291,600	4,77DA	14	15,55
1990	554,400	12,19DA	22	10,65
1995	2,004,990	47,66DA	73	5,39
2000	4,123,514	75,31DA	100	5,17
2005	7,493,000	73,44DA	114	7,43

Source: www.wikipedia.org

⁶³ Economy of Algeria .Retrieved from: www.wikipedia.org

For purchasing power parity comparisons, the US Dollar is exchanged at 70.01 Algerian Dinars only. Average wages in 2007 hover around \$18–22 per day.

Burdened with a heavy foreign debt, Algiers concluded a one-year standby arrangement with the International Monetary Fund in April 1994 and the following year signed onto a three-year extended fund facility which ended 30 April 1998. In March 2006, Russia agreed to erase \$4.74 billion of Algeria's Soviet-era debt during a visit by President Vladimir Putin to the country, the first by a Russian leader in half a century. In return, President Abdelaziz Bouteflika agreed to buy \$7.5 billion worth of combat planes, air-defense systems and other arms from Russia, according to the head of Russia's state arms exporter Rosoboron export. Some progress on economic reform, Paris Club debt reschedulings in 1995 and 1996, and oil and gas sector expansion contributed to a recovery in growth since 1995, reducing inflation to approximately 1% and narrowing the budget deficit. Algeria's economy has grown at about 4% annually since 1999⁶⁴. The country's foreign debt has fallen from a high of \$28 billion in 1999 to its current level of \$5 billion. The spike in oil prices in 1999-2000 and the government's tight fiscal policy, as well as a large increase in the trade surplus and the near tripling of foreign exchange reserves has helped the country's finances. However, an ongoing drought, the after effects of the November 10, 2001 floods and an uncertain oil market make prospects for 2002-03 more problematic. The government pledges to continue its efforts to diversify the economy by attracting foreign and domestic investment outside the energy sector.

President Bouteflika has announced sweeping economic reforms, which, if implemented, will significantly restructure the economy. Still, the economy remains heavily dependent on volatile oil and gas revenues. The government has continued efforts to diversify the economy by attracting foreign and domestic investment outside the energy sector, but has had little success in reducing high unemployment and improving living standards. Other priority areas include banking reform, improving the investment environment, and reducing government bureaucracy.

⁶⁴Economy of Algeria .Retrieved from: www.wikipedia.org

The plans announced by the Algerian government to sell off state enterprises: sales of a national cement factory and steel plant have been completed and other industries are up for offer. In 2001, Algeria signed an Association Agreement with the European Union⁶⁵; it has started accession negotiations for entry into the World Trade Organization.

⁶⁵ Economy of Algeria .Retrieved from: www.wikipedia.org

2-3-Algeria at a glance

2-3-1-Giving statistics

In the following passage, I trying to summaries Algerian economic standing with statistics tools

3-2-1-1Third position in the MENA region and a leader in the Maghreb

Indeed, Algeria is one of a hand full of countries that have achieved 20% poverty reduction in the past two decades: the Algerian government took significant steps to improve the wellbeing of its people by implementing social policies in line with the United Nations Sustainable Development Goals. Among other major achievements, the country's oil boom has enabled the authorities to clear its debt, invest in infrastructure projects, and improve Human Development Indicators.

3-2-1-2-Algeria has made significant gains in each of the key Human Development Indicators (HDI)

The country's position is at 83 out of 188 countries⁶⁶ which ranks it among the highly developed cohort in the latest Human Development Report. Algeria is considered to have achieved universal primary education with a 97% Primary Net Enrollment Rate in 2015 (with gender parity) and equally elevated higher education enrollment rates. Going forward, the Government will need to improve the quality of education as Algeria's 15-year olds ranked 71 out of 72 economies in science and mathematics in the 2015 PISA.

3-2-1-3- Contribution on the socioeconomic stability

Positive results of shared prosperity have contributed to Algeria's overall socioeconomic stability, however, the costs of the underlying social programs and subsidies are no longer affordable with low oil prices. The continued worldwide drop in oil prices has necessitated changes in country economic models and has triggered a domino effect of reforms in the MENA oil exporting countries to adapt to the new scenario. Similar to its neighbors, Algeria's

⁶⁶ World Bank

hydrocarbon revenues have been halved in the recent years in addition to a rapid decrease in its currency reserves.

3-2-1-4- Algeria was able to maintain economic growth at 3.4% in 2016

Sustained growth has been achieved by increasing the fiscal deficit, which doubled to 15.6 percent in 2015, although it has improved to an estimate of 12.5% in 2016 due to a slight recovery in oil prices. On the economic front, despite a sharp decline in oil price and unfavorable weather, the deficit had widened also due to a slow reduction in fiscal spending in the 2016 Budget Law. The latter calls for a 9 percent cut in expenditure (mostly investment) and a 4 percent increase in tax revenue, based on a 36 percent hike in gasoline prices and higher taxes on electricity and on car registrations. The budget also empowered finance authorities to approve further cuts if oil prices fell lower than its average oil price assumption, and to engage in external borrowing if needed.

3-2-1-5- The socio-economic reforms taken by the Government

The Council of Ministers also adopted a bold strategy for “A New Growth Model” in mid-2016 based on fiscal consolidation over the medium term coupled with a critical mass of structural reforms aimed at restoring macroeconomic balance and diversification of the economy. However, reliance on hydrocarbon revenues does make Algeria highly vulnerable to volatility in global oil prices in the face of substantial global oil inventories and weaker than anticipated recovery in demand.

The possibility of social discontent resulting from government spending cuts and tax hikes poses a risk for Algeria. The political will to rationalize inefficient, inequitable and costly subsidies has been repeatedly expressed by President Bouteflika himself. However, such reforms requires improved safety nets, a cash transfer system reaching the needy⁶⁷, a solid media campaign to ensure better public understanding during its implementation, and, a stronger statistical system that allows monitoring of households’ living conditions more frequently. These accompanying measures are medium term in nature and take some time to put in place.

⁶⁷ World Bank

The shift towards a more diversified economy will help Algeria move toward sustainable growth and create jobs. This does need to be done in a way that protects the most vulnerable by ensuring well defined and targeted compensation mechanisms. The Bank's global perspective, analytical expertise, knowledge and resources are shared with the Algerian government to support the country in the implementation of the reforms.

2-3-2-Algeria's Economy at present: an Overview

One can say that most Algerian migrants face many sacrifices in the world which give us a sense of the misery they leave behind when they embark on their journey of hope⁶⁸. High rates of unemployment, combined with lack of faith in the ruling class, generate massive emigration fluxes⁶⁹. The nature of misery in contemporary Algeria is, however, not obvious. There is a significant discrepancy between the image of a destitute land, which migrants eagerly flee, and the relatively solid portrait of Algeria that emerges from aggregate data. Algeria is a "middle-income" country that has managed to refrain from external borrowing since 2005. High-energy prices in the early 2000s generated extra revenue, which allowed the Algerian government to repay its foreign debt and increase its geopolitical importance. According to a recent economic profile, Algeria has the 10th-largest reserves of natural gas in the world and is the sixth-largest gas exporter. It ranks 16th in oil reserves. Strong revenues from hydrocarbon exports have brought Algeria relative macroeconomic stability, with foreign currency reserves approaching \$200 billion and a large budget stabilization fund available for tapping. In addition, Algeria's external debt is extremely low at about 2% of GDP⁷⁰.

Moreover, the country was notably not shaken by the Arab Spring and has been relatively stable for the past decade⁷¹. Terrorist attacks, mostly launched from neighboring countries'

⁶⁸ Daniela Caruso, Joanna Geneve,(2015), Trade and History: The Case of EU-Algeria Relations, *Boston University International Law Journal*

⁶⁹ David N. Margolis, Egidio Luis Miotti, El Mouhoub Mouhoud & Joel Oudinet, (2013), *To Have and Have Not: Migration, Remittances, Poverty and Inequality in Algeria* (IZA Discussion Paper No. 7747; Vivienne Walt, *With Limited Freedoms, Many Algerians Vote with Their Feet*)

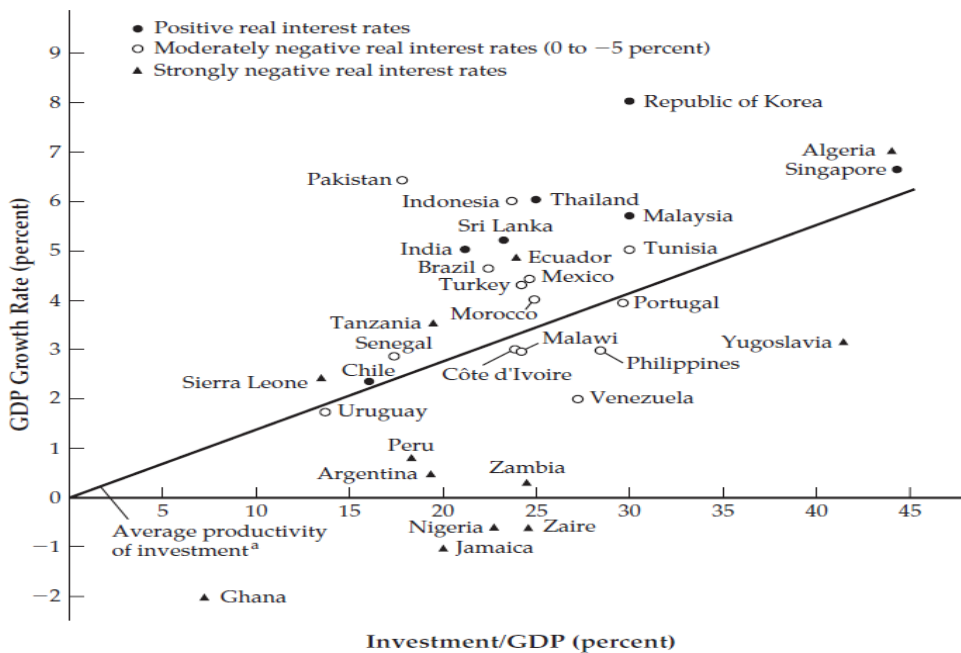
⁷⁰ *Algeria Economy Profile 2013*, INDEX MUNDI (Aug. 23, 2014), Retrieved from : http://www.indexmundi.com/algeria/economy_profile.html

⁷¹ Eleanor Beardsley, (2011), *Algeria's Black Decade Still Weighs Heavily*, NAT'L PUB. RADIO. Retrieved from: <http://www.wbur.org/npr/135376589/algerias-black-decade-still-weighs-heavily>.

Islamic extremists, periodically wreak havoc and slow down the pace of foreign investment, but remain relatively self-contained and do not disrupt the country's productive life⁷².

2-3-2-1-Real interest rates, investment, productivity, and growth in 33 developing countries from 1974 to 1985

Figure 4: Real interest rates, investment, productivity and growth in 33 developing countries 1974-1985



Source: World Development Report, 1989.-Copyright © by the International Bank for Reconstruction & Development/The World Bank-.Reprinted by permission of the Oxford University Press, Inc., p. 33.

Wealth and relative stability, however, have not borne sufficient fruit in many pockets of Algerian society. The point is that the cash flow generated by hydrocarbons comes with two significant drawbacks. First, it is concentrated in the hands of the country's elite or siphoned off to foreign investors, with no immediate benefits for the Algerian poor. Second, it is excessively dependent on world price fluctuation and is therefore subject to sudden contractions. The country's economy continues to be plagued by lack of diversification (with hydrocarbons accounting for 95% of Algerian export earnings) and spatial disparity, i.e. abysmal poverty in rural areas and largely disappointing performance of privately owned

⁷² Lama Abu-Odeh, (2009) , *On Law and the Transition to Market: The Case of Egypt*, 23 EMORY INT'L L. REV. 351 (discussing the interplay of market dynamics and *rentier* state politics in oil-rich economies).

⁷³ Damodar N. Gujarati, Dawn C. Porter , (2010), *Essential of econometrics* , United States Military Academy, West Point

business. Virtually all sectors of Algeria's economy, with the exception of oil and gas, still struggle.

From the perspective of developed countries, the cause of such problems lies in the Algerian government's reluctance to liberalize. Algeria's patterns of state intervention in the economy, expansive fiscal policy, and relatively profligate public spending stand in stark contrast with current recipes for progress. In 2013, the World Bank's *Doing Business* report ranked Algeria 152 out of 185 economies, indicating that the Algerian regulatory environment is not hospitable to business, and in particular to small and medium enterprises.

It is indeed common knowledge that the Algerian government keeps a tight grip on economic activity. President Boumedienne's large nationalization project in 1971 has since given way to a more liberal attitude towards private entrepreneurship. Still, government policies remain wary of foreign investment. For example, the government passed the Hydrocarbons Law of 2005, which was meant to terminate the state's monopoly over all hydrocarbon-related activities, from exploration to transportation. Indeed, the Hydrocarbons Law paved the way for new and transparent bidding processes for international investors. An executive order in 2006, however, guaranteed a 51% government share in all ventures and introduced additional tax burdens for foreign investors⁷⁴.

This concentration of power in government hands has also been denounced as a deplorable obstacle to Algeria's own private entrepreneurship. The African Development Bank, for instance, has noted the Algerian government's insistence on pouring resources into state-owned industries. This policy is radically at odds with Europe's liberalization mantra, both within the energy sector and across the board of economic activities. To be sure, one finds occasional acknowledgements that Algeria's timely reduction of foreign debt sheltered the country from the global financial turmoil of 2008⁷⁵. What is more common, however, is a general condemnation of Algeria's economic policies, both towards Foreign Direct Investment ("FDI") and with regards to domestic enterprises⁷⁶.

⁷⁴ Omar T. Mohammedi, (2010), *International Trade and Investment in Algeria: An Overview*, 18 MICH. ST. J. INT'L L. 375, 386 (quoting Jean-Michel Meyer, *Investissement: l'Algérie impose sa loi*, JEUNE AFRIQUE, July 28, 2009).

⁷⁶ *Telecoms in Algeria: A Lost Generation*, ECONOMIST, Oct. 26, 2013

Against this background, we ask, has the EU's trade and cooperation agenda contributed to the betterment of the country—to diversifying its economy, to restructuring its productive sectors, or to raising the standards of its rural life? The answer to this question is mixed. As observed, it is common, in Europe and elsewhere, to blame Algeria for its own troubles. Yet, there is room for considering whether EU policies may have, over time, also tied Algeria to the status quo.

2-3-2-2-Nominal gross domestic product (GDP)

Gross domestic product (GDP) at market prices is the expenditure⁷⁷ on final goods and services minus imports: final consumption expenditures, gross capital formation, and exports less imports. "Gross" signifies that no deduction has been made for the depreciation of machinery, buildings and other capital products used in production. "Domestic" means that it is production by the resident institutional units of the country. The products refer to final goods and services, that is, those that are purchased, imputed or otherwise, as: final consumption of households, non-profit institutions serving households and government; fixed assets; and exports (minus imports).

The gross domestic product is one of the primary indicators used to gauge the health of a country's economy⁷⁸. It represents the total dollar value of all goods and services produced over a specific time period; you can think of it as the size of the economy. Usually, GDP is expressed as a comparison to the previous quarter or year. For example, if the year-to-year GDP is up 3%, this is thought to mean that the economy has grown by 3% over the last year.

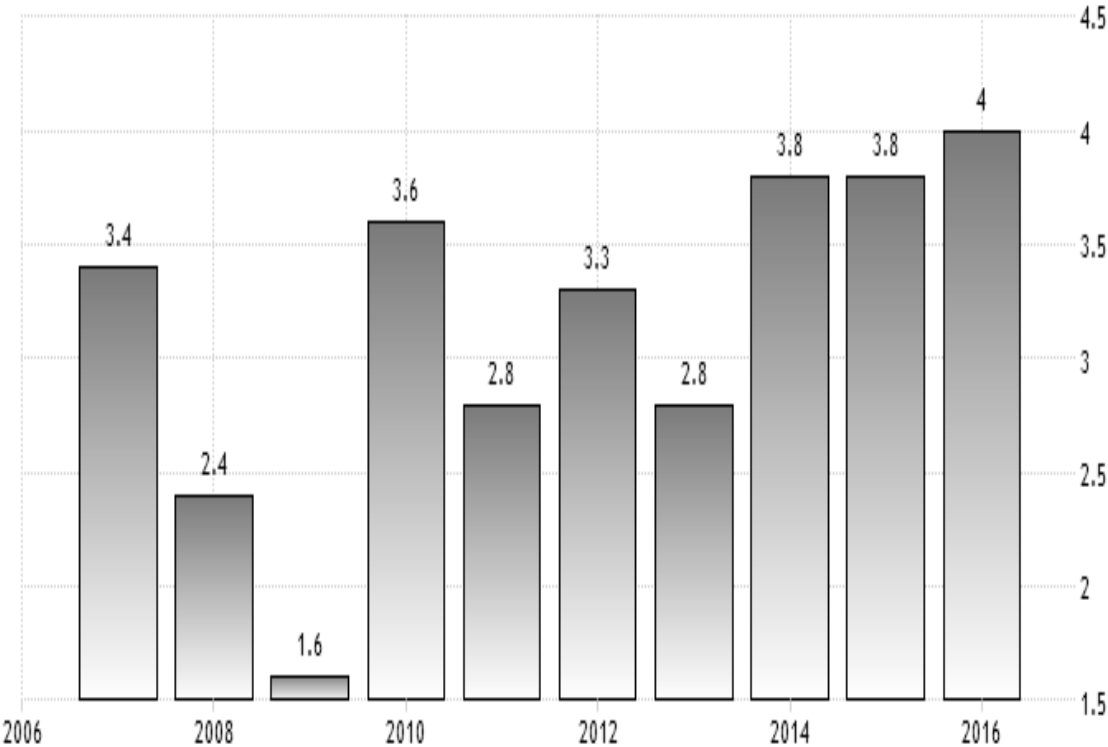
The GDP in Algeria expanded 4 percent in 2016⁷⁹, following a 3.8 percent growth in the previous year. The energy sector expanded 5.6 percent (4 percent in 2015). The Algerian economy relies on oil and gas, which makes 60 percent of the government budget and 94 percent of total exports. GDP Annual Growth Rate in Algeria averaged 3.55 percent from 2001 until 2015, reaching an all time high of 6.70 percent in 2003 and a record low of 1.60 percent in 2009. (See figure 05)

⁷⁷ OECD Data , <https://data.oecd.org/gdp/gross-domestic-product-gdp.htm>

⁷⁸ www.investopedia.com/

⁷⁹ <http://www.tradingeconomics.com/algeria/gdp-growth-annual>

Figure 5: Algeria GDP



Source: <http://www.tradingeconomics.com/algeria/gdp-growth-annual>

2-3-2-3-Algeria Balance of Trade

Actually, our country had a current-accounts deficit, which before independence was covered by the French government. The departure of Europeans after independence contributed to a more equitable balance of trade; in addition to that, it caused a heavy withdrawal of capital and a decrease in French aid, resulting in a continued deterioration of Algeria's payments position. However, with the continued growth of the petroleum sector, Algeria recorded substantial payments surpluses during the 1970s. The fall of oil prices (1986) conduct Algeria to a large deficit and an economic restructuring through the IMF that was intended to help service the country's debt and begin government privatization. During 1991, many import restrictions were abolished, although foreign exchange and external credit access were still restricted. By 1996⁸⁰, Algeria started a liberalized trade regime in which nearly all export restrictions were removed and foreign investment was encouraged.

From all what had said, one can emphasis that Algeria must increase its non-hydrocarbon exports, however, in order to generate enough foreign exchange so that when oil prices are low, it will be able to pay for necessary imports and to service its external debt, which stood at \$24.7 billion in 2001.

In 2002 and according to The CIA⁸¹ ; Algeria's exports purchasing power parity was \$19.5 billion while imports totaled \$10.6 billion, resulting in a trade surplus of \$8.9 billion

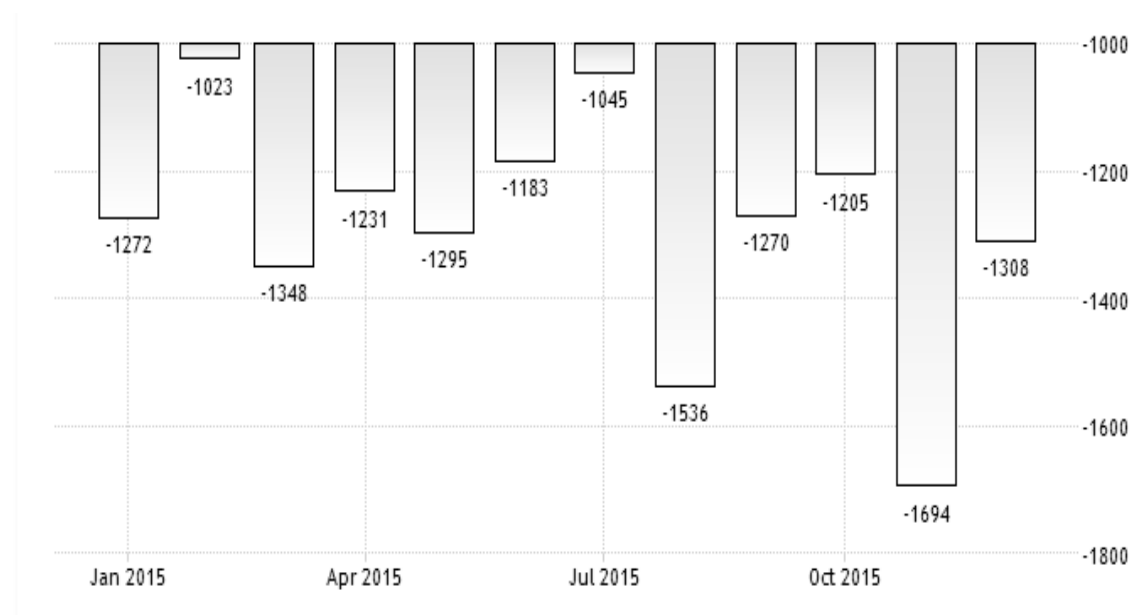
The Algerian economy is almost dependent on petroleum and natural gas exports⁸². Hydrocarbons account for over 95% of export earnings. Algeria main exports partners are United States, Italy, Spain, France and Canada. Algeria imports mainly capital goods, foodstuffs and consumer goods. Its main import partners are: France, China, Italy, Spain and Germany as well (see figure 05).

⁸⁰ Algeria balance of payment, Retrieved from : : <http://www.nationsencyclopedia.com/Africa/Algeria-BALANCE-OF-PAYMENTS.html#ixzz4hpkbUEoP>

⁸¹ US Central Intelligence Agency

⁸² Algeria balance of trade .Retrieved from: <http://www.tradingeconomics.com/algeria/balance-of-trade>

Figure 6: Algeria balance of trade



Source: <http://www.tradingeconomics.com/algeria/balance-of-trade>

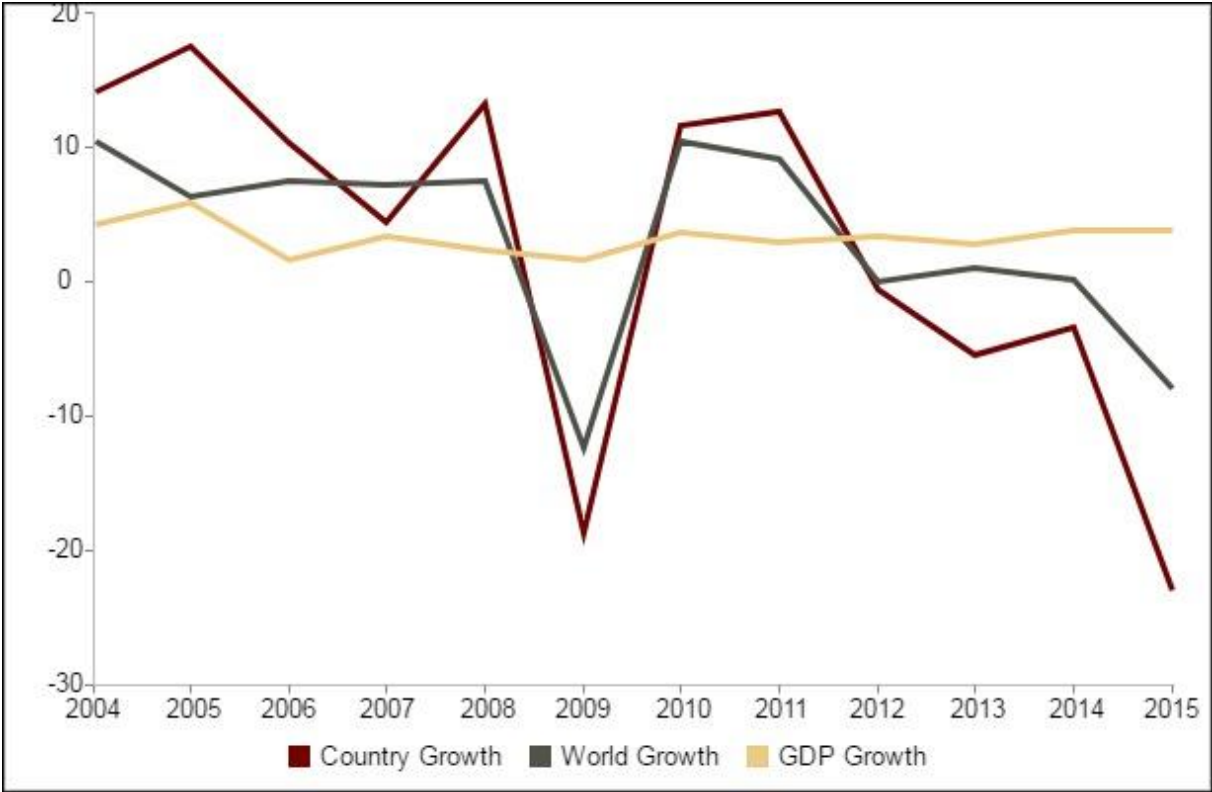
Algeria recorded a trade deficit of 1308 USD Million in December of 2015. Balance of Trade in Algeria averaged 2563.10 USD Million from 1992 until 2015, reaching an all time high of 34060.00 USD Million in June of 2006 and a record low of -2141.00 USD Million in December of 2014.

2-3-2-4-Algeria's development model

With 98 percent of its exports, 30 percent of its GDP, and 38 percent of its fiscal resources stemming directly from the hydrocarbon sector in 2013⁸³, Algeria is a highly oil-dependent country. However, the expected lifetime of the hydrocarbon resource does not match the dependency level: assuming no new discoveries, oil resources are expected to be impoverished in 20 years, and gas in 55 years. (See figure 06)

⁸³ Andrew Jewell, Amina Lahreche, and Gaëlle Pierre, (2014), Algeria, Selected Issue, IFM

Figure 7: Algeria growth VS world growth VS GDP



Source: WITS .Retrieved from: worldbank.org/CountryProfile/en/DZA

Under a no-policy-change scenario, Algeria’s currently strong external position is expected to worsen considerably. The depletion of the hydrocarbon resource will lead to a current account deficit and a rapid worsening of the external position if non hydrocarbon exports and capital inflows fail to increase much from their current low levels

Algeria needs to reduce its reliance on hydrocarbon exports, so that it can ensure long-term external sustainability and secure the living standard it has achieved for its population. Non hydrocarbon exports are dominated by chemical products and agriculture; these flows are extremely small and scattered across a large number of product categories, reflecting a lack of strong industries or products on which to build export diversification. Services exports also appear underdeveloped, notably compared to non-oil-exporting countries, and are largely related to hydrocarbon exports.

The government launched a comprehensive plan for the modernization of its budget systems in 2001, but implementation has been slow.

PFM reforms in the following areas would complement fiscal consolidation efforts:

- ✓ The budget should be formulated with a medium-term perspective which would help improve costing and controls over spending commitments and ensure that spending is made according to prescribed purposes.
- ✓ Improved public finance statistics would help the authorities better prepare the budget on the basis of reliable information.
- ✓ An integrated information management system would provide timely and reliable data and increase synergies between various departments.
- ✓ The efficiency of public investment could be increased by improving project selection, implementation, and monitoring.
- ✓ Ex-post evaluations of government programs (e.g. labor market programs) are needed to identify those that are ineffective and should be modified or eliminated.

2-3-2-5-Algeria-EU Cooperation

Ameliorating the economic conditions of the Maghreb and of Algeria in particular, is a goal dear to the EU polity for reasons that range from energy security to humanitarian concerns. The Algerian government, in particular, is a desirable bulwark against terrorism and irregular migration from the heart of Africa. Europe is thus invested in shoring up its strength and enabling its “prosperity and stability.” Cooperation with North African countries—already embedded in a series of country-specific agreements such as the EEC-Algeria Cooperation Agreement of 1976 (“1976 Cooperation Agreement”)⁸⁴—was re-launched as a general policy with the Barcelona Declaration in 1995⁸⁵, and then deepened and revived in 2008⁸⁶ within the framework of the European Neighborhood Policy (“ENP”)⁸⁷.

⁸⁴ Cooperation Agreement between the European Economic Community and the People’s Democratic Republic of Algeria, E.E.C.-Alg., Apr. 22, 1976, 1978 O.J. (L 263) 2 [hereinafter Cooperation Agreement].

⁸⁵ MARKUS HAHN, (2009), THE EURO-MEDITERRANEAN PARTNERSHIP: THE BARCELONA PROCESS SINCE 1995

⁸⁶ Richard G. Whitman & Stefan Wolff, (2010), Much Ado about Nothing? The European Neighborhood Policy in Context, in THE EUROPEAN NEIGHBORHOOD POLICY IN PERSPECTIVE: CONTEXT, IMPLEMENTATION AND IMPACT

⁸⁷ The ENP was established in 2004 with the goal of spreading prosperity and stability in the EU’s post-enlargement neighborhood. It was then differentiated into the Union for the Mediterranean (which in 2008 revived the Barcelona Process) and the Eastern Partnership (2009).

Over the years, in conjunction with new theorizations in the field of law and development, the meaning of cooperation has evolved. In the 1976 Cooperation Agreement, cooperation meant financial assistance from the EEC budget in limited fields of production, the training of executives, and the construction of new infrastructure. In the 2002 Association Agreement that has since replaced the 1976 deal, cooperation reaches deep into civil society, education, and rule-of-law initiatives⁸⁸. Most recently, the EU has adopted a new tool for cooperation, the European Neighborhood Instrument (“ENI”), which renews conditional promises of assistance to its neighbors⁸⁹. The promotion of “deep and sustainable democracy”—a core item in the ENP agenda—includes such objectives as fair elections, freedom of expression, judicial independence, fighting against corruption, and migration management. It encompasses concerted efforts to underpin the Algerian economy and solidify the rule of law⁹⁰. In sum, in line with the post-Washington Consensus, today’s cooperation aims to strengthen the institutional capacity of Europe’s neighbors—a capacity that is deemed essential to enable free trade and to reap its fruits⁹¹

Trade and cooperation are supposed to be two sides of the same coin and to be perfectly suited to reinforce one another. In principle, cooperation strengthens the institutions upon which a market economy depends and provides incentives for liberalization. In turn, the loosening of the state’s grip on business enables new private initiatives; the economy then diversifies and the promised benefits of comparative advantage, thanks to the abatement of trade barriers, can then be fully realized. In the spirit of cooperation, the EU promises to lend know-how, institutional expertise and, of course, money. Help, however, comes with strings and is conditioned upon the partner state’s willingness to engage in meaningful structural reforms: reducing the scope of monopolies, protecting intellectual property, cutting red tape, and letting the private sector—whether local or foreign—take charge of yet untapped resources.

⁸⁸ Euro-Mediterranean Agreement establishing an Association between the European Community and its Member States and the People’s Democratic Republic of Algeria, E.E.C-Alg., Apr. 22, 2002, 2005 O.J. (L 265) 2 [hereinafter Association Agreement].

⁸⁹ Regulation 232/2014, of the European Parliament and of the Council of 11 March 2014 establishing a European Neighbourhood Instrument, 2001 O.J. (L 77) 27

⁹⁰ Press Release,(2013), European Commission, New European Union Programme to Support Economic and Political Governance in Algeria (July 30, 2013)

⁹¹ Fawaz Yusuf, (2014), *A Structural Change Analysis of EU–Moroccan Trade Liberalisation and Economic Development Between 1995 and 2010*, 19 J. N. AFR. STUD. 413 (2014) (questioning, with specific regard to the Maghreb region, the EU’s ability to generate any real economic diversification and enhanced employment opportunities by means of free trade).

Within the term of cooperation, difficulties have been remarkable. According to the Association Agreement, the full-range implementation and funding of cooperation initiatives requires an Action Plan, which is supposed to describe in detail Algeria's commitments to reform and the EU's necessary supporting measures. However, no Action Plan has seen the light of day⁹². Conditionality has worked well with Algeria's more palatable and reform-oriented neighbors—most notably Morocco—but not so with Algeria itself⁹³. Due to its statist tendencies, the Algerian government comes across as the “most awkward” partner⁹⁴ of the EU amongst North African states. Most recently, the Commission has sketched for the Council a proposed Framework Agreement that would allow Algeria to participate in EU programs and receive significant assistance, but Algeria seems to be politically “frozen.”⁹⁵ Thus, the distribution of EU aid in the ENP context sees Algeria at the bottom of the list of recipients⁹⁶. The following critique, directed to the ENP overall, captures particularly well the cooperation impasse between the EU and Algeria.

Rather than offering a clear carrot from the outset, under the ENP the EU requires countries to undertake a variety of reforms, and only once reforms have been implemented will the EU *consider* offering the possibility of some form of deeper relations⁹⁷.

The carrot and stick game known as conditionality seems to have turned into a chicken and egg problem: Algeria and the EU cannot agree on whether structural reform depends on aid or vice versa. The result is gridlock: the EU places ever more emphasis on conditionality (“more for more”) and Algeria remains unyielding.

⁹² European External Action Service, (2014), *Implementation of the European Neighbourhood Policy in 2013, Regional Report: A Partnership for Democracy and Shared Prosperity with the Southern Mediterranean Partners*, at 3 SWD (2014) 100 final (Mar. 27, 2014)

⁹³ Nick Whitney and Anthony Dworkin, (2012), *A Power Audit of EU-North Africa Relations*, EUR. COUNCIL OF FOREIGN RELATIONS, Retrieved from: http://www.ecfr.eu/page/-/ECFR62_NAPA_REPORT.pdf.

⁹⁴ NATHALIE TOCCI, THE NEIGHBOURHOOD POLICY IS DEAD. WHAT'S NEXT FOR EUROPEAN FOREIGN POLICY ALONG ITS ARC OF INSTABILITY?, ISTITUTO AFFARI INTERNAZIONALI [IAI] (NOV. 16, 2014), RETRIEVED FROM <HTTP://WWW.IAL.IT/SITES/DEFAULT/FILES/IAIWP1416.PDF>

⁹⁵ Erwan Lannon, (2014), *Entry into Force of the New European Neighbourhood Policy and Negotiation of “Deep and Comprehensive” Free Trade Areas: A European Neighbourhood Policy Running at Different Speeds*, IEMED. MEDITERRANEAN Y.B. (2014), at 228.

⁹⁶ Vicky Reynaert, (2011), *Explaining EU Aid Allocation in the Mediterranean: A Fuzzy-Set Qualitative Comparative Analysis*.

⁹⁷ Whitman & Wolff, *supra* note 26, at 14

2-4-Algeria Trade Today

2-4-1-Structural issues

The government has initiated economic reforms in the late 1980s in order to boost growth and diversify the economy as part of the transition from a socialist to an open market economy. Restructuring the state-owned industrial sector was and is the key⁹⁸. Since the structural adjustment program began in 1995, the macroeconomic and financial situation has greatly improved but growth is still slow and the state-run industries are still a heavy burden for the government.

The industry and restructuring ministry says nearly \$15 billion have been poured into the state sector and the economic revival program has earmarked another \$7 billion to complete the restructuring to prepare it for the association agreement with the European Union (EU) that comes into full effect in 2012. This agreement, signed in 2001, provides for gradual dismantling of tariffs on all industrial, agricultural and fishing products from EU countries. It came into effect at once for industrial goods and will gradually be introduced for semi-processed and finished goods. Negotiations about trade in services will continue after Algeria joins the World Trade Organization (WTO), probably by 2004. As well as the association agreement, tax reform has streamlined customs duties into three rates (5.15 and 30 per cent) and aims to dismantle them gradually along with the provisional surtax imposed to support national production. The goal is to boost foreign trade, help set up the free trade zone with the EU and allow Algeria to join the WTO. The 2001-04 revival program has budgeted 20 billion dinars for modernizing the tax system, including the customs reforms. The main trade union, the UGTA, and the heads of private and state-sector firms oppose many of the clauses of the EU association agreement. They say the economy is not ready for such opening up and that without protection it will founder, worsening unemployment and social unrest. The government is also accused of not consulting its social partners enough in negotiating the association agreement. Reform of state firms began in the early 1990s. Between 1991 and 1996, they were gradually given legal and financial autonomy and a program of financial stabilization was launched. Conversion of loans reached 4 per cent of GDP (357 billion dinars) over the period. In 1997, a total of 187 billion dinars (6.8 per cent of GDP) was spent

⁹⁸ Algeria, African Economic Outlook. Retrieved from: www.oecd.org/countries/algeria/2497129.pdf

on stabilizing the accounts of state food import firms, the national railway company (SNTF) and the electricity and gas utility (Sonelgaz). The Stabilization Fund (set up in 1991 and abolished in December 1996) handed out 110 billion dinars (1.3 per cent of GDP) to state firms. Restructuring was speeded up in December 1996 with the regrouping of the so-called State Economic Enterprises (EPE) into 11 sectoral holding companies and imposition of strict bank control to reduce the growing amount of debt they were incurring and gradually to restore their finances. The holding companies were to manage these government assets, ensure their restructuring and if necessary prepare them for privatization, joint ownership or even liquidation. In December 1997⁹⁹, 76 EPEs had been broken up and the government issued a list of 250 to be privatized. After the stabilization plan and structural adjustment program backed by the IMF, the government began privatizing in April 1996 with a first round of 1 300 local state-owned firms (EPL). By April 1998, 827 had been liquidated and 464 sold off to their employees. From then until 2000, no further significant progress was made, except for the disbanding of nearly 1 000 EPLs with the loss of about 36 000 jobs. In 2001, the biggest EPE, the El Hadjar steel complex (SIDER), was privatized. Deep in debt by the end of the 1990s, it had been financially restructured and its workforce cut from 22 000 to 12 000. It was sold to the Indian steel firm Ispat, which took 75 per cent of its capital. In December 2000, the national detergent and cleaning products firm ENAD signed a partnership deal with the German firm Henkel, which took 60 per cent control. The government also sold a second GSM mobile phone license to the Egyptian company Orascom. The government showed a clear desire in 2001 to open up to the private sector by amending laws about investment, telecommunications, electricity and mines. A National Investment Council and National Investment Promotion Agency (a one-stop window to help potential investors) were set up. Plans were also made for a partnership between the state-owned Air Algérie¹⁰⁰ and the privately-owned Khalifa Airways. New rules were announced in August 2001 to replace those issued in 1995 about the organization, management and privatization of EPEs. The public holding companies were replaced by 28 shareholding management companies (SGP), the National Privatization Council was renamed the State Shareholding Council and a committee to monitor privatization operations was set up. Employees of firms being completely privatized were to be given 10 per cent of the shares free of charge, with a 15 per cent discount on any they bought. Privatization in Algeria is

⁹⁹ Algeria, African Economic Outlook. Retrieved from: www.oecd.org/countries/algeria/2497129.pdf

¹⁰⁰ Algeria, African Economic Outlook. Retrieved from: www.oecd.org/countries/algeria/2497129.pdf

tough going however because of red tape, employee resistance to change, the inefficient banking and phone systems and the tricky problem of legal title to company assets and more broadly to land. The government seems determined to move forward with it, but progress is also slowed by the difficult social and political situation over the last decade. The government has opened up the entire economy to privatization, including banks, agriculture, tourism, telecommunications and industry. The last holdout seems to be the energy sector (oil, natural gas and electricity). A plan in 2002 to offload the oil and gas firms was strongly opposed by the trade unions. The plan, which would open up the sector and restore the government's regulatory role, includes setting up two independent bodies – an oil and gas regulation authority and a national agency to develop oil and gas resources (ALNAFT). In October 2002, the ministry for shareholding and investment promotion announced a new round of privatization to speed up the process. This would, within the first six months, involve selling off 70 small and medium-sized firms, with 250-300 workers each, by grouped bidding. Reform of the banking system is another big government project. Since the 1990 Money and Credit Law, privately-owned national and foreign banks have been allowed to operate, but they did not do so until 1997. The number of banks rose from six in 1995 to 31 in 2002, with six state-owned banks accounting for 90 per cent of activity. The sector's rehabilitation between 1991 and 1999 cost the government a huge 45 per cent of 1999 GDP, with another 8 per cent of GDP still budgeted for it. The economic revival plan also calls for the sector to be technically upgraded, its payments system modernized and supervision improved. The four-year-old Algiers Stock Exchange is still in its infancy, with dealings in only three stocks – the Aurassi Hotel, one of the city's biggest, the food processing company Eriad-Setif and the leading state pharmaceutical firm Saidal – and one bond, the national oil and gas company Sonatrach.

2-4-2- Camus and Trade

Albert Camus¹⁰¹ developed two parallel federalist projects: one for Algeria, which he imagined as a pluralist society in which French nationals would continue to enjoy political representation alongside Arabs, Berbers, and ethnic minorities as well¹⁰²; and the other one for Europe, Camus auspicated the peaceful rapprochement of France and Germany and a

¹⁰¹ Camus was born in French Algeria to a Pied-Noir family and studied at the University of Algiers, from which he graduated in 1936. In 1949, Camus founded the Group for International Liaisons to "denounce two ideologies found in both the USSR and the USA".

¹⁰² AÏCHA KASSOUL & MOHAMED LAKHDAR MAOUGAL, (2006) ,THE ALGERIAN DESTINY OF ALBERT CAMUS 161

complete demise of nationalism, to be realized by means of free markets and shared political institutions.

The political deal Camus had envisaged for Algeria had despicable colonial characters most notably the over-representation of French interests in Algerian democracy and grew less and less realistic over time¹⁰³. As evidenced by his socio-political commentaries, by the 1950s Camus himself had become painfully disillusioned with his own recipe for Algerian government. By contrast, the project of a peaceful, united Europe succeeded well beyond the limits of Camus's imagination. In March 1957, the French foreign Minister Christian Pineau himself a communist and a protagonist of French Resistance co-signed the Treaty of Rome, turning at least one of Camus's federalist dreams into reality. As a result of French membership, the Algerian nation became part of the EEC. The 1957 Treaty of Rome specified that Algeria, while not a member state in itself, would gain both rights and obligations related to the free movement of all Community goods, and would also partake in the Community regime for agriculture. Had he lived longer, Camus would have probably asked what a united Europe could do to rescue Algeria from economic and political dysfunction.

Algeria became independent in 1962, thereby exiting the Community before the demise of all internal customs duties. Algerian exports, therefore, never came to be fully liberalized onto the European market. Quite to the contrary, the creation of a Common Market in continental Europe had the effect of erecting new obstacles to Algerian products. Wine illustrates this point effectively.

2-4-3-Learn from others experience

Consider the two growth miracles of the last two decades (China and India) as leading exemplars of the World Bank's "globalizers." In both countries, the main trade reforms took place about a decade after the onset of higher growth¹⁰⁴. Moreover, these countries' trade restrictions remain among the highest in the world. In China's case, high growth started in the late 1970s with the introduction of the household responsibility system in agriculture and of

¹⁰³ ALBERT CAMUS, (2013), *ALGERIAN CHRONICLES* (Arthur Goldhammer trans., Belknap Press 2013) (1958). Camus's federalist vision for Algeria has been harshly criticized as offensive and politically insensitive to the quest for independence of the Algerian people.

¹⁰⁴ Dani Rodrik, (2011) *Globalization, Growth and Poverty: Is the World Bank Beginning to Get It?* Retrieved from: <http://drodrik.scholar.harvard.edu/files/dani-rodrik/files/globalization-growth-poverty.pdf>

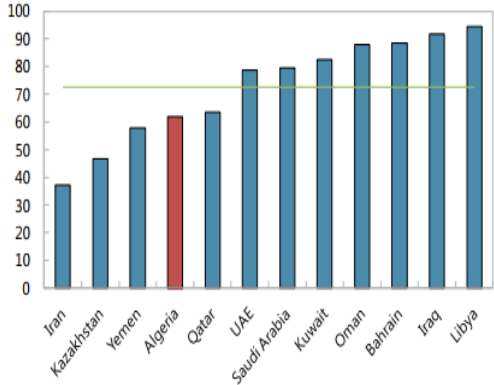
two-tier pricing. The authorities did not embark on import liberalization in earnest until much later, during the second half of the 1980s and the 1990s. As for India, its trend growth rate increased substantially in the early 1980s by about 3 percentage points. Meanwhile, serious trade reform did not start until 1991-93. Governments in both countries focused their scarce political capital and administrative resources on areas other than trade liberalization. Since both India and China did increase trade substantially, they are both globalizers by the World Bank criterion. But as their experience reveals deep trade liberalization is hardly ever a factor in fostering higher growth and expanded trade early on. It is good to see the World Bank catching on to this simple reality.

2-4-4-Algeria's Hydrocarbon Dependence

The hydrocarbon sector accounted for 30 percent of GDP and 60 percent of government revenues in 2013¹⁰⁵. Although these shares are smaller than in most Middle East, North Africa, and Central Asia (MCD) oil exporters, non hydrocarbon GDP is largely dependent on hydrocarbon revenue–financed public spending: for example, the construction sector is largely financed by the public sector, and public consumption is a large share of GDP (see figure 09)

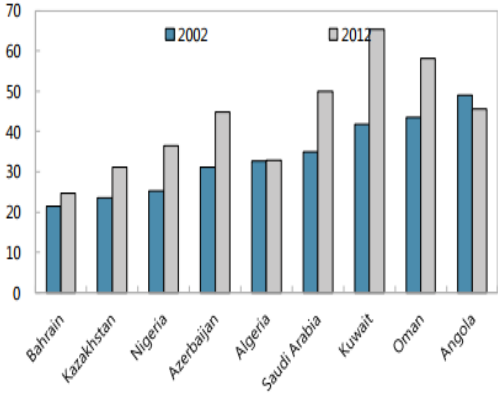
¹⁰⁵ Andrew Jewell, Amina Lahreche, and Gaëlle Pierre , (2014), Algeria, Selected Issue , IFM

Figure 8: Hydrocarbon Revenue (In percent of total revenue 2013)



Source: IMF staff calculations

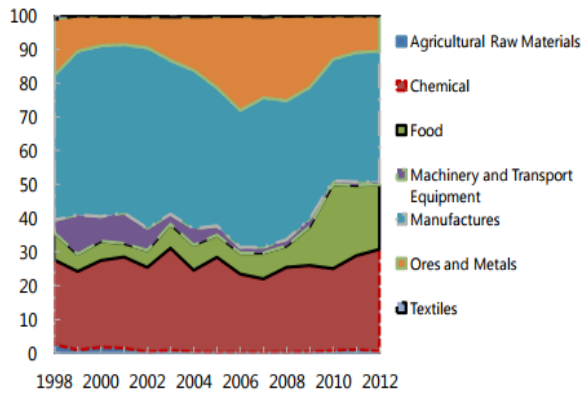
Figure 9: Hydrocarbon GDP (In percent of total GDP, selected oil-rich countries, 2002-12)



Source: WEO; and IMF staff calculations.

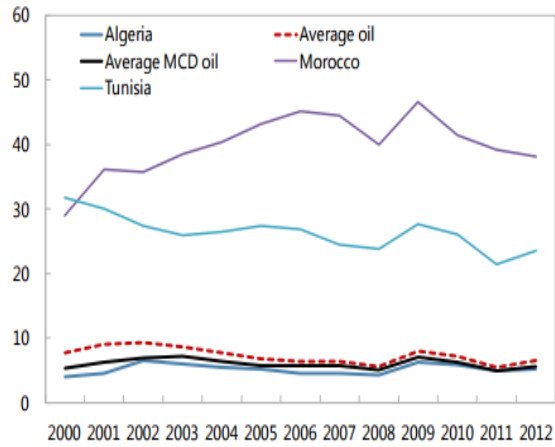
Non-hydrocarbon exports are dominated by chemical products and agriculture; these flows are extremely small and scattered across a large number of product categories, reflecting a lack export diversification. Services exports also appear underdeveloped, notably compared to non-oil-exporting countries, and are largely related to hydrocarbon exports.

Figure 10: Composition of non-hydrocarbon (In percent of total non-hydrocarbon export,1998-12)



Source: WITS; and IMF staff calculations.

Figure 11 Services in total exports (Share of total export, in percent)



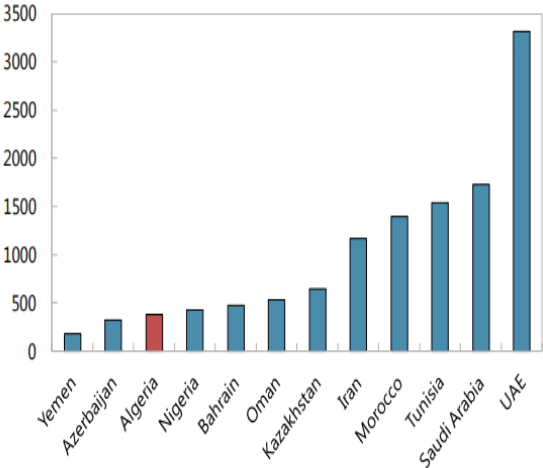
Source: WEO; and IMF staff calculations

2-4-5-Algeria trade characteristic

A few number of export categories per partner that what characterizes the Algeria’s trade, in addition to that the lack of sophistication of the export basket.

More than 60 percent of bilateral exports¹⁰⁶ are made of at most five product categories (HS6 level of disaggregation), a share that has remained broadly stable over the past decade. By contrast, the average number of HS6 products traded by partner in other Middle Eastern and North Africa (MENA) countries is much higher, and the share of bilateral trade flows that count five products or fewer is much lower (See figure 12 ,13).

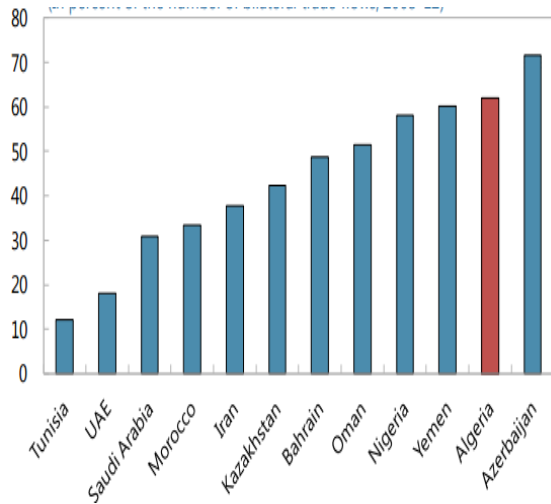
Figure 12: Average number of traded hs6 Products (Selected MCD and other countries, 2008-12)



Source: WITS; and IMF staff calculations.

¹⁰⁶ Andrew Jewell, Amina Lahreche, and Gaëlle Pierre , (2014), Algeria, Selected Issue , IFM

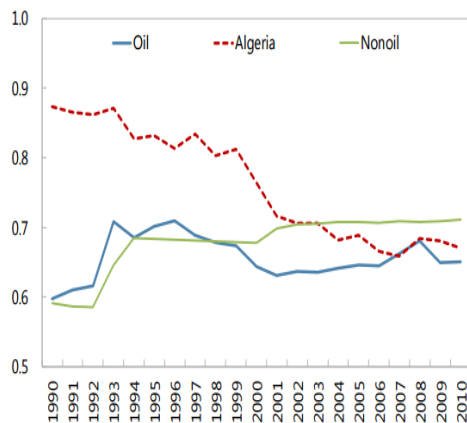
Figure 13: Share of bilateral trade flows including less than 5 HS6 products (1 percent of the number of bilateral trade flows, 2008-12)



Source: WITS; and IMF staff calculations

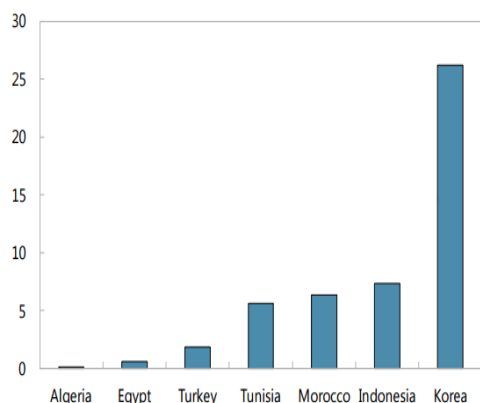
Data also point to the lack of sophistication of Algeria’s export basket. The export quality index for Algeria, which was relatively high at the start of the 1990s, has been declining since. This trend was largely driven by developments in mineral fuel exports, while the quality of non-hydrocarbon exports declined compared to oil and non-oil exporters in the second half of the 2010s. In 2010, the quality of exports was in line with the average quality index for oil exporters, but had fallen below the average of non-oil exporters, reflecting a worsening of the specialization structure of the country which can be seen in the low level of high-tech products in Algeria’s manufacturing exports. The analysis of the product space of exported goods by Hausmann and others (2010) suggests that the country is highly specialized in products that offer very little opportunity to expand the export basket. In the middle of the 2000s, the share of new exports in the basket was very low (See figure 14, 15).

Figure 14: Overall export quality index (1990-2010)



Source: IMF diversification toolkit

Figure 15: High technology exports (Percent of manufactured export, 2013)



Source: World Bank, World Development Indicators

2-4-6-Algeria has a diversified set of export partners

Within the period from 1998 to 2007 Algeria steadily increased the number of its export partners, and has maintained a stable number of partners since then. As a result, Algeria has a somewhat more diversified set of export partners than other oil-exporting countries. Although oil dominates bilateral exports, this relatively large set of partners offers a strong base on which non hydrocarbon exports could grow. It is, however, considerably smaller than in non-resource-rich countries such as other countries in MENA.

The EU remains Algeria's main export partner¹⁰⁷, with a share that has been hovering close to 60 percent since the late 1990s, but trade with Asia has been rising recently. The share of exports to the United States has been declining quickly since its peak in 2007, largely because of the decline in U.S. hydrocarbon imports resulting from the exploitation of nonconventional oil, which is highly substitutable for Algeria's oil products. Diversification toward Asia accelerated in the mid-2000s, largely driven by exports to China. Sub-Saharan Africa remains marginal among Algeria's export partners, but represents a large untapped potential.

2-4-6-Reluctance revisited

Overall, the EU seems poised to pressure Algeria into opening its markets to competition. For Algeria, however, the fluctuation of prices and the decreased predictability that come from market liberalization are harbingers of serious challenges. A loss of market share is a terrifying prospect for a country whose eggs are in one basket, and Algeria's economy remains entirely dependent on its hydrocarbon reserves. The reasons for this predicament are

in many ways endogenous, but external causes must be noted as well¹⁰⁸. The EU-Algeria 2013 Memorandum of Understanding (“Memorandum”) on strategic energy partnership, for instance, further consolidates the narrow range of Algeria’s productive activities (oil and gas). The Memorandum does mention the possibility of cooperation in renewable energy sectors, but a recent attempt to boost solar energy production in Algeria has not proven viable as a result of shrinking budgets in EU member states, and it is by no means clear that this Memorandum could resurrect the solar energy project¹⁰⁹. Against this background, Algeria’s mistrust does not seem irrational.

There are also other explanations for Algeria’s seemingly obstinate and self-defeating posture in the face of EU offers. A closer look at the details of the agreements that have been negotiated reveals another side of the EU-Algeria relations—namely, trade in goods—which receives less attention than cooperation, and yet is particularly revealing of endemic and historically charged imbalances of power. In the EU’s proffered trade deals, there is a growing insistence on parity of trade terms. The website of the DG Trade informs the public that as of 2014 Algeria no longer benefits from the EU’s Generalized System of Preferences (“GSP”), because its Free Trade Agreement (“FTA”) with the EU is finally coming to fruition¹¹⁰. For countries like Algeria, whose citizens still hold vivid memories of colonial times, the ongoing transition from differential regimes to fully reciprocal FTAs could represent modernity and emancipation. There is much dignity in such development, and the tone of the DG Trade’s announcement is accordingly upbeat¹¹¹. In terms of effectiveness, however, EU-Algeria trade policies have a less than stellar record. These policies are worth exploring in some detail to better understand why the relationship between EU and Algeria retains features of structural imbalance half a century after the proclamation of Algeria’s independence

¹⁰⁸ Press Release, European Commission, President Barroso Visits Algeria and Signs a Memorandum on Energy (July 7, 2013).

¹⁰⁹ The “Desertec Industrial Initiative” project, (2013) Retrieved from: <http://www.euractiv.com/energy/desertec-abandons-sahara-solar-p-news-528151>.

¹¹⁰ Eur. Comm’n, Directorate General for Trade, *Countries and Regions: Algeria* (Sept. 4, 2014), <http://ec.europa.eu/trade/policy/countries-and-regions/countries/algeria/>.

¹¹¹ Béla A. Balassa, (1989), Theoretical underpinnings for the EU’s liberal trade aspirations were articulated; *The Importance of Trade for Developing Countries*, in NEW DIRECTIONS IN THE WORLD ECONOMY 3

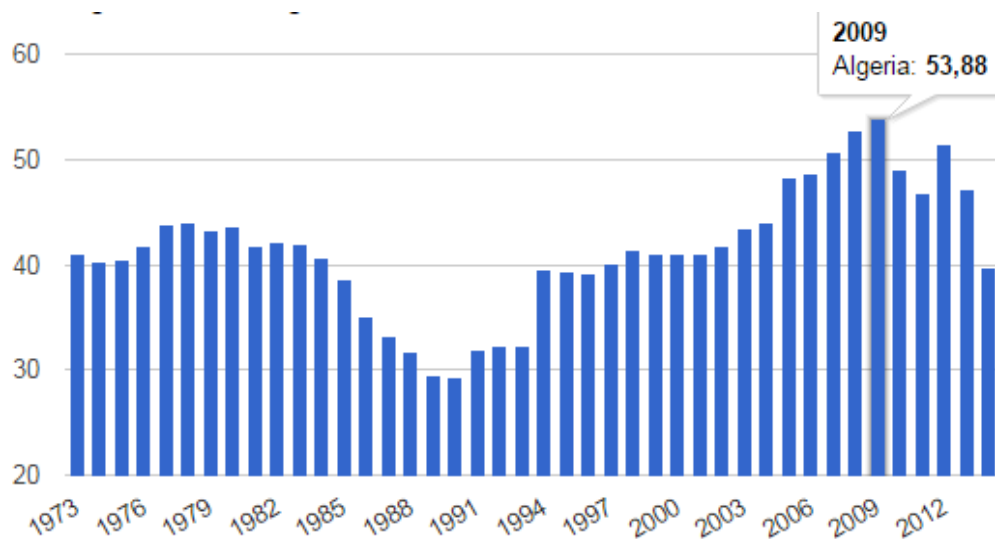
Rapid integration into global markets is a consequence, not of trade liberalization¹¹² or adherence to WTO strictures per se, but of successful growth strategies with often highly idiosyncratic characteristics.

¹¹² Dani Rodrik,(2011) Globalization, Growth and Poverty: Is the World Bank Beginning to Get It? Retrieved from: <http://drodrik.scholar.harvard.edu/files/dani-rodrik/files/globalization-growth-poverty.pdf>

2-4-7 Algerian KOF

The Economic Globalization Index (KOF) for Algeria¹¹³ and other countries has two dimensions. First, it measures the economic flows between Algeria and the rest of the world in terms of international trade and international investment. The question is whether Algeria exchanges a lot of goods, services, and investments with other countries. Second, it measures the restrictions to trade and investment such as tariffs and capital controls on international investment. Each dimension is based on several variables that are combined in one overall index that ranges from 0 to 100.

Figure 16: Algeria economic globalization



Source: The Swiss Institute of Technology in Zurich),
http://www.theglobaleconomy.com/Algeria/kof_econ_glob/

From the figure above, we can see that the average value for Algeria during that period was 41.4 points with a minimum of 29.23 points in 1990 and a maximum of 53.88 points in 2009.

¹¹³Algeria Global Economy. Retrieved from: http://www.theglobaleconomy.com/Algeria/kof_econ_glob/

2-5-Algeria and the WTO

WTO members welcomed the substantial progress made by Algeria¹¹⁴ in amending its trade regime and expressed strong support for the country's prompt accession to the WTO in a meeting of the Working Party on Algeria's membership negotiations on 31 March 2014.

2-5-1-Growth was sustained in 2015 while inflation picked up¹¹⁵

Overall growth edged higher from 3.8 percent to 3.9 percent. Average inflation exceeded the central objective of the Bank of Algeria (BA), likely driven by supply effects and the depreciation of the dinar (Box 1). The unemployment rate increased from 10.6 percent in September 2014 to 11.2 percent in September 2015. It remains particularly high among the youth (29.9 percent) and women (16.6 percent). The budget deficit reached a record high in 2015 due to the collapse in hydrocarbon revenues and a significant fiscal expansion.

2-5-2-The overall budget deficit reached an all-time high of 16.4 percent of GDP.

Lower oil prices translated into a 30 percent decline in hydrocarbon revenues, while spending grew by 10.2 percent, driven by a surge in capital spending. The deficit was mainly financed by drawings from the Fonds de Régulation des Resettes (FRR), Algeria's oil saving fund, which declined to 12.3 percent of GDP from 25.6 percent in 2014. 4. The current account deficit also widened significantly, but foreign reserves remained at comfortable levels. The current account deficit widened to 16.2 percent of GDP in 2015 from 4.4 percent in 2014, as hydrocarbon exports fell almost by half. Gross inflows of foreign direct investment remained weak at 1 percent of GDP. Foreign exchange reserves declined by nearly US\$35 billion but remain substantial, equal to 2½ years of imports or 833 percent of the Fund's metric to assess reserve adequacy (ARA metric). External debt stood at 1.8 percent of GDP at end- 2015.

¹¹⁴ www.wto.org

¹¹⁵ IMF Country Report, 2016, ALGERIA 2016 ARTICLE IV CONSULTATION—PRESS RELEASE AND STAFF REPORT

2-5-3-The real effective exchange rate depreciated but remains significantly overvalued.

Despite 25 percent depreciation of the dinar against the dollar, the nominal effective exchange rate depreciated by only 6.7 percent in 2015, owing to the depreciation of other trading partners' currencies. The real effective exchange rate (REER) depreciated by 4.3 percent, as the nominal depreciation was partly offset by an increase in Algeria's prices relative to those in its trading partners.

2-5-4-Broad money growth slowed, driven by a decline in net foreign assets.

Credit to the economy knows an expansion of 16.1 percent in 2015. However, broad money growth slowed sharply to 0.5 percent from 14.4 percent in 2014, largely due to the decline in net foreign assets, and despite liquidity injections resulting from the government's drawdown of the FRR to finance the fiscal deficit. Bank deposits declined, partly due to the government's purchase of a majority stake in a major telecom company.

2-5-5-The banking sector remained well capitalized and profitable, but liquidity tightened.

According to preliminary figures, the overall capital-adequacy ratio was 17 percent at end-2015¹¹⁶ compared to 16 percent in 2014. Bank profitability improved in 2015, with an aggregate return on assets of 2.2 percent. The ratio of gross non-performing loans (NPL) to total loans, which had been on a declining trend thanks in part to growth in credit, edged higher to around 9.5 percent at end-2015. However, the net NPL ratio was 3.6 percent owing to high provisioning levels (around 61 percent on aggregate). Liquidity in the banking system contracted sharply due to the impact of lower oil prices on bank deposits and to rapid growth in credit to the public sector (partly used to finance imports). On aggregate, 27 percent of bank assets were liquid at end-2015 (compared to 38 percent at end-2014), sufficient to cover almost two-thirds of their short term liabilities.

2-5-6- New constitution includes provisions to foster greater transparency, better governance, and a more market-based economy.

The new constitution, adopted in February 2016, makes a number of changes aimed at strengthening democracy and promoting a more market-based economy. Achieving a diversified economy and fighting corruption become explicit objectives. Freedom of trade and

¹¹⁶ IFM

investment is recognized, and the government is to “strive to improve the business climate.” Monopolies and unfair competition are prohibited. On the political side, the constitution re-introduces two-term limits on the presidency.

2-6- Algeria`s Industry

Talking about industry makes an obligation to take the Algerian agriculture sector in consideration ,so that I begin by giving the importance place of this sector in my country.

2-6-1-The crucial role of agriculture in Algeria

Agriculture is an important element of rural development in Algeria and is considered one of the major components of the national economy. Agriculture represents 25% of the labor force and contributes approximately 10% of the GDP (Laoubi and Yamao, 2009), compared to less than 5% of the world average and less than 2% in the US. However, Algeria’s arable land (useful agricultural area) is limited to less than 3% of its total area, approximately 8.7 million ha (cash crops, forest, pasture, rangelands, scrub and alfalfa land). Other factors also affect Algeria’s sustainable development, including desertification, water scarcity, urbanization and demographic pressure. Indeed, the productive land area per capita has dropped by more than 72%, from 0.73 ha per capita in 1962 to 0.20 ha per capita in 2000. This number is expected to reach 0.19 ha per capita in 2010 and 0.17 ha per capita in 2020 (CNES, 2004)¹¹⁷. The consequences of these factors will be a considerable increase in food import dependency that will have a noticeable impact on the country’s food security. Addressing these issues is a high priority for Algerian authorities hoping to achieve agricultural development objectives. Policy is one of the most important tools in achieving agricultural development goals. Policy refers to the course of action chosen by a government on an aspect of the economy. It includes the goals a government seeks to achieve and its choice of methods to pursue those goals (Ellis, 1996). In Algeria, various agricultural policies have been implemented since the country’s independence in 1962. The general purpose of these policies has been to enhance agricultural development and food security in the country. However, it is questionable whether these implemented policies are effective. Thus, the objective of this paper is to evaluate Algeria’s policies on agriculture from a multidimensional perspective within a historical context. Based on a literature review, this study discusses critical perspectives on

¹¹⁷ <http://www.algeria.com/exports>

issues and challenges in Algerian agricultural policies and provides suggestions for policy improvement toward sustainable agricultural development.

Agriculture plays a comparatively minor role in the country's overall economy. The vast majority¹¹⁸ of highly profitable mining or manufacturing concerns are owned and operated by the government and Algeria's government also oversees the instituting of economy-related laws and other necessary planning. In recent years there has seen a trend towards foreign investment and an increase in **Algerian exports**.

2-6-2-Algeria industry

Traditionally, Algerian industries were concentrated around the major financial centers of Algiers and Oran. Major industries included cement factories, carpet mills, chemical plants, food processing plants, oil refineries and textiles.

During the French colonization period, several industries were set up for better utilization of Algeria's abundant natural resources.

After gaining independence, French companies were nationalized. The government concentrated on robust development of the petrochemical industry as the major revenue generating sector¹¹⁹.

Algeria industry sectors can be classified as follows:

- **Agriculture:** Algeria's agricultural sector contributes approximately 8 percent to the country's GDP. However, it employs nearly 14 percent of the labor force in 2010. Due to the area spanning the Sahara desert, only 3 percent of the country's land is arable. Major crops produced include barley, potatoes and wheat. Dates are also produced specifically for exporting. After 2005, the share of agriculture reduced considerably due to the emergence of other industrial sectors. This was followed by a sharp rise in food imports. Agricultural activities are concentrated along the costal line in the north of Algeria.
- **Fishing:** The fishing industry in Algeria thrives along the Mediterranean Sea. France is the largest importer of Algerian fish, followed by Spain and Italy.

¹¹⁸ <http://www.algeria.com/exports/>

¹¹⁹ Economy watch, Algeria Industry. Retrieved from:
http://www.economywatch.com/world_economy/algeria/industry-sector-industries.html

- **Finance:** Public banks in Algeria suffer from non-performing loans given to state-owned enterprises. According to IMF reports, non-performing loans account for 37 percent of the total advances from Algerian banks (as per 2007 data). Since 2005, the government pushed for banking and finance sector reforms for higher efficiency and transparency.
- **Minerals:** Algeria is abundant in natural resources. It has rich deposits of iron, copper, zinc, lead, mercury, oil and natural gas. In 2006, Algeria's helium production accounted for 13 percent of the world's total output. It has the eight largest natural gas reserve in the world. Rich in natural resources and a large unemployed workforce, Algeria has good opportunities for industrial growth in the near future. However, the Algerian economy places too much dependency on its petrochemical sector, which is a matter of concern.

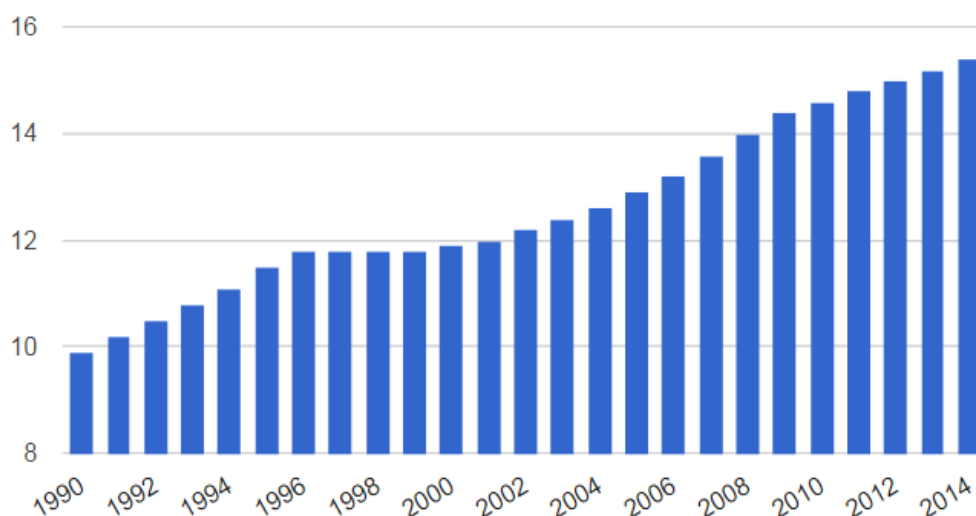
The main industry sectors in Algeria are agriculture, fishing, minerals, finance and tourism¹²⁰. Algeria's unemployment rate in 2010 was 10.034 percent, down from 12.4 percent in 2009; with 14 percent of the labor force employed-eve female participation(see figure)- in agriculture, 13.4 percent in industry, 10 percent in construction and public works, 14.6 percent in trade, 32 percent in government 32 percent and 16 percent in other sectors.

2-6-3-Female Labor Force Participation

As Globalization flows, Algeria female labor participation know a great development especially during the last ten years. (See figure 17)

¹²⁰Algeria trade, export and import .Retrieved from:
http://www.economywatch.com/world_economy/algeria/export-import.html

Figure 17: Algeria Female Labor Force Participation



Source: The World Bank

For Algeria Female Labor Force Participation, data is provided by The World Bank from 1990 to 2014. The average value for Algeria during that period was 12.62 percent with a minimum of 9.9 percent in 1990 and a maximum of 15.4 percent in 2014.

2-6-4-Algerian international tourism

Natural beauty, rich culture, fascinating history and warm hospitality offered by this North African country attracted visitors from the entire world to Algeria, so that my country is becoming increasingly popular as an international tourist destination¹²¹. With the knowledge that tourism has the potential to contribute significantly on an ongoing basis to the economy of Algeria, authorities place emphasis on the development of the country's infrastructure and tourism facilities.

Rising oil prices have had a positive effect on the growth of Algeria's economy, and it is anticipated that this will result in significant returns in the hospitality and tourism sectors, as well as influencing residential development. A growing population that is dominated by youth, strong government support of development, and rising numbers of tourists, are viewed as supporting factors for economic growth. Algerian tourism has the goal of attracting 3 million tourists by 2013. To ensure that this large number of tourists are given a warm

¹²¹ Algerian tourism Development. Retrieved from: <http://www.algeria.com/blog/tourism-development-in-algeria>

welcome, authorities have been encouraging investments in the development of hotels, as well as improving roads and transportation. The Public Works Authority of Algeria has earmarked \$8.2 billion for large public works projects, including the upgrading of the East-West Highway and numerous secondary roadways¹²².

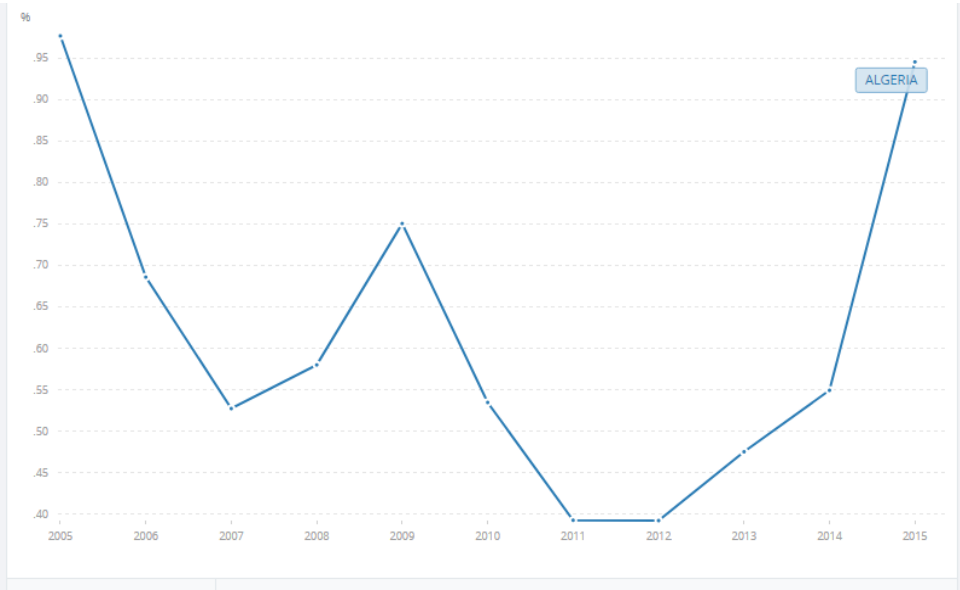
A recent study by the Accor group revealed that there is a need for at least 36 mid-market hotels to accommodate the number of tourists that are expected to visit Algeria. Already many foreign hotel groups, such as Marriott International, are entering the Algerian market and there is room for more foreign investors to take advantage of the growing opportunities in the country.

In addition to the development of tourism, Algerian authorities have plans in place to meet the growing demand for commercial and residential properties. The National Housing Program aims to complete the construction of one million low and middle income housing units by the end of 2009, with ongoing plans to build approximately 130,000 housing units each following year.

According to World Tourism Organization (UNWTO), Algeria has progressed up their total travel and tourism operating expenditure. It is anticipated that, by the year 2017, 1.1 percent of total government spending in Algeria will be devoted to the development of tourism. This is good news for Algerians for whom increased tourism translates into new job opportunities, as well as for tourists who decide to make Algeria their holiday destination (See figure 18).

¹²² Algerian tourism Development. Retrieved from: <http://www.algeria.com/blog/tourism-development-in-algeria>

Figure 18: International tourism, receipts (% of total exports)



Source: World Bank Data

One can say that, effective governments improve people’s standard of living by ensuring access to essential services-health, education, water and sanitation, electricity, transport-and the opportunity to live and work in peace and security.

2-7-Algeria foreign trade

2-7-1-Algeria-EU trade:

The graduation of Algeria from GSP status to free trade partner, hopefully soon to join the World Trade Organization (“WTO”)¹²³, is noted in the DG Trade website as a definite step in the right direction.

Below the surface of such glib announcements lies an unsurprisingly complex reality. The free trade deal is a section of the Association Agreement, which entered into force in 2005 and laid the ground for the effacement of tariffs in EU-Algeria commerce. Following the blueprint of the EU’s GSP, the Agreement provided for immediate non-reciprocal concessions: as soon as the Agreement became effective, the EU dropped down to zero the tariffs on most Algerian imports; Algeria, by contrast, was allowed to keep in place temporary custom duties to protect national industries, and was given twelve years to phase them out.

This lopsided arrangement, while favorable to Algeria, was unlikely to stimulate imports for several reasons. First, the EU grants free-trade privileges to an increasingly large number of countries, and duty-free access to its market is now the baseline for most competitors—certainly *not* a coveted prize for the few. Second, some exporting countries have negotiated better terms (i.e., duty-free access for a broader range of products) than Algeria could ever receive, because Algeria does not qualify as a “vulnerable” economy by EU standards. Third, and most importantly, duty-free access only benefits those industries whose goods would be competitive in terms of both quality and price in the absence of trade barriers. Many of Algeria’s products, however, are less than competitive, and are not likely to win the hearts and purses of EU consumers even if unencumbered by tariffs. As a result, the asymmetric trade concessions graciously granted by the EU have been less helpful than anticipated.

The detailed data on EU-Algeria trade recently released by the DG Trade corroborate this sobering assessment. Statistical figures track the trend of imports and exports from 2008 to 2012 well after the entry into force of the Association Agreement. Numbers and charts illustrate very clearly that the EU market is notably *not* flooded with any of the goods that

¹²³ *Algeria Resumes its WTO Membership Negotiations*, WORLD TRADE ORG. (2013). Retrieved from: http://www.wto.org/english/news_e/news13_e/acc_dza_05apr13_e.htm.

either farmers or small and medium enterprises in Algeria are likely to produce. Empirical studies show that Algerian exports to the EU in all non-hydrocarbon sectors have not experienced any significant trade creation¹²⁴. Imports into the EU from Algeria have grown significantly in the aggregate, but this growth is only due to a spike in imports of “mineral products.” Trade in minerals, given the structure and ownership of Algerian natural resources, brings revenue either to the government or since the partial liberalization of the sector to foreign investment, but not to middle-scale entrepreneurship. With the exception of animal hides and leather, Algeria is a net importer of all manufactured items, agricultural products, and textiles. Algerian textiles, in particular, are no longer to be found in the list of exports to the EU¹²⁵. Textiles are an important part of Algeria’s traditional economy, and also a staple of small and medium enterprises, but the textile sector finds no reward or boost in the EU market.

In parallel, the reduction of Algerian custom duties upon European goods has resulted in a significant boost to EU exports, which reduce consumption of local goods, and in a loss of custom revenues for the state¹²⁶. For these reasons, in 2012 the Algerian government was given a longer time to implement the total phase-out, now postponed until 2020. In sum, the duty-free access to the EU market has not managed to alter the export patterns of Algeria. The EU’s trade policy is not conducive to Algeria’s economic diversification and does not assuage the country’s dependence on energy exports.

2-7-2-Sino-Algerian Trade

The total value of Sino-Algerian trade increased fourteen fold between 2003 and 2012 (rising from 0.6 to 8.6 thousand million dollars). Negligible in the early 2000s, this trade has therefore progressively gained in quantitative importance: in 2012 it accounted for 7.2 per cent of total Algerian foreign trade⁴. It is noteworthy that China’s rapid progress was due to two main factors. First, it was based on the originally low level of trade. Second, it was a result of the dynamics of Algeria’s economic opening, which benefited *all* Algeria’s partners.

¹²⁴ Mohamed Y. Haddoud, Keith Salmon, Paul Jones & Robert Newbery, (2015), *The Impact of Regional Trade Agreements on North African Countries’ Foreign Trade and Economic Welfare, Evidence from Algeria and the European Union Association Agreement*, REGIONAL STUDIES

¹²⁵ The value of Algerian textiles exported to the EU, expressed in millions of Euros, was one in 2008-2009 and has been zero since 2012. DG Trade: Algeria, *supra* note 68.

¹²⁶ Ulrika Lomas, (2012), *Algeria Delays Implementation of FTA with EU*, TAXNEWS, Retrieved from: <http://www.bilaterals.org/?algeria-delays-implementation->

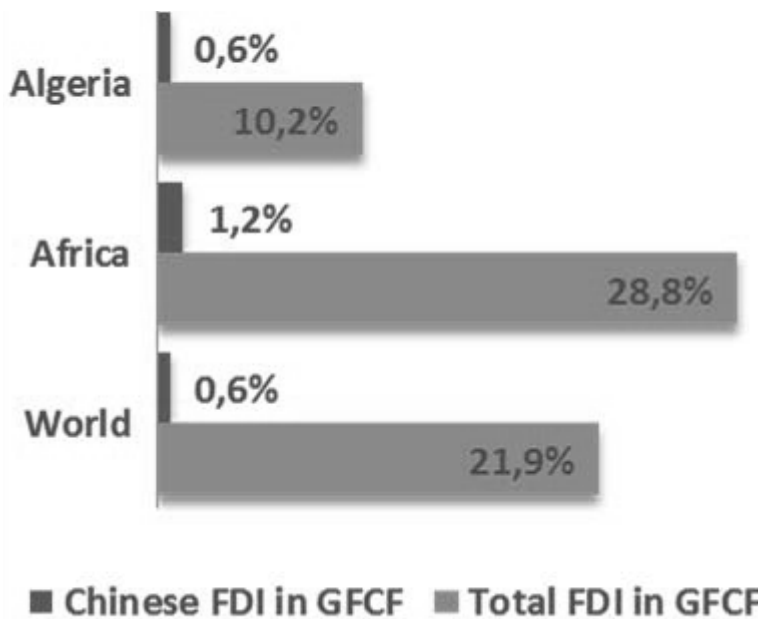
The balance of trade between both countries shows a growing deficit for Algeria. This fact alone suggests that Algeria may well need China more than China needs it – at least from a strictly commercial point of view.

2-7-3-China's Investment in Algeria

To better understanding of the economic role that China plays in Algeria, we must examine the importance of both countries' commercial exchanges, as well as the weight of Chinese direct investment in the Algerian economy. In this paper we will first deal with the investment approach, as "foreign direct investment" (FDI) strongly implies an entrepreneurial commitment to the medium and/or long term in the economy of a country. According to the definition proffered by international authorities such as the OECD, FDI "...is an activity in which an investor resident in one country obtains a lasting interest in, and a significant influence on the management of, an entity resident in another country. This may involve either creating an entirely new enterprise (a so-called «Greenfield» investment) or, more typically, changing the ownership of existing enterprises (via mergers and acquisitions)." (OECD, 2003:157, box VI-I). In 2012, the Chinese FDI flow in (Northern and sub-Saharan) African countries amounted to about 2.9 per cent of the total Chinese outward FDI flow and 0.18 per cent of the worldwide per cent of the worldwide global outward FDI flow¹. Looking at Algeria alone, these figures are less than 0.3 per cent and 0.02 per cent, respectively. The low level of the last two global figures should be viewed in terms of a long term African perspective: China's FDI stock in Algeria accounted for 6.0 percent of the total Chinese FDI stock in Africa in 2012. Among those African countries which have benefited from the Chinese FDI, Algeria ranks fourth, behind South Africa (first), Zambia (second) and Nigeria (third). These four countries cumulate about half of China's FDI stock in Africa. This fact highlights Algeria's economic interest for China and may indicate a Chinese entrepreneurial and financial long-term strategy. Nevertheless, it cannot be assumed that Chinese FDI is actually impacting on the Algerian economy. To gage a possible influence, Chinese FDI flows must be measured using the yardstick of the Algerian gross fixed capital formation (GFCF), which is an indicator of net investment in a given country². As FDI inflows can fluctuate greatly from one year to another, it is necessary to consider its average value over a given period in order to better ascertain its actual proportion. On average, from 2003 to 2011,

Algeria relied little on FDI to finance its GFCF (10.2 per cent as compared to the world average, 21.9 per cent), with a Chinese contribution (0.6 per cent) identical to the Chinese average for the world, but half the Chinese average for African countries (1.2 per cent). Hence, Chinese investment indicates China’s interest in Algeria, but is of marginal economic relevance for the latter and must be seen as part of a more general Chinese concern in investing abroad: oil supplies (See figure 19).

Figure 19: China’s investment in Algeria



Source: China’s economic presence in Algeria.pdf

The recent period has been marked by a clear commitment to reviving the oil sector by relying heavily on the expertise of foreign companies. In the process, China has received a certain degree of attention, which should, however, be considered in sector (Fachqoul K. and Th. Pairault, 2014:79-81).

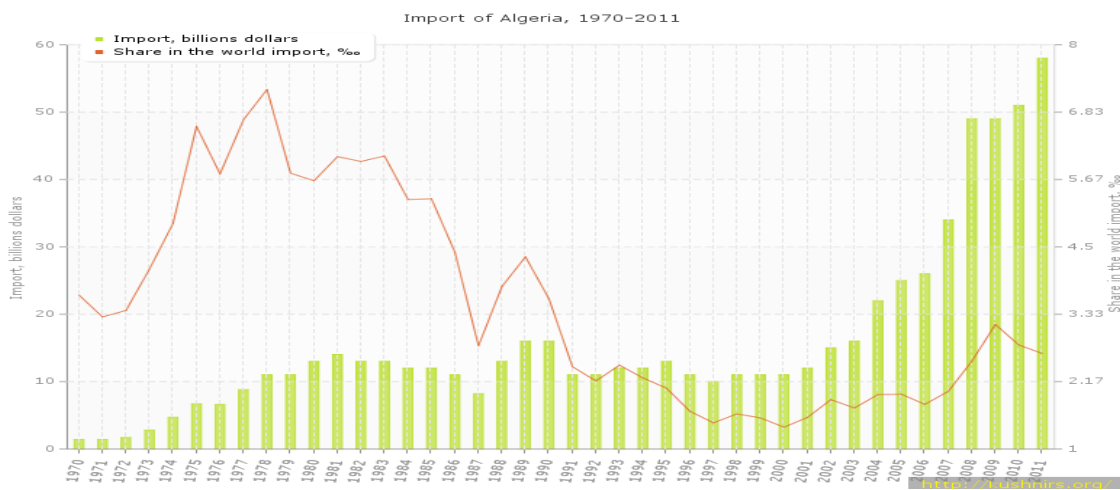
China’s presence in the oil and gas sector clearly reflects the Algerian government’s will to open up to an old and faithful ally, whose growing economy offered great hopes of an expanding market for what was expected to be exceptional oil production, but which in fact proved to be disappointing. China was also undoubtedly a partner whose technical skills needed to be tested; this is probably why China was not put in charge of the most technically complex projects or the most expensive ones.

2-7-4-Algeria Import¹²⁷

Algeria is a country that depends mostly on its petroleum and gas activity; Algeria is a major producer of cork and a major cattle producer, Continuous and significant improvements characterize the Algerian economy, governed by the public sector; it's a closed economy with strict controls on the foreign and private investments. Hydrocarbons are the primary revenue generator for Algeria and account for 60 percent of the total budget revenue and 30 percent of the GDP¹²⁸. In 2013 Algeria GDP reaches 214.45 Billion USD ¹²⁹

Imports in Algeria increased to 15.12 Billion DZD in the second quarter of 2012 from 14.48 Billion DZD in the first quarter of 2012. Import in Algeria is reported by the Bank of Algeria. Historically, from 1992 until 2012, Algeria Imports averaged 11.5 Billion DZD¹³⁰ reaching an all time high of 20.7 Billion DZD in December of 2006 and a record low of 6.0 Billion DZD in March of 2007. Algeria imports mainly capital goods, foodstuffs and consumer goods. Its main import partners are: France, China, Italy, Spain and Germany. (See figure (06))

Figure 20: Algeria `s Import growth: 1970-2011 (Billion \$)



Source: WORLD BANK INDICATORS - ALGERIA – Import growth-

¹²⁷ A goods or services brought into one country from another country. Along with exports, imports form the backbone of international trade. The higher the value of imports entering a country, compared to the value of exports, the more negative that country's balance of trade becomes. The word import is derived from the word port, since goods are often shipped via boat to foreign countries. Countries are most likely to import goods that domestic industries cannot produce as efficiently or cheaply, but may also import raw materials or commodities that are not available within its borders.

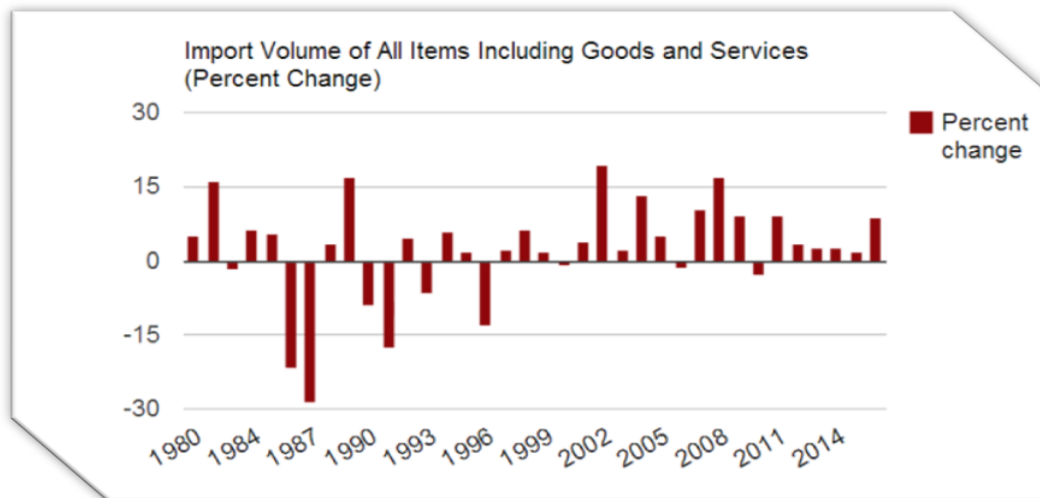
¹²⁸http://www.economywatch.com/world_economy/algeria/export-import.html

¹²⁹ Source: IMF - World Economic Outlook Database

¹³⁰ <http://www.tradingeconomics.com/Algeria>

In its annual assessment of the economy, the IMF notes that Algeria’s economic performance has been good, but that the country remains highly dependent on oil and gas and on public expenditure. As such, the country is heavily reliant on the exports of crude oil, as the main source of foreign exchange earnings (Wilkinson, B., 2002). Algeria's most significant exports today are petroleum and natural gas. Hydrocarbons have long been the backbone of the economy, accounting for roughly 60% of budget revenues, 30% of GDP, and over 95% of export earnings. Algeria has struggled to develop industries outside of hydrocarbons in part because of high costs and an inert state bureaucracy. The government’s efforts to diversify the economy by attracting foreign and domestic investment outside the energy sector have done little to reduce high youth unemployment rates or to address housing shortages. A wave of economic protests in February and March 2011 prompted the Algerian Government to offer more than \$23 billion in public grants and retroactive salary and benefit increases.

Figure 21: Algeria Import Volume of All Items Including Goods and Services (Percent Change) Statistics



Source:

Economywatch <http://www.economywatch.com/economic-statistics>¹³¹

¹³¹ Full Dataset: from 1980 to 2016 Dataset updated: 1st August 2011 Data Source: International Monetary Fund (IMF) National or Regional Currency: Algerian Dinar Currency Symbol: DZD

Import volume of all items including goods and services (percent change) for Algeria in year 2010 is -2.866%, this make Algeria No.147¹³² in World rankings according to import volume of all items including goods and services (percent change) in year 2010. The world's average import volume of all items including goods and services (percent change) value is 7.94%; Algeria is 10.81 less than the average.

In previous year, 2009, import volume of all items including goods and services (percent change) for Algeria was 9.10% import volume of all items including goods and services (percent change) for Algeria in 2010 was 131.49% less than it was in 2009.

2-7-5-Algeria Export

In 2015 Algeria imported \$52.4 B, making in the 47th largest importer in the world During the last five years the import of Algeria have increased at an annualized rate of 4.2%, from \$42.4B in 2010¹³³ to \$52.4B in 2015. The most recent imports are led by wheat which represent 4.22% of the total imports of Algeria, following by cars which account for 3.87%

A function of international trade whereby goods produced in one country are shipped to another country for future sale or trade. The sale of such goods adds to the producing nation's gross output. If used for trade, exports are exchanged for other products or services. Exports are one of the oldest forms of economic transfer, and occur on a large scale between nations that have fewer restrictions on trade, such as tariffs or subsidies. Most of the largest companies operating in advanced economies will derive a substantial portion of their annual revenues from exports to other countries. The ability to export goods helps an economy to grow by selling more overall goods and services.

More than 60 percent of bilateral exports are made of at most five product categories (HS6 level of disaggregation), a share that has remained broadly stable over the past decade. By contrast, the average number of HS6 products traded by partner in other Middle Eastern and North Africa (MENA) countries is much higher, and the share of bilateral trade flows that count five products or fewer is much lower. Data also point to the lack of sophistication of Algeria's export basket. The export quality index for Algeria, which was relatively high at the

¹³²http://www.economywatch.com/economic-statistics/Algeria/Import_Volume_All_Items_Goods_Services_Percent_Change/

¹³³ OEC , Algeria Iport, Export , and trade balance. Retetivied from : <http://atlas.media.mit.edu/en/profile/country/dza/>

start of the 1990s, has been declining since. This trend was largely driven by developments in mineral fuel exports, while the quality of non-hydrocarbon exports declined compared to oil and non-oil exporters in the second half of the 2010s. In 2010, the quality of exports was in line with the average quality index for oil exporters, but had fallen below the average of non-oil exporters, reflecting a worsening of the specialization structure of the country which can be seen in the low level of high-tech products in Algeria's manufacturing exports. The analysis of the product space of exported goods by Hausmann and others (2010) suggests that the country is highly specialized in products that offer very little opportunity to expand the export basket. In the middle of the 2000s, the share of new exports in the basket was very low.

2-7-6-Many Uncertainties

One can say that, the country's financial situation is healthy: there is practically no external debt (it was reimbursed earlier than planned) and the country has large foreign exchange reserves (200 billion dollars). The country experienced an upturn in 2002, due to the rise in oil and gas prices as Algeria is a major exporter of both (thanks to its two offshore pipelines which deliver gas to Europe). The production structure was distorted in favour of energy and at the expense of the manufacturing industry which has continually lost ground despite the massive government investment in industry to provide Algeria with "industrialising industries." Some large, private local groups are now developing, such as **Cevital** (which made headline news in France in 2014 with the acquisition of Fagor Brandt) and Soummam in the milk industry. A certain number of infrastructures have been built, such as the underground in Algiers and the East-West motorway, designed to cross the whole of Algeria alongside the Mediterranean coast. This motorway links the town of Maghnia (on the Moroccan border) with El Tarf (on the Tunisian border), passing through all the main Algerian towns including (from west to east) Tlemcen, Oran, Chlef Alger, Setif, Constantine and Annaba, and covering a distance of almost 1200 km. However, Algeria lacks many crucial skills, with obsolescent infrastructures in all of the country's key sectors. This led to a mass exodus of academics and top managers and, consequently, a call for foreign skills and competencies for major projects (Schiere and Walkenhorst, 2010; Brahimi et al., 2011). In addition, the number of administrative obstacles and the low level of human capital among the young generations make it very difficult to start a business.

Many issues are a cause for concern¹³⁴:

- The absence of any real tourist industry, due to the dilapidated state of a large number of tourist infrastructures and the decision to close the country to foreign influence following independence;

- The economy has little foreign investment (the 49/51 regulation forbids foreigners from having a the majority shareholding in a firm's capital, which means foreign investors have to find a local partner);

- Some years, Algeria imports over 40% of its requirements in cereals, placing the population in a position of food dependency. This catastrophic situation is linked to:

1/ choices made after independence (Alpha et al., 2012; Bedrani and Cheriet, 2012);

2/ amount of land lying fallow;

3/ persistently poor harvests (little use of fertilizers and lack of soil preparation);

4/ Uncertainty over government policies and its inability to take a clear position to privatize farms.

A genuine food supply chain still needs to be developed, although vertical integration of activities exists in some sectors such as milk and sugar (Achabou et al., 2014) ; - lack of diversification in the country's exports, with oil and gas tax revenues financing almost 75% of the state budget. The importance of natural resources and the public sector (Chauffour, 2011) appear to be obstacles to regional trade integration in the Arab Maghreb Union (Algeria, Morocco and Tunisia); - of the 183 countries mentioned in the Doing Business report (World Bank business climate index), Algeria ranks 137th, and its position has fallen steadily. It is also 111th out of 180 countries in the Transparency International report that publishes an index on the perception of corruption. - In the building and civil engineering sector, local companies are unable to take part in major infrastructure construction programmes. As Brahili et al. (2014) explained: "Among the problems in the building and civil engineering sector, we can mention the following:

(1) The lack of a real human resource policy,

(2) The lack of formalized skills identification,

¹³⁴ Frédéric Teulon Dominique Bonet Fernandez,(2014), Industrialization and Economic Policy in Algeria: a Synthesis over half a Century, IPAG Business School, 184, Boulevard Saint-Germain 75006 Paris France. Retrieved from: https://www.ipag.fr/wp-content/uploads/recherche/WP/IPAG_WP_2014_287.pdf

(3) Anarchic recruitment, with little or no consideration given to qualifications and even less to personal qualities such as know-how or motivation, and

(4) The building and civil engineering sector remains too traditional and consequently lacks any leading edge technologies.

The more liberal trade policy (initially imposed in 1994 through a structural adjustment program designed by the IMF)¹³⁵, subsequently more or less well assimilated, shows that the governing bodies can change the rules in order to hold onto power. This explains why the more liberal approach to international markets has not changed Algeria's integration in the global economy, and has not led to greater diversification in production, imports or exports. The unfinished nature of the reforms, the absence of a real group of entrepreneurs investing in industry (Aliouat, 2012; Grim, 2012), and the predominance of consumer goods in the import structure can all be explained primarily by a distribution conflict regarding oil revenues. The protection of property rights remains uncertain, even though there is consensus that the institutions are central to the economic development process (World Bank, 2002). Algeria remained on the side lines during the political turmoil that broke out in the first half of 2010 and led to a significant shake-up of the North African countries, giving it the appearance of a model of stability. The Algerians did not take part in the Arab Spring. As Martinez (2013) wrote: "In contrast to the security problems in Libya and the Islamist leanings of the Tunisian and Egyptian regimes, Algeria continues to offer the old-world charm of a nationalist and military republic model which delights western diplomacies, destabilised by the irruption of Islamist parties and civil societies on North Africa's political stage." Protests were diffused by wage rises, police presence and the traumatic memories of the civil war (Morin, 2012). Algeria appears as a barrier against the influence of Saudi Arabia and the salafi and Wahhabi movements that have pushed Islam towards greater radicalism. Preoccupied by its own domestic problems and fearing a ripple effect, the Algerian government did not profit from the political shakeup taking place in the Arab world or the redistribution of the regional cards to strengthen its own external influence.

¹³⁵ Frédéric Teulon Dominique Bonet Fernandez,(2014), Industrialization and Economic Policy in Algeria

2-8-Algeria and Globalization

Globalization spread will definitely carry changes to the parts of world it attains

2-8-1-Globalization and Algerian culture

Globalization is a phenomenon which describes the integration of regional and international communities through societies, economies and culture as an ongoing process through global networks of trade and communication¹³⁶. It is driven by various combined factors which include biological, technological, political and socio-cultural factors. Globalization promotes circulation of languages, acculturation and ideas in the different countries.

The effect of globalization on culture has been diverse and immense. People's cultural behaviors have been affected in various ways. Globalization demands countries to pursue common economic policies regardless of their development or economic nature. It in addition demands that countries open up of their boundaries to trans-national corporations in an indiscriminate manner. This has been the major gateway for globalization affecting many nations in broad ways especially developing countries. Classic examples include India in Asia and the African continent. The objective of this study is to investigate the effects of globalization in developing countries focusing on Algeria, perception and the measures or programs employed by these countries to protect their national culture from the effects of globalization. Culture is the identity of countries and communities and it is being continuously threatened by globalization. Furthermore, this research is expected to be expanding on the issue of globalization from exclusively economic definitions to more of humanistic & cultural approaches to globalization.

The fact that US cultural merchandises are unbeaten reflects that American cultural exports are influential and strong. It also reflects that the US economy is successful all over the world. Generally speaking globalization, which has greatly affected local culture, does mean some integration of culture. The positive aspects are that there is a widen information, cultural exchange and all this can lead to a worldwide cultural growth. However, there is also another

¹³⁶ El-Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university

aspect of global culture: a lot of people see globalization of culture as a new way of a cultural Americanization.

A report emanated from the UNESCO in 2005 showed that the world's cultural trade has been estimated at 1.3 trillion dollars and is rapidly expanding. According to the report, international trade in cultural products increased from 38 billion Dollars in 1994 to attain 60 billion Dollars in 2002. The report examines cross-border trade on selected media products. In the only year of 2002 United States, China and the United Kingdom produced 40 % of the world's cultural trade products in 2002, while Africa and Latin America together produced for less than 4 %. (UNESCO Institute for Statistics, 2010) Anglo-Saxons' products were overriding at the core of the entertainment industry (music, film and television). Because rules of the WTO (World Trade Organization) do not allow countries which ban cultural imports, one of the globalization effects will be the end of cultural diversity. "We are driving towards a world in which the verb to have is becoming by far more important than the verb to be." (Akulenko, 2008)

Globalization has greatly impacted the world by helping cultures spread all over the globe¹³⁷. While this can be thought as a reality, there still remains difference of opinion about whether cultural globalization will be advantageous for everyone. According to Bhargava, (2003), some people consider that globalization will boost the opportunity for the great nations to take advantage of the economic weaknesses of the developing countries as well as to reduce the cultural diversity and make it a global-culture, while some others argue that it does have the possibility to create opportunities for growth all over the world. However, there are people who say that globalization is anything else but the westernization of the world. Some are afraid to lose their values or that their language disappears and they feel threatened by the influence exerted by other cultures in their country. Even though some people consider that this phenomenon may be dangerous for their culture, some others perceived globalization as an amazing opportunity rather than a threat.

Although we are not attentive to it, globalization which is a very fascinating event, had affected everyone's existence. From the Chinese sewing needle to the Brazilian coffee, we are encircled by merchandise from all over the world. Thus, it is definitely an issue which concerned everyone. For that, it must have an effect on the way people think, on their norms and values, and accordingly on their Cultural Identity which I am going to look at.

¹³⁷ El-Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university

Taking into account such a fascinating event, I would be interested to find out if this phenomenon had an impact on national culture and whether this fundamental value must be protected from globalization effects.

Multinational Corporations which want to invest in foreign countries must learn a lot from Schein (1992) who emphasizes the importance to carry out a cultural analysis in order to implement a successful and effective management which can transcend the national and ethnic borders.

2-8-2-Openness To, and Restrictions Upon, Foreign Investment

With its population of more than 38 million, hydrocarbon wealth, expanding infrastructure needs, and growing consumer product demand, Algeria is attracting interest from companies around the world. U.S. firms continue to consider it an emerging and growing market. The climate for international firms considering direct investments in Algeria has stabilized in the wake of a series of restrictive foreign investment rules enacted in 2009 and 2010, one of which imposed a requirement of at least 51 percent Algerian ownership of foreign investments. Foreign Direct Investment (FDI) in Algeria waned as a result of those measures. Investors highlight regulatory uncertainty, tight foreign exchange controls, lax intellectual property rights (IPR) protections, customs delays, and a large informal sector among ongoing commercial challenges. However, the Government of Algeria (GOA) has invested more than USD 286 billion in infrastructure development between 2010 and 2014, making the local market sufficiently profitable for firms adapted to emerging markets to weather those challenges and explore new opportunities, especially in sectors like energy, power, water, health, telecommunications, transportation, and agribusiness. The number of foreign trade missions to Algeria grew from 30 in 2010 to 60 in 2012, but then fell in 2013 to about 30. Additionally, in recent years several sectorial trade fairs were organized locally to boost partnerships with local SMEs. In 2013, Algeria concluded commercial agreements with several Arab and European nations, as well as China. U.S. firms, such as Northrop Grumman, General Electric, Boeing, Pratt & Whitney Power Systems and Varian Medical Systems won multi-million dollar tenders¹³⁸. President Abdelaziz Bouteflika was reelected to a new five year term in April 2014. After running a successful re-election campaign for President Bouteflika, Prime Minister Abdelmalek Sellal retained his position. Sellal is trusted by the

¹³⁸ El-Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university

political elite and viewed as a pragmatic politician who seeks new economic partnerships to tackle long-standing issues, such as housing shortages and unemployment. Algerian leadership remains focused on building domestic production capacity and reducing imports and seeks U.S. expertise and partnership. Negotiations have continued with the Office of the U.S. Trade Representative related to Algeria's World Trade Organization (WTO) accession and cooperation under the U.S.-Algeria Trade and Investment Framework Agreement (TIFA). Formal meeting sessions in Geneva and informal digital video conferences between key officials on both sides were held in 2013 and early 2014.

2-8-3-The Obstacles of Globalization in Algeria

The performance of Algeria either in economy or in other domains to be a strong and a developed country, actually did not reach the top¹³⁹, or it was not realize the necessary success because of different reasons that are shared with the Middle East and other North African countries. These reasons can be summarized in the following:

2-8-3-1-High Population Growth and low productivity

The Middle East and North Africa (M.E.N.A) have had one of the highest rates of population growth in the world, close to that of sub-Saharan Africa. For example in Algeria the annual rate of population is 1.2 – 2.3 percent. But in the last years this rate declined. However, it is still high which make it the main reason for the slow growth of the country. In the region, over two-thirds of the population is under 30 years of age. The labor force has grown during the last 20 years, and it grows at 3 percent per annum till 2010. This increasing in the working age population could, under the appropriate circumstances, contribute in the growth and advancement of the country. However, the high population creates problems as high rate of unemployment and even the educated people stay jobless because population grows rapidly than the economy of the region. Another reason for the low-growth performance is the region's low or often negative growth of Total Factor Productivity (T. F. P.), that is, the efficiency with which factors of production such as physical capital and labor are employed to generate growth.

2-8-3-2-Lagging Political and Institutional Reforms

Algerian influence the global economy is weak. Political fragmentation, recurring conflicts, and authoritarian rule have influenced the development of democratic institutions and remain major obstacles to economic development. As it is mentioned in Arab Human Development Report (United Nations, 2002)¹⁴⁰, the region performs poorly in civil and political freedoms and gender equality. The appropriate solution is to strengthen the modern institutions, such as freely elected legislatures, independent judiciaries, and institutions that safeguard civil and

¹³⁹ El-Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university

¹⁴⁰ El-Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university

human rights. In Algeria as in many MENA countries, there is no difference between the public sector and the private one, encouraging conflicts of interest, rent seeking (i.e., lobbying policymakers for purely private gain), and widespread corruption as the accident of El Khalifa Bank in 2003, when the bank broke the fact that led to decline in the income of the country. Anyway, the public sector has all the domination on the Algerian economy, unlike the private sector is small and suffers from weak competitiveness and bad regulation. However, in the last years, the economy expanded by a moderate 2.5% in 2012, up from 2.4% in 2011, it was the result of the purpose of the sizable government spending which intended to stop social unrest during the Arab spring boosted domestic demand. In addition to, the increasing of wages in the public sector as a result of the public investment, for the non-hydrocarbon Gross Domestic product (GDP) in Algeria it increased by 7.1%, however, the ongoing struggles to maintain current output in the hydrocarbon sector (accounting for about 30% of GDP) depressed overall growth. Unfortunately, Algeria will remain heavily dependent on the hydrocarbon sector in the coming years, because of the dominance of the hydrocarbons sector (public sector). The current boom of non-conventional oil and gas, in the US and other areas, as well as decreased demand from Europe, as a result Algeria's main export market, depresses prices, hence the challenges increased to the public sector. In addition to the corruption of Algerian institutions and the dominance of the public sector, the lack of education is also a strong obstacle for globalization.

2-8-3-3-Education

We can consider room for Improving Efficiency and Equity Human capital as an important factor in economic growth and employment generation, it is also important for the location of economic activity, especially in an increasingly globalized economy characterized by high capital mobility. As the economic growth has been the goal of the entire world, a skilled and educated labor force is demanded in investment capital. The interesting is that recent research suggests that countries starting with lower productivity but with a more educated workforce close the gap between their per capita income and that of richer countries at a faster rate than countries with a less educated workforce. Therefore, a higher standard of living is more likely to be sustained with an educated workforce that can adapt its skills and new ideas. Algeria spends more on education (4.3% of GDP in 2008) than other countries as Italy (4.3% in 2012); Spain (4.3% in 2007) at comparable income levels, the performance of

their educational systems is weak. Possible reasons for this can be in the emphasis on quantity of teachers rather than quality, lagging educational technology, corrupted administrative bureaucracies, and spending more on higher rather than primary education. Furthermore, Algeria needs to streamline the management of education system. It needs to encourage and increase private participation in the education systems, and adapt education programs to better exploit the opportunities offered by increased globalization of information and technology. The threat of the lack of education on globalization is as important as religion and traditions in Algeria. Because this region has its own traditions which are opposite to the ideas of this western thought besides the values of its religion “**Islam**” differ a lot from the values of globalization. Hence, both religion and tradition are the major obstacles of globalization in Algeria.

2-8-3-4-Religion and Traditions

The term Globalization refers to the spread of ideas, customs, institutions, and attitudes originated in one part of the world throughout the globe. At present these are usually Western in origin. Besides, much of globalization is related to the western thoughts or modernization which is a set of behaviors and beliefs which contradict traditional society. Globalization is seen as a major threat to tradition. Where religion is far more traditional in its practice, the defense of religion also conflicts with the acceptance of modernization. It is also important to remember that Islam is a religion with its own set of laws and a claim to provide the proper order for society. Thus, globalization brings oppositional elements to Islam in the region of MENA. One example of tradition, in Algeria the family gathered around one table at home to eat, but globalization supported fast food and eating out doors this created space between the family’s members. Another example, in Islam religion the hijab is obligatory for woman but with globalization girls started wearing just like western women¹⁴¹. These are just two examples that explain that Islam and tradition in Arab world are considered as one of the powerful obstacles for the spread of globalization.

2-8-4-Globalization Drivers in Algeria

The Drivers of Globalization in Algeria can be defined as its strong factors which help it to realize its process which can be summarized in its rapid expansion in all parts of the world. Basically, globalization has five groups of drivers:

¹⁴¹ El-Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university

2-8-4-1- Technological Drivers

Technology is considered as the guide factor of globalization process. Improvements in the early 1990s in computer hardware and software increased people's ability to access information. Life becomes easy with advancements in Internet-based tools in the last ten years, for instance, social networking websites, twitter, and other applications changed people's way of life through sharing information for different purposes. These developments drive the spreading of new products and ideas across nations and cultures, despite of the geographic location. Besides, creating effective channels to exchange information, thus it is the catalyst for global integration. In Algeria for example, it becomes possible for people to see and to watch other cultures and different societies' traditions. Algerians become closer to others from the globe by technological innovations such as internet that provides websites like You Tube besides social networks as Facebook and twitter.

American and European TV`s shows influence Algerian culture which can be seen in their cloths and styles which look like Americans and Europeans. Furthermore, they started eating the same food and probably sharing the same ideas with other people from far countries. So, the entire world is started living with one culture which is born by the technological advances and the spreading of its applications that become extraordinarily rapid in nowadays. Just 30 years ago, for example, the use of computers was still limited to people in developing countries. The majority of people still produced documents with typewriters, but now in Algeria people jump to use PC in institutions, schools, hospitals and work places. Each year the use of technology increased in Algeria as the statistics¹⁴² that are taken from the World Bank Indicators shows below:

Tableau 3: the rate of telecommunications in Algeria 1990-2010

Algerian telecommunication	1990	2000	2010
Mobile cellular subscriptions in Algeria	470.0	86000.0	32780165.0
Mobile cellular subscriptions	0.0	0.3	92.4

¹⁴² Trading economics. Retrieved from:<http://www.tradingeconomics.com/algeria/personal-computers-per-10-0-people-wb-data.html>.

(per 100) in Algeria			
Personal computers in Algeria	25000.0	200000.0	(+)

Source: www.tradingeconomics.com/Algeria/Personal-computers-per-10

As the table shows, the use of technology increased in Algeria over time, especially, telecommunication technology like cell phones that helped in shrinking distances. By doing so, the world is being globalized. Globalization is accelerated by the change of technology. The new technological innovations make people continue trying to catch up their new devices. By doing so, the world will live in one civilization. Therefore, Technology is now the controller in the modern era, as it creates new jobs and networking sites to allow individuals to connect globally¹⁴³. However, technology is not the only factor that helps in spreading globalization even politics has a great impact in the expanding of this phenomenon in entire world.

2-8-4-2 Political Drivers

Actually, Globalization is not just related by technology but also by policies which are adopted by countries for their own benefits. Policies around the world especially the economic help a lot in spreading globalization and driving its process. The lowered tariffs that were the result of the new trading rules and deregulated markets caused the spreading of foreign direct investment in all parts of the world. As Markus Bauernfeind said “Liberalized trading rules and deregulated markets lead to lowered tariffs and allowed foreign direct investments in almost in all over the world”. Different trade institutions and organizations help the flourishing of globalization, such as General Agreements on Tariffs (G.A.T.T) and Trade and World Trade Organization (W.T.O). Algeria as a case of this study, by 1960, Algeria joined the Organization of Petroleum Exporting Countries (O.P.E.C) as its first step towards economic development, the fact that makes it an important energy exporter. At the end of 1990, Algeria accelerated liberalization efforts and trade rules were relaxed with its association agreement with EU in 2002. This agreement controls the EU-Algeria relationship in trade.

¹⁴³-Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university .Retrieved from:
<http://www.word-to-pdf.abdio.com/> Word to PDF - UnRegistered <http://www.word-to-pdf.abdio.com/>

By a special agreement with the European Union (EU), Algerian industrial products are granted duty-free entry into the EU market and agricultural products get seasonal tariff reductions, while Algeria gives reciprocal treatment to EU imports. Algeria has also concluded preferential customs agreements with Tunisia and Morocco and is a founding member of the Arab Maghreb Union (U.M.A), a trade union includes Algeria, Libya, Mauritania, Morocco, and Tunisia. The purpose of UMA is to create a free trade area. Furthermore, Algeria encourages foreign investment and grants national treatment to foreign enterprises. The Algerian Foreign Investment Law makes sure that nationals and non-nationals work with the same policies when setting up companies in Algeria. Foreign investors can make direct investment by establishing a factory as well as participating in an established company in the public service sector in Algeria¹⁴⁴. The Foreign Investment Law guarantees that foreign investors can remit their profits out of the country. Additionally, negotiations between the Algerian government and foreign investors can happen for preferential policies. Hence, the policies of Foreign Direct Investment (F.D.I.) and the rights that are given to investors in Algeria and in other developing countries, they all contribute in building one globalized world.

¹⁴⁴ Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university .Retrieved from:
<http://www.word-to-pdf.abdio.com/> Word to PDF - UnRegistered <http://www.word-to-pdf.abdio.com/>

2-8-4-3-Market Drivers

The domestic markets economic growth saturation`'s leads to a global trade¹⁴⁵ by using global market channels and transferable marketing to transfer goods that are demanded by global consumers and to import also products that are needed by local consumers. For the case of Algeria, this country has a hydrocarbons market because it is rich of oil and natural gas which makes it the leading natural gas producer in Africa, the second-largest natural gas Europe's supplier outside of the region. Then it is among the top three oil producers in Africa. As a result of the saturation of the gas and oil in the country, Algeria builds international economic relations with others to support them with gas and natural oil for their industries, for example Oil and natural gas export reaches \$63.8 billion in 2013, down from \$69.8 billion in the previous year, as a result of lower export volumes. According to the country's central bank, Algeria's oil and gas export revenue has allowed the country to maintain a comfortable level of foreign exchange reserves to reach \$194 billion by the end of December 2013. However, the Algerian domestic market is not only based on hydrocarbons, but it also produces other products. In 2012, Algeria opens 04 factories for milk and pastes, and 08 factories specialized in meat and fish. Besides, Algeria produces 18 million tons of cement per year. Indeed Globalization spreads in the entire world but it faces a lot of obstacles that stand in its way to create problems.

¹⁴⁵ Kebbar Nassima,(2015),The Impact of Globalization on Algeria during The 21st Century, Foreign language department , Tlemcen university .Retrieved from:
<http://www.word-to-pdf.abdio.com/> Word to PDF - UnRegistered <http://www.word-to-pdf.abdio.com/>

2-9-Conclusion

Policy, culture, religion and customs can be a big obstacle for the speeding of globalization in Algeria that what can be interpreted by this chapter either in economy or in other domains.

The Drivers of Globalization in Algeria can be defined as its strong factors which help it to realize its process which can be summarized in its rapid expansion in all parts of the world. Basically Algerians become closer to others from the globe by technological innovations such as internet that provides websites like You Tube besides social networks as Facebook and twitter.

From the giving information in this chapter, one can conclude that Algeria has to do hard work to fight those obstacles and embrace Globalization.

Chapter three:

Globalization impact on Algerian economic growth

Chapter three: Globalization impact on Algerian economic growth

"It has been said that arguing against globalization is like arguing against the laws of gravity". -Kofi Annan¹⁴⁶

¹⁴⁶ <https://www.brainyquote.com/quotes/keywords/globalization.html>

Chapter three: Globalization impact on Algerian economic growth

3-1-Introduction

This section attempts to enquire into the fact econometrically whether globalization is a cause of Algeria's economic growth in the short run and the long run as well or not. Because of its multi-dimensional structure, different opinions on globalization's definition come into question when the effects of globalization on economic growth are taken into account. While the globalization is a component of creating opportunities for countries' economies and effecting their economic growth in a positive way thanks to these opportunities for some, it causes poverty and injustice income dispersal and it also effects the economic growth in negative ways for others.

Chapter three: Globalization impact on Algerian economic growth

3-2-METHODOLOGICAL APPROACH

The success of any study is determined by the nature of approaches that are adopted in the research. The research approach used in all studies is mainly guided by the nature of the issue and set hypotheses.

The focal point of this section will be on elucidating the general approaches of the research, data collection and data analysis. This will be followed by explaining the methods chosen as well as critical evaluation of resources & the research method limitation.

The workhorse¹⁴⁷ econometric model, underlying many of the studies surveyed below, is typically a regression of the growth or level of GDP per capita on measures of trade exposure and other independent variables.

In this paper, the test procedure is very simple. Regressed one I (1) variable on another using least squares (OLS). Then test the residuals for non-stationarity using the augmented Dickey-Fuller test (ADF test). If the series are cointegrated, the Dickey-Fuller test statistic will be statistically significant. The null hypothesis is that the residuals are non-stationary. Rejection of this leads to the conclusion that the residuals are stationary and the series are cointegrated.

3-2-1-DATA Collection

Data collection will play a significant role to guarantee the exactness of the gathered information related to the subject¹⁴⁸ that why I use the secondary data set which has been collected from ‘World Development Indicators’ published by the World Bank, and includes annual data of GDP (current value), exports of goods and services, imports of goods and services, Industry and Agriculture in constant \$ for the period of 1960 to 2015. The base year for the four data series is 2010 with the values mentioned in a constant U.S. dollar. All the three series are transformed into natural logarithms. The variables GDP, EX, IM, INDUS, and AGR are used for Algeria Gross domestic product, exports, imports, industry, and agriculture, respectively. For compilation of data Microsoft Excel and econometric software package E-Views (09) were used.

¹⁴⁷ Christopher M.Meissner,2014, Growth from Globalization? A View from the Very Long Run, Department of Economics, University of California, Davis and NBER,Davis,CA 95616, USA

¹⁴⁸ <https://www.ukessays.com/essays/media/effects-of-globalisation-the-algerian-case-media-essay.php>

Chapter three: Globalization impact on Algerian economic growth

3-2-2-Problem statement

Cointegration methods have been very popular tools in applied economic works since their introduction about twenty years ago. The concept of cointegration was defined by Granger (1981) and after the paper by Engle and Granger (1987) it has become one of the cornerstones in modern times series econometrics, although it was implicitly applied by Sargan (1964), and Davidson, Hendry, Srba and Yeo (1978). The purpose of this paper is to give the analysis of GDP cointegrated time series and discuss its relationships to a very simple economics problem, how cointegration can be useful in the case studying? Mathematical and statistical model which allow such phenomenon are given in the following chapter.

Our paper DAIELLEMA is all about Globalization in Algeria: what's the impact of globalization on Algerian economic activities (Export, Import and Industry)?

3-2-3-The objective of this study

The primary objective of this paper is to re-evaluate the GDP¹⁴⁹ for Algeria using a more robust estimation method. In this study, Granger causality is used as a way to investigate **causality**¹⁵⁰ between variables in a time series. The method is a probabilistic account of causality; it uses empirical data sets to find patterns of **correlation** and in our case we are testing the correlation between export, import, industry, and agriculture and globalization which is substituted by its proxy gross domestic product (GDP).

Using both the F-test and t-test to examine the possibility of a long-run relationship will ensure that the results are robust. In addition, we use the Engel-Granger Cointegration model to estimate the long run and short run elasticities of the determinants of import demand.

One can say that, the objective of this paper is to investigate the impact of international trade factors of globalization on Algeria's economic growth as well as the dynamics of the relationship between globalization and economic growth in Algeria using the annual data for the period: 1960 to 2015 which are obtained from World Bank Data. All the variables are taken in their natural logarithms to avoid the problems of heteroscedasticity. The real Gross

¹⁴⁹ As a variable proxy for the Globalization (economic growth)

¹⁵⁰ Cromwell, J. et. al. (1994) *Multivariate Tests for Time Series Models*, Issue 100. Sage University.

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Domestic Product (GDP) is used as the proxy for economic growth in Algeria and we take each of export, import, and industry as independent variables.

Economic growth, proxies by real GDP or real per capita GDP, is influenced by a variety of factors. The importance and relevance of these factors may differ from country to country and may also change overtime. Difficulty in obtaining capital stock series for a developing country like Algeria has led us to use export and import.

3-2-4-Hypothesis of the study

By considering the small sample bias on cointegration analysis using typical cointegration approaches [Engle-Granger (1987); Johansen (1988); and Johansen and Juselius (1990)], this paper uses a robust estimation approach—bounds testing approach (Pesaran et al. 2001) (see Mah2000). This approach is based on an unrestricted error correction model (UECM) estimate. One of the advantages of Pesaran et al.'s approach is that the method can be applied to studies that have small samples such as present study.

Mah (2000) applied this approach for estimating Korean import demand for information technology goods using 18 annual observations. Other examples are from Pattichis (1999) and Tangand Nair (2002). Pattichis (1999) estimated Cyprus' disaggregated import demand for the annual period 1975 to 1994. Tang and Nair (2002) modeled Malaysian import demand function using annual data from1970 to 1998. Secondly, the bounds test procedure can be applied irrespective of whether the regressors are purely I (0) or I (1) and mixed. A pre-test on series integration, I (d) is not necessary in applying Pesaran et al.'s procedure to test the hypothesis if a conclusion can be making on its hypotheses.

Two no stationary time series are cointegrated if they tend to move together through time; whereas their differences are stationary. In the opaque terminology used in the time series literature, each series is said to be “integrated of order 1” or I (1). If the two non-stationary series move together through time then we say they are “cointegrated.” Economic theory would suggest that they should be tied together via arbitrage, but that is no guarantee, so we perform a formal statistical test. The test procedure is very simple. Regress one I (1) variable on another using least squares. Then test the residuals for non-stationarity using the (augmented) Dickey-Fuller test. If the series are cointegrated, the Dickey-Fuller test statistic will be statistically significant. The null hypothesis is that the residuals are non-stationary. Rejection of this leads to the conclusion that the residuals are stationary and the series are cointegrated.

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HO: the variables has a unit root

H1: the variables has no unit root

3-2-5-Limitation

Correlation does not necessarily imply causation in any meaningful sense of that word. The econometric graveyard is full of magnificent correlations, which are simply spurious or meaningless. Interesting examples include a positive correlation between teachers' salaries and the consumption of alcohol and a superb positive correlation between the death rate in the UK and the proportion of marriages solemnized in the Church of England. Economists debate correlations which are less obviously meaningless.

The Granger (1969) approach¹⁵¹ to the question of whether X causes Y is to see how much of the current Y can be explained by past values of Y and then to see whether adding lagged values of X can improve the explanation. Y is said to be Granger-caused by X if X helps in the prediction of Y, or equivalently if the coefficients on the lagged X's are statistically significant. Note that two-way causation is frequently the case; X Granger causes Y and Y Granger causes X.

It is important to note that the statement "X Granger causes Y" does not imply that Y is the effect or the result of X. Granger causality measures precedence and information content but does not by itself indicate causality in the more common use of the term.

Even testing causality among variables still one of the most important and, yet, one of the most difficult issues in economics. The difficulty arises from the non-experimental nature of social science. For natural science, researchers can perform experiments where all other possible causes are kept fixed except for the sole factor under investigation. By repeating the process for each possible cause, one can identify the causal structures among factors or variables. There is no such luck for social science, and economics is no exception. All different variables affect the same variable simultaneously and repeated experiments under control are infeasible (experimental economics is no solution, at least, not yet).

¹⁵¹ www.E-views.com.Retrieved from: http://www.eviews.com/help/helpintro.html#page/content/groups-Granger_Causality.html

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While economic growth and globalization are two different fields of study in their own, this paper attempts to show the connections between them, the effects of globalization on Algerian economic growth and whether globalization affects GDP positively, negatively or not at all.

Whether a model chosen in empirical analysis is good, or appropriate, or the “right” model cannot be determined without some reference criteria, or guidelines. A. C. Harvey¹⁵², a noted econometrician, lists the following criteria by which we can judge a model.

3-2-5-1-Parsimony

It means that a model can never completely capture the reality; some amount of abstraction or simplification is inevitable in any model building. The Occam’s razor, or the **principle of parsimony**, suggests that a model be kept as simple as possible.

3-2-5-2-Identifiability

This means that, for a given set of data, the estimated parameters must have unique values or, what amounts to the same thing, there is only one estimate per parameter.

3-2-5-3-Goodness of Fit

Since the basic thrust of regression analysis is to explain as much of the variation in the dependent variable as possible by explanatory variables¹⁵³ included in the model, a model is judged to be good if this explanation, as measured, say, by the adjusted is as high as possible¹⁵⁴.

¹⁵² A. C. Harvey, *The Economic Analysis of Time Series*, Wiley, New York, 1981, pp. 5–7. The following discussion leans heavily on this material. See also D. F. Hendry and J. F. Richard, “On the Formulation of Empirical Models in Dynamic Econometrics,” *Journal of Econometrics*, vol. 20, October 1982, pp. 3–33.

¹⁵³ Difficulty in obtaining capital stock series for a developing country like Algeria has led us to use export and import.

¹⁵⁴ Besides there are other criteria that have been used from time to time to judge the goodness of fit of a model. For an accessible discussion of these other criteria, see G. S. Maddala, *Introduction to Econometrics*, Macmillan, New York, 1988, pp. 425–429.

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3-2-5-4-Theoretical Consistency

No matter how high the goodness of fit measures, a model may not be judged to be near of perfection if one or more coefficients have the wrong signs. Thus, in the demand function for a commodity, if the price coefficient has a positive sign (positively sloping demand curve!), or if the income coefficient has a negative sign (unless the good happens to be an inferior good), we must look at such results with great suspicion even if the R^2 of the model is high, say, 0.92. In short, in constructing a model we should have some theoretical underpinning to it; “measurement without theory” often leads to very disappointing results.

3-2-5-5-Predictive Power

As Milton Friedman, notes: “The only relevant test of the validity of a hypothesis [model] is comparison of its prediction with experience.”¹⁵⁵ Thus, in choosing between the monetarist and Keynesian models of the economy, by this criterion, we would choose the model whose theoretical predictions are borne out by actual experience. Although there is no unique path to a good model, keep these criteria in mind in developing an econometric model.

3-3-Econometric Framework

In economics, time series are the bottom line of any empirical research. Therefore, it is standard to view time series as the realization of a stochastic process. Model builders can use statistical inference in constructing and testing the equations that characterize relationships between economic variables. The two central properties of many economic time series are non-stationarity and time-volatility (Wei, 2006)¹⁵⁶. These two properties have led to many applications in both economics and statistics. Non-stationarity is a property common to many applied time series. This means that a variable has no clear tendency to return to a constant value or linear trend. It is generally correct to assume that economic processes have been generated by a non-stationary process and follow stochastic trends. One major objective of

¹⁵⁵Milton Friedman, “The Methodology of Positive Economics,” *Essays in Positive Economics*, University of Chicago Press, 1953, p. 7.

¹⁵⁶ Rajab Sekuma, (2011), *A Study Of Cointegration Models With Applications*, University Of South Africa. Retrieved From: http://uir.unisa.ac.za/bitstream/handle/10500/4821/thesis_ssekuma_r.pdf?sequence=1

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empirical research in economics it to test hypotheses and estimate relationships derived from economic theory, among other such aggregated variables (Pfaff, 2006).

The classical statistical methods used in building and testing large simultaneous equation models, such as Ordinary Least Squares (OLS), were based on the assumption that the variables involved are stationary. The problem is that the statistical inference associated with stationary processes is no longer valid if time series are a realization of non-stationary processes. If time series are non-stationary it is not possible to use OLS to estimate their long-run linear relationships because it would lead to spurious regression. Spurious regression is a situation in which there appears to be a statistically significant relationship between variables but the variables are unrelated. A few decades ago the difficulty of non-stationarity was not well understood by model builders. However, this is no longer the case because the technique of cointegration has been introduced according to which models containing non-stationary stochastic variables can be constructed in such a way that the results are both statistically and economically meaningful.

Cointegration is an econometric concept which mimics the existence of a long-run equilibrium among economic time series. If two or more series are themselves non-stationary, but a linear combination of them is stationary, then they are said to be cointegrated (Wei, 2006). We should be concerned about cointegration because it is a possible solution to non-stationarity found in many economic time series, and if time series are non-stationary the assumptions upon which OLS estimation rest are violated, rendering its application inappropriate.

Previously, the usual procedure for testing hypotheses concerning the relationship between non-stationary variables was to run OLS regressions on data which had initially been differenced. Data are differenced in order to reduce non-stationary series to stationarity. Although this method is correct in large samples, it may give rise to misleading inferences or spurious regressions in small samples. Moreover, estimation of a single equation framework with integrated or non-stationary variables tends to create the following problems: non-standard distribution of the coefficient estimates generated by the process not being stationary, explanatory variables generated by the process that display autocorrelation, the existence of more than one cointegrated vector and tendency to weak exogeneity (Banerejee et al., 1993). The remedy for problematic regressions with integrated variables is to test for cointegration and to estimate a vector error-correction model to distinguish between short-run

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and long-run responses, since cointegration provides more powerful tools when the data sets are of limited length. The technique of cointegration and the error-correction model have both been used before in modeling a number of studies, for example, in modeling Danish gasoline demand (Bentzen et al., 1995), the road transport energy demand for Australia (Samimi, 1995), demand for coal in India (Kulshreshtha and Parikh, 1999), coal demand in China (Chan and Lee, 1997) and the United Kingdom’s final user energy demand (Fouquet et al., 1997). In these studies, the multivariate Johansen cointegrating framework was used to ascertain the cointegrating rank the main interest in this study is to estimate cointegrating models and explain their applications to different sets of data using the three main methods of testing for cointegration and related relationships. The results of this study can be used to assess the impact of a temporary or permanent shock on economic variables in an economy. These methods are:

- The Engle-Granger method (Engle-Granger, 1987)
- The Johansen’s procedure which builds cointegrated variables directly on maximum likelihood estimation instead of relying on OLS procedures (Johansen and Juselius, 1988)

3-3-1-Ordinary least square method (OLS):

Primarily, we have studied the effect of globalization indicators (export +import+ industry+ agriculture) on economic growth GDP—which is taken as proxy variable for the Globalization— by a simple regression equation:

$$\ln\text{GDP} = \beta_0 + \beta_1 \ln\text{Ex} + \beta_2 \ln\text{Im} + \beta_3 \ln\text{Indus} + \beta_4 \ln\text{Agri} + \varepsilon \dots\dots\dots(1)^{157}$$

⇒ Where:

- ✓ ln = natural logarithm
- ✓ lnGDP = Log Nominal Gross Domestic Product
- ✓ lnEx = Log export
- ✓ lnIm = Log import
- ✓ lnIndus= Log Industry

¹⁵⁷ The expected sign of all the coefficients is positive.

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- ✓ $\ln Agri = \text{Log Agriculture}$
- ✓ $\varepsilon = \text{White noise error term}$
- ✓ $\beta_1, \beta_2, \beta_3, \text{ and } \beta_4$ are called **partial regression coefficients**; their meaning will be explained shortly¹⁵⁸.

Granger causality is a way to investigate **causality**¹⁵⁹ between variables in a time series. The method is a probabilistic account of causality; it uses empirical data sets to find patterns of **correlation** and in our case we are testing the correlation between export, import, industry, and agriculture and globalization which is substituted by its proxy gross domestic product (GDP)

As a first step we specify 5 lags on 1st difference of each variable i.e. log of GDP, log of exports & log of imports, and log industry (on the basis of AIC & SBIC criteria¹⁶⁰) and run the regression on the above equation. Then we apply the F-test of zero restriction: $\alpha \neq \beta \neq \theta \neq \mu \neq 0$

$$\Delta \ln gdp_t = \gamma_0 + \sum_{i=1}^5 \gamma_{1i} \Delta \ln gdp_{t-i} + \sum_{i=1}^5 \gamma_{2i} \Delta \ln ex_{t-i} + \sum_{i=1}^5 \gamma_{3i} \Delta \ln im_{t-i} + \sum_{i=1}^5 \gamma_{4i} \Delta \ln indu_{t-i} + \alpha \ln gdp_{t-1} + \beta \ln ex_{t-1} + \theta \ln im_{t-1} + \mu \ln indu_{t-1} + \varepsilon_t \dots \dots \dots (2)$$

3-3-2-The Stationary Test (Unit Root Test):

When we deal with time series data, we can observe that a number of econometric issues can influence the estimation of parameters using OLS. Regressing a time series variable on another time series variable using the Ordinary Least Squares (OLS) estimation can obtain a very high R^2 , although there is no meaningful relationship between the variables. This situation reflects the problem of **spurious regression** between totally unrelated variables generated by a non-stationary process. Therefore, prior to testing Cointegration and implementing the Granger Causality test, econometric methodology needs to examine the stationarity; for each individual time series, most macro economic data are non stationary, i.e.

¹⁵⁸ Damodar N. Gujarati, Dawn C. Porter, (2010), *Essential of econometrics*, United States Military Academy, West Point
¹⁵⁹ Cromwell, J. et. al. (1994) *Multivariate Tests for Time Series Models*, Issue 100. Sage University.
¹⁶⁰ Akaike information criteria (AIC) and Bayesian information criteria (BIC)

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they tend to exhibit a deterministic and/or stochastic trend. Therefore, it is recommended that a stationarity (unit root) test be carried out to test for the order of integration.

A series is said to be stationary if the mean and variance are time – invariant. A non-stationary time series will have a time dependent mean or make sure that the variables are stationary, because if they are not, the standard assumptions for asymptotic analysis in the Granger test will not be valid.

Therefore, a stochastic process that is said to be stationary simply implies that the mean $[E(Y_t)]$ and the variance $[Var(Y_t)]$ of Y remain constant over time for all t , and the covariance $[Covar(Y_t, Y_s)]$ and hence the correlation between any two values of Y taken from different time periods depends on the difference apart in time between the two values for all $t \neq s$. Since standard regression analysis requires that data series be stationary, it is obviously important that we first test for this requirement to determine whether the series used in the regression process is a difference stationary or a trend stationary. Several tests of non-stationarity called **unit root tests** have been developed in the time series econometrics literature.

In most of these tests **the null hypothesis is that there is a unit root**, and it is rejected only when there is strong evidence against it¹⁶¹. One can distinguish series that appear to be stationary, series that appear to have a unit root, and series for which the data (or the tests) are not sufficiently informative to be sure whether they are stationary or integrated.

The basic assumption underlying the standard estimation procedures is that the time series are stationary, in the sense that the mean and variance are independent of time. However, many economic time-series are not stationary and change over time¹⁶². This means that, as time goes on, the mean and variance tend to move away from any given values. Non-stationarity is usually removed by taking first differences¹⁶³. The stationarity assumption is rejected if $Asymp. Sig < 0.05$ ¹⁶⁴. Otherwise time series should be differenced or transformed using various time series transformation techniques until stationarity is achieved.

However, this also results in removing out the long-run characteristics of the data, thereby making the model capable of explaining only short-run effects. Although many time

¹⁶¹

¹⁶² Nelson and Plosser, 1982

¹⁶³ Box and Jenkins, 1970

¹⁶⁴ Oguntade, E. S; Olanrewaju, S. O., Ojeniyi, J.A.,(2014,), Granger Causality Test: A Useful Descriptive Tool For Time Series Data, International journal of modern Engineering research IJMER | ISSN: 2249–6645

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series may tend to trend up or down over time in a non-stationary behavior, a group of them might drift together. If there is a tendency for some variables to hold a linear relationship over long periods of time, then cointegration analysis can be used to find out this long-run equilibrium relationship.

3-3-2-1-The stationary model:

Classical econometric theory assumes that observed data comes from a stationary process¹⁶⁵, the means and variances are constant over time. Graphs of economic time series, and the historical record of economic forecasting,

3-3-2-2-Non-stationarity:

Non-stationarity seems a natural feature of economic life. Legislative change is one obvious source of non-stationarity, often inducing structural breaks in time series, but it is far from the only one. Economic growth, perhaps resulting from technological progress, ensures secular trends in many time series. Such trends need to be incorporated into statistical analyses, which could be done in many ways, including the venerable linear trend.

3-3-2-3-The first difference:

Non-stationary data, as a rule, are unpredictable and cannot be modeled or forecasted¹⁶⁶. The results obtained by using non-stationary time series may be spurious in that they may indicate a relationship between two variables where one does not exist. In order to receive consistent, reliable results, **the non-stationary data needs to be transformed into stationary data**. In contrast to the non-stationary process that has a variable variance and a mean that does not remain near, or returns to a long-run mean over time, the stationary process reverts around a constant long-term mean and has a constant variance independent of time.

The strong reason for trying to stationarize a time series is to be able to obtain meaningful sample statistics such as means, variances, and correlations with other variables. Such statistics are useful as descriptors of future behavior *only* if the series is stationary. For example, if the series is consistently increasing over time, the sample mean and variance will

¹⁶⁵ M. Franco, D. Blanco, W. Blequett, M. Guglia, and E. Alvarado, 2006, Co integration Methodology and Error: Correction Model used to Forecast The Electricity Demand of The Venezuelan Electric System Period 2004-2024, (©2006 IEEE)

¹⁶⁶ Tzveta Iordanova, (2007), Introduction To Stationary And Non-Stationary Processes, Retrieved from: <http://www.investopedia.com/articles/trading/07/stationary.asp>

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grow with the size of the sample, and they will always underestimate the mean and variance in future periods. And if the mean and variance of a series are not well-defined, then neither are its correlations with other variables. For this reason you should be cautious about trying to extrapolate *regression* models fitted to non-stationary data.

It is a well-established empirical fact that standard unit root tests fail to reject the null hypothesis of a unit root for many economic time series¹⁶⁷.

The **first difference**¹⁶⁸ of a time series is the series of changes from one period to the next. If Y_t denotes the value of the time series Y at period t , then the first difference of Y at period t is equal to $Y_t - Y_{t-1}$. In Statgraphics, the first difference of Y is expressed as $\text{DIFF}(Y)$, and in RegressIt it is Y_DIFF1 . If the first difference of Y is stationary and also *completely random* (not autocorrelated), then Y is described by a random walk model: each value is a random step away from the previous value. If the first difference of Y is stationary but *not* completely random--i.e., if its value at period t is autocorrelated with its value at earlier periods--then a more sophisticated forecasting model such as exponential smoothing or ARIMA may be appropriate. (Note: if $\text{DIFF}(Y)$ is stationary and random, this indicates that a random walk model is appropriate for the original series Y , *not* that a random walk model should be fitted to $\text{DIFF}(Y)$. Fitting a random walk model to Y is logically equivalent to fitting a mean (constant-only) model to $\text{DIFF}(Y)$.)

3-3-2-4- Spurious Regression

The time series regression model required all variables to be $I(0)$ ¹⁶⁹. In this case, the usual statistical results for the linear regression model hold. If some or all of the variables in the regression are $I(1)$ then the usual statistical results may or may not hold. One important case in which the usual statistical results do not hold is spurious regression when all the regressors are $I(1)$ and not cointegrated.

¹⁶⁷ Denis Kwiatkowski, Peter C.B. Phillips, Peter Schmidt and Yongcheol Shin,(1991), Testing the null hypothesis of stationarity against the alternative of a unit root How sure are we that economic time series have a unit root?, Journal of Econometrics 54 (1992) 159-178. North-Holland

¹⁶⁸ Stationarity and differencing. Retrieved from: <https://people.duke.edu/~rnau/411diff.htm>

¹⁶⁹ Cointegration. Retrieved from: <https://faculty.washington.edu/ezivot/econ584/notes/cointegration.pdf>

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3-3-3-Cointegration

The work done by Campbell and Perron (1991) is a very good supplement to this chapter - for further study read Watson's survey for the handbook of econometrics Vol. IV, and for multivariate models use Johansen's (1995) book.

Cointegration theory is definitely the innovation in theoretical econometrics that has created the most interest among economists in the last decade. The definition in the simple case of 2 time series x_t and y_t , that are both integrated of order one (this is abbreviated I (1), and means that the process contains a unit root), is the following:

$$u_t = y_t - \alpha x_t \dots\dots\dots (3)$$

Cointegration methods have been very useful tools in applied economic work since their introduction about twenty years ago¹⁷⁰, Cointegration is an analytic technique for testing for common trends in multivariate time series and modeling long-run and short-run dynamics. Two or more predictive variables in a time-series model are cointegrated when they share a common stochastic drift. Variables are considered cointegrated if a linear combination of them produces a stationary time series, which provides Engle-Granger and Johansen methods for cointegration testing and modeling.

The tendency of cointegrated variables to revert to common stochastic trends is expressed in terms of *error-correction*. If y_t is an n -dimensional time series and β is a cointegrating vector, then the combination $\beta'y_{t-1}$ measures the "error" in the data (the deviation from the stationary mean) at time $t-1$. The rate at which series "correct" from disequilibrium is represented by a vector α of *adjustment speeds*, which are incorporated into the VAR model at time t through a multiplicative *error-correction term* $\alpha\beta'y_{t-1}$.

In general, there may be multiple cointegrating relations among the variables in y_t , in which case the vectors α and β become matrices A and B , with each column of B representing a specific relation. The error-correction term becomes $AB'y_{t-1} = Cy_{t-1}$. Adding the error-correction term to a VAR model in differences produces the *vector error-correction (VEC) model*:

¹⁷⁰ <https://www.mathworks.com/help/econ/introduction-to-cointegration-analysis.html>

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$$\Delta y_t = C y_{t-1} + \sum_{i=1}^q B_i \Delta_{t-1} + \varepsilon_t \dots \dots \dots (4)$$

If the variables in y_t are all $I(1)$, the terms involving differences are stationary, leaving only the error-correction term to introduce long-term stochastic trends. The rank of the *impact matrix* C determines the long-term dynamics. If C has full rank, the system y_t is stationary in levels. If C has rank 0, the error-correction term disappears, and the system is stationary in differences. These two extremes correspond to standard choices in univariate modeling. In the multivariate case, however, there are intermediate choices, corresponding to *reduced ranks* between 0 and n . If C is restricted to reduced rank r , then C factors into (non unique) n -by- r matrices A and B with $C = AB'$, and there are r independent cointegrating relations among the variables in y_t .

By collecting differences, a VEC (q) model can be converted to a VAR (p) model in levels, with $p = q + 1$:

$$y_t = A_1 y_{t-1} + \dots + A_p y_{t-p} + \varepsilon_t \dots \dots \dots (5)$$

Conversion between VEC (q) and VAR (p) representations of an n -dimensional system are carried out by the functions `vectovar` and `vartovec` using the formulas:

$$\text{VEC } (q) \text{ to VAR } (P=q+1) \text{ (using vectovar)} \begin{cases} A_1 = C + I_n + B_1 \\ A_i = B_i - B_{i-1}, i = 2, \dots, q \\ A_p = -B_q \end{cases} \dots \dots \dots (6)$$

$$\text{VAR } (p) \text{ to VEC } (q=p-1) \text{ (using vartovec)} \begin{cases} C = \sum_{i=1}^p A_i - I_n \\ B_i = -\sum_{j=i+1}^p A_j \end{cases} \dots \dots \dots (7)$$

Because of the equivalence of the two representations, a VEC model with a reduced-rank error-correction coefficient is often called a *cointegrated VAR model*. In particular, cointegrated VAR models can be simulated and forecast using standard VAR techniques. The cointegrated VAR model is often augmented with exogenous terms D_x :

$$\Delta y_t = AB' y_{t-1} + \sum_{i=1}^q B_i \Delta_{t-1} + D_x + \varepsilon_t \dots \dots \dots (8)$$

Variables in x may include seasonal or interventional dummies, or deterministic terms representing trends in the data. Since the model is expressed in differences Δy_t , constant terms

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in x represent linear trends in the levels of y_t and linear terms represent quadratic trends. In contrast, constant and linear terms in the cointegrating relations have the usual interpretation as intercepts and linear trends, although restricted to the stationary variable formed by the cointegrating relation. Johansen considers five cases for $AB'y_{t-1} + D_x$ which cover the majority of observed behaviors in macroeconomic systems:

Figure 22: Econometrics toolbox

Case	Form of $AB'y_{t-1} + D_x$	Model Interpretation
H2	$AB'y_{t-1}$	There are no intercepts or trends in the cointegrating relations and there are no trends in the data. This model is only appropriate if all series have zero mean.
H1*	$A(\beta y_{t-1} + c_0)$	There are intercepts in the cointegrating relations and there are no trends in the data. This model is appropriate for nontrending data with nonzero mean.
H1	$A(\beta y_{t-1} + c_0) + c_1$	There are intercepts in the cointegrating relations and there are linear trends in the data. This is a model of <i>deterministic cointegration</i> , where the cointegrating relations eliminate both stochastic and deterministic trends in the data.
H*	$A(\beta y_{t-1} + c_0 + d_0 t) + c_1$	There are intercepts and linear trends in the cointegrating relations and there are linear trends in the data. This is a model of <i>stochastic cointegration</i> , where the cointegrating relations eliminate stochastic but not deterministic trends in the data.
H	$A(\beta y_{t-1} + c_0 + d_0 t) + c_1 + d_1 t$	There are intercepts and linear trends in the cointegrating relations and there are quadratic trends in the data. Unless quadratic trends are actually present in the data, this model may produce good in-sample fits but poor out-of-sample forecasts.

Source: <https://www.mathworks.com/help/econ/introduction-to-cointegration-analysis.html>

While: c_1 and d_1 are identified by projecting constant and linear regression coefficients, respectively, onto the orthogonal complement of A .

Since these theories describe long-term equilibrium among the variables, accurate estimation of cointegrated models may require large amounts of low-frequency (annual, quarterly, and monthly) macroeconomic data. As a result, these models must consider the possibility of structural changes in the underlying data-generating process during the sample period.

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3-3-3-1- The Engle-Granger Test for Cointegration

After observing the various conditions of Granger causality test such as ensuring stationarity in the variables under consideration; adding enough number of lags in the prescribed model before estimation as Granger causality test is sensitive to the number of lags¹⁷¹ introduced in the model; and as well as assuming the disturbance terms in the various models are uncorrelated

If variable Y contains useful information for predicting variable X , then Y causes X . That is Y is Granger / Predictive causality of X . Then Y causes X is denoted as $(Y \rightarrow X)$ and X causes Y is denoted as $(X \rightarrow Y)$ where the arrow points to the direction of Causality. The Granger Causality Test assumes that the information relevant to the prediction of variables Y and X is contained in the time series data on these variables.

New approaches to cointegration testing originated with Engle and Granger¹⁷². Their method is simple to describe: regress the first component y_{1t} of Y_t on the remaining components of Y_t and test the residuals for a unit root. The null hypothesis is that the series in Y_t are *not* cointegrated, so if the residual test fails to find evidence against the null of a unit root, the Engle-Granger test fails to find evidence that the estimated regression relation is cointegrating. A complication of the Engle-Granger approach is that the residual series is estimated rather than observed, so the standard asymptotic distributions of conventional unit root statistics do not apply. Augmented Dickey-Fuller tests (ADF test) and Phillips-Perron tests (pp test) cannot be used directly. For accurate testing, distributions of the test statistics must be computed specifically for the Engle-Granger test.

Engle-Granger tests are conceptually and computationally quite simple. Let the vector

$\mathbf{y}_t \equiv [\mathbf{y}_{t1}, \dots, \mathbf{y}_{tN}]^T$ Denote the t^{th} observation on N time series, each of which is known to be $I(1)$, If these time series are cointegrated, there exists a vector α such that the stochastic process with typical observation $\mathbf{z}_t \equiv [\mathbf{1} \ \mathbf{y}_t]^T \alpha$ is $I(1)$. If they are not cointegrated, there will exist no vector α with this property, and any linear combination of \mathbf{y}_1 through \mathbf{y}_N and a constant will still be $I(1)$.

¹⁷¹ Oguntade, E. S; Olanrewaju, S. O., Ojeniyi, J.A.,(2014.), Granger Causality Test: A Useful Descriptive Tool For Time Series Data, International journal of modern Engineering research IJMER | ISSN: 2249–6645

¹⁷² Perasan, 2001,

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To implement the original form of the EG test, foremost, we have to run the cointegrating regression

$$y_t = \alpha_1 + \sum_{j=2}^N \alpha_j y_{tj} + u_t \dots\dots\dots (9)$$

For a sample of size T +1, thus obtaining a vector of coefficient:

$$\hat{\alpha} \equiv [1 - \hat{\alpha}_1 \dots - \hat{\alpha}_N]^T$$

One then calculates

$$\hat{Z}_t = [1 \ y_t]^T \hat{\alpha} = y_{t1} - \hat{\alpha}_1 - \hat{\alpha}_2 y_{t2} \dots - \hat{\alpha}_N y_{tN} \dots\dots\dots (10)$$

And tests to see \hat{Z}_t if I(1) is using a procedure essentially the same (except for the distribution of the test statistic) as the ADF test. The null hypothesis of non-cointegration corresponds to the null hypothesis that \hat{Z}_t is I (1). If one rejects the null, one concludes that y_1 through y_N are cointegrated.

To test whether \hat{Z}_t is I(1), one may either run the regression

$$\hat{Z}_t = \rho \hat{Z}_{t-1} + \varepsilon_t \dots\dots\dots (11)$$

And calculate the ordinary t statistic for $\rho = 1$, or run the regression

$$\Delta \hat{z}_t = \gamma \hat{Z}_{t-1} + \varepsilon_t \dots\dots\dots (12)$$

Where

$\Delta \hat{z}_t \equiv \hat{Z}_t - \hat{Z}_{t-1}$, and calculate the ordinary t statistic for $\gamma = 0$. In either case, one drops the first observation, reducing the sample size to T. These two procedures evidently yield identical test statistics. Because there is a constant term in (10), there is no need to include one in (11) or (12). The regress and \hat{z}_t and regressor \hat{z}_{t-1} would each have mean zero if both were observed over observations 0 through T. However, because the regression does not make use of the first observation on \hat{z}_t or the last observation on \hat{z}_{t-1} , that will not be quite true. But they should both have mean very close to zero except when T is small and either

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\hat{z}_0 or \hat{z}_T is unusually large in absolute value. Hence adding a constant to (11) or (12) would generally have a negligible effect on the test statistic¹⁷³.

One may therefore wish to repeat the procedure with deferent choices of y_j serving as regress and, thus computing up to N deferent test statistics, especially if the first one is near the chosen critical value. If N = 1, this procedure is equivalent to one variant of the ordinary DF test (see below), in which one runs the regression

$$\Delta z_t = \alpha_1 + \gamma z_{t-1} + \epsilon_t \dots \dots \dots (13)$$

And tests for $\gamma = 0$. As several authors have shown (see West (1988) and Hylleberg and Mizon (1989)), the latter has the Dickey-Fuller distribution only when there is no drift term in the data-generating process for z_t , so that $\alpha_1 = 0$. When $\alpha_1 = 0$, the test 6 statistic is asymptotically distributed as N (0, 1), and in finite samples its distribution may or may not be well approximated by the Dickey-Fuller distribution. The original version of the EG test likewise has a distribution that depends on the value of α_1 ; since all tabulated critical values assume that $\alpha_1 = 0$, they may be quite misleading when that is not the case.

There is a simple way to avoid the dependence on α_1 of the distribution of the test statistic. It is to replace the cointegrating regression (14) by

$$y_{t1} = \alpha_0 t + \alpha_1 + \sum_{j=2}^N \alpha_j y_{tj} + u_t \dots \dots \dots (14)$$

That is, to add a linear time trend to the cointegrating regression. The resulting test statistic will now be invariant to the value of α_1 , although it will have a deferent distribution than the one based on regression (6)¹⁷⁴. Adding a trend to the cointegrating regression often makes sense for a number of other reasons, as Engle and Yoo (1990) discuss. There are thus two variants of the Engle-Granger test. The “no-trend” variant use (14) as the cointegrating regression and the “with-trend” variant uses (19).

Sometimes, the vector α (or at least α_2 through α_N) may be known. We can then just calculate $z_t = y_{1t} - \alpha_2 y_{2t} \dots - \alpha_N y_{tN}$ and use an ordinary DF test. In this case, it is easiest to

¹⁷³ Some changes were made in this paragraph in the 2010 version to correct minor errors in the original paper. The conclusion is unchanged.
¹⁷⁴ It will not be invariant to the value of α_0 , however. To achieve that, one would have to add t^2 to the regression; see the appendix

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dispense with the cointegrating regressions (14) or (19) entirely and simply run one of the following test regressions:

$$\Delta z_t = \gamma z_{t-1} + \varepsilon_t \dots\dots\dots (15)$$

$$\Delta z_t = \alpha_1 + \gamma z_{t-1} + \varepsilon_t \dots\dots\dots (16)$$

$$\Delta z_t = \alpha_0 t + \alpha_1 + \gamma z_{t-1} + \varepsilon_t \dots\dots\dots (17)$$

The t statistics for $\gamma = 0$ in these three regressions yield the test statistics that Fuller (1976) refers to as $\hat{\tau}$, $\hat{\tau}_\mu$, and $\hat{\tau}_t$, respectively; he provides some estimated critical values on page 373. We will refer to these test statistics as the “no-constant”, “no-trend”, and “with-trend” statistics, respectively. Note that the tabulated distribution of the no-constant statistic depends on the assumption that $z_0 = 0$, while those of the other two are invariant to z_0 . The tabulated distribution of the no-trend statistic depends on the assumption that $\alpha_1 = 0$ ¹⁷⁵. while that of the with-trend statistic depends on the assumption that $\alpha_0 = 0$. Up to this point, it has been assumed that the innovations ε_t are serially independent and homoskedastic¹⁷⁶. These rather strong assumptions can be relaxed without affecting the asymptotic distributions of the test statistics. The test statistics do not even have to be modified to allow for heteroskedasticity, since, as Phillips (1987) has shown, heteroskedasticity does not affect the asymptotic distribution of a wide class of unit root test statistics. They do have to be modified to allow for serial correlation, however.

The easiest way to do this is to use Augmented Dickey-Fuller, or ADF, and Augmented Engle-Granger, or AEG, tests. In practice, this means that one must add as many lags of $\Delta \hat{z}_t$ to regressions (15) or (16), or of Δz_t to regressions (20), (21), or (22), as are necessary to ensure that the residuals for those regressions appear to be white noise.

A deferent approach to obtaining unit root tests that are asymptotically valid in the presence of serial correlation and/or heteroskedasticity of unknown form was suggested by Phillips (1987) and extended to the cointegration case by Phillips and Ouliaris (1990).

¹⁷⁵ See West (1988) and Hylleberg and Mizon (1989),

¹⁷⁶ In statistics, when the standard deviations of a variable, monitored over a specific amount of time, are non-constant. Heteroskedasticity often arises in two forms, conditional and unconditional. Conditional heteroskedasticity identifies non-constant volatility when future periods of high and low volatility cannot be identified. Unconditional heteroskedasticity is used when futures periods of high and low volatility can be identified.

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H0: variable is stationary

H1: variable is non-stationary

3-3-3-2- Review of F-Statistic

F-test is used to determine if a group of variables are *jointly* significant statistically (versus t-test, which is used to determine if a single variable is statistically significant).

F-test is used in two situations (usually):

- ✧ To determine if all the variables in your model are jointly significant (i.e., to see if your ‘model’ is statistically significant) – this is reported as part of the results of every OLS analysis; and
- ✧ To determine if some subset of variables in your model are jointly significant¹⁷⁷. This is applied to any group of binary variables used to operationalize a variable that has been dummied out into more than two categories (e.g., religion dummied out into four categories (i.e., three variables with a base group) such as secular, protestant, catholic and other).
- ✧ *Steps to F-test:*
 - ✓ Set up hypothesis test
 - ✓ Calculate F-value
 - ✓ Determine critical value
 - ✓ Reject or fail to reject null.

Hypothesis Test

A. Testing to determine if model is jointly statistically significant

You can set up a hypothesis test in which:

$$\mathbf{H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \dots = \beta_k = 0}$$

(Where k is the number of independent variables)

$$\mathbf{H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \dots \neq \beta_k \neq 0}$$

In the null model, you can think of all the estimated betas being constrained/ restricted to equal zero. Thus, the null model can be thought of as EQ1,

$$\mathbf{EQ1 : \hat{Y} = b_0 \dots \dots \dots (18)}$$

And the full/unrestricted model can be thought of as EQ

$$\mathbf{EQ2 : \hat{Y} = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + \dots + b_k X_k \dots \dots \dots (19)}$$

¹⁷⁷ Perasan, 2001,

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B. Test to determine if subset of variables is jointly statistically significant.

You can set up a hypothesis test in which:

$$H_0: \beta_3 = \beta_4 = 0$$

$$H_1: \beta_3 \neq \beta_4 \neq 0$$

In this scenario, the restricted model is:

$$EQ1: \hat{Y} = b_0 + b_1X_1 + b_2X_2 \dots\dots\dots(20)$$

$$EQ2: \hat{Y} = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 \dots\dots\dots(21)$$

Calculate the F-Value

The F-value is calculated as follows:

$$F = \frac{\frac{SSE_1 - SSE_2}{m}}{\frac{SSE_2}{n-k}} \quad \text{While, } \begin{cases} m = \text{number of restrictions;} \\ k = \text{number of independent variables.} \end{cases}$$

SSE stands for Error Sum of Squares (which is sometimes referred to as Residual Sum of Squares). SSE_1 is the SSE for the restricted model and SSE_2 is the SSE for the unrestricted model. One expects SSE_2 to be less than SSE_1 in most situations – why? Side bar: SSE is simply $\sum (Y_i - \hat{Y}_i)^2$

In Stat, the easiest way to generate \hat{Y}_i is to use the *predict* command.

Determine Critical Value

- We write it like this: F_{n-k}^m .
- To get critical values for the F statistic, we use a set of tables, just like for the normal and t-statistics. m is the degrees of freedom for the numerator and $n-k$ is the degrees of freedom for the denominator. Must also specify a confidence level (e.g., $p < 0.05$).

Reject/Fail to Reject the Null

If F-value is greater than critical value, then the value falls into the tail and we can reject the null hypothesis. In other words, the variables are jointly statistically significant. Otherwise, fail to reject the null hypothesis – the variables are *not* jointly statistically significant –.

Estimating VEC Model Parameters

When we determine a cointegrating relation, remain for us VEC model coefficients can be estimated by ordinary least-squares.

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To develop VECM model we should involve three steps which are: Lag selection, JJ test of cointegration, then VECM, Lag selection: After the lag selection criteria's, optimum lag would be 5

3-3-3-3-Johanson test of cointegration

To run this test we have a precondition which is the following: Variables must be non-stationary at level but when we convert them to first difference they become stationary.

Johansen's methodology takes its starting point in the vector auto-regression (VAR) of order p given by

$$y_t = \mu + A_1 y_{t-1} + \dots + A_p y_{t-p} + \varepsilon_t \dots \dots \dots (22)$$

Where y_t is an nx1 vector of variables that are integrated of order one¹⁷⁸ – commonly denoted I(1) – and ε_t is an nx1 vector of innovations. This VAR can be re-written as:

$$\Delta y_t = \mu + \Pi y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \varepsilon_t \dots \dots \dots (23)$$

Where:

$$\Pi = \sum_{i=1}^p A_i - I \text{ and } \Gamma_i = -\sum_{j=i+1}^p A_j \dots \dots \dots (24)$$

If the coefficient matrix Π has reduced rank $r < n$, then there exist nxr matrices α and β each with rank r such that $\Pi = \alpha\beta'$ and $\beta'y_t$ is stationary. r is the number of cointegrating relationships, the elements of α are known as the adjustment parameters in the vector error correction model and each column of β is a cointegrating vector. It can be shown that for a given r, the maximum likelihood estimator of β defines the combination of y_{t-1} that yields the r largest canonical correlations of Δy_t with y_{t-1} after correcting for lagged differences and deterministic variables when present¹⁷⁹ Johansen proposes two different likelihood ratio tests of the significance of these canonical correlations and thereby the reduced rank of the Π

¹⁷⁸ Testing for Cointegration Using the Johansen Methodology when Variables are Near-Integrated, 2007, WK, Erik Hjalmarsson and Pär Österholm

¹⁷⁹ Johansen (1995), For more detailed description of the procedure

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matrix: the trace test and maximum eigenvalue test, shown in equations (12) and (13) respectively

$$J_{\text{trace}} = -T \sum_{i=r+1}^n \ln(1 - \hat{\lambda}_i) \dots\dots\dots (25)$$

$$J_{\text{max}} = -T \ln(1 - \hat{\lambda}_{r+1}) \dots\dots\dots (26)$$

Here T is the sample size and λ_i is the i: th largest canonical correlation. The trace test tests the null hypothesis of r cointegrating vectors against the alternative hypothesis of n cointegrating vectors. The maximum eigenvalue test, on the other hand, tests the null hypothesis of r cointegrating vectors against the alternative hypothesis of r +1 cointegrating vectors. Neither of these test statistics follows a chi square distribution in general; asymptotic critical values can be found in Johansen and Juselius (1990) and are also given by most econometric software packages. Since the critical values used for the maximum eigenvalue and trace test statistics are based on a pure unit-root assumption, they will no longer be correct when the variables in the system are near-unit-root processes¹⁸⁰.

So that, the real question is how sensitive Johansen’s procedures are to deviations from the pure-unit root assumption. Although Johansen’s methodology is typically used in a setting where all variables in the system are I(1), having stationary variables in the system is theoretically not an issue and Johansen (1995) states that there is little need to pre-test the variables in the system to establish their order of integration. If a single variable is I (0) instead of I (1), this will reveal it-self through a cointegrating vector whose space is spanned by the only stationary variable in the model¹⁸¹.

¹⁸⁰ Based on previous studies – see, for example, Elliott, 1998 – it is no far stretch to conjecture that the Brownian motions in the limiting distribution given in, for instance, Johansen (1988) equation (18) would simply be replaced by the corresponding Ornstein-Uhlenbeck process to which near-unit-root variables converge. As always with near-unit-root variables, the problem is that the local-to-unity parameter is unknown and thus also the percentiles of the limiting distribution.

¹⁸¹ This means that the Johansen test can be used as a panel unit root test as suggested by Taylor and Sarno (1998) and Österholm (2004).

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3-3-3-4- Comparing Approaches to Cointegration Analysis

The estimation from the Johansen and Engle-Granger approaches can be challenging for a variety of reasons:

First of all, the two methods are essentially different, and may disagree on inferences from the same data. The Engle-Granger two-step method for estimating the VEC model—first estimating the cointegrating relation and then estimating the remaining model coefficients—differs from Johansen's maximum likelihood approach.

Secondly, the cointegrating relations estimated by the Engle-Granger approach may not correspond to the cointegrating relations estimated by the Johansen approach, especially in the presence of multiple cointegrating relations. It is important, in this context, to remember that cointegrating relations are not uniquely defined, but depend on the decomposition $C = AB'$ of the impact matrix.

Nevertheless, the two approaches should provide generally comparable results, if both begin with the same data and seek out the same underlying relationships. Properly normalized, cointegrating relations discovered by either method should reflect the mechanics of the data-generating process, and VEC models built from the relations should have comparable forecasting abilities.

3-3-4-Homoscedasticity (equal variance) and Heteroscedasticity (unequal variance):

Homoscedasticity can be also called homogeneity of variance¹⁸², because it is about a situation, when the sequence or vector of random variable has the same finite variance. And as we probably know already – variance measures how far a set of numbers is spread out. The complementary notion is called heteroscedasticity, to sum up, it means that:

- In statistics, a sequence or a vector of random variables is homoscedastic; if all random variables in the sequence or vector have the same finite variance.

¹⁸² Do you know the difference between Homoscedasticity and heteroscedasticity? Retrieved from: <https://oskarj.wordpress.com/2014/03/19/do-you-know-the-difference-between-Do -and-heteroscedasticity/>

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- A collection of random variables is heteroscedastic if there are sub-populations that have different variabilities from others.

Detection Of Heteroscedasticity: How Do We Know When There Is A Heteroscedasticity Problem?

Although theoretically it is easy to document the consequences of heteroscedasticity, it is often not so easy to detect it in a concrete situation.

If there is heteroscedasticity and we assume it away¹⁸³, we might be drawing misleading conclusions on the basis of the usual OLS procedure because OLS estimators are not BLUE, we have no sure method of detecting heteroscedasticity; we only have several diagnostic tools that may aid us in detecting it. Some of the diagnostics follow:

White's general test of heteroscedasticity is quite easy to apply¹⁸⁴, white's test proceeds as follows:

1. We first estimate the modeling regression equation by OLS, obtaining the residuals e_i . $Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + e_i$

2. We then run the following *auxiliary* regression:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1^2 + \beta_4 X_2^2 + \beta_5 X_1 X_2$$

That is, the residuals obtained from the original regression equation are squared and regressed on all the original variables, their squared values. Additional powers of the original X variables can also be added.

3. Obtain the R^2 value from the auxiliary regression.

4. If the chi-square value obtained exceeds the critical chi-square value at the chosen level of significance, or if the p value of the computed chi-square value is reasonably low than 5%, we can reject the null hypothesis of no heteroscedasticity.

¹⁸³ Damodar N. Gujarati, Dawn C. Porter, (2010), *Essential of econometrics*, United States Military Academy, West Point

¹⁸⁴ For more explication see: White test of Heteroscedasticity/Retrieved from: <http://itfeature.com>

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3-5-Concluding remarks

The conclusion of our study may also require an assumption that the increase in volume of trade has contributed to ‘technological change’ which could be calculated as residuals in the economic growth model. However, other factors could have contributed to technological change during the period being tested. Our assumption was that other factors related to economic growth have been quite neutral during the period. Since this study could not cover the whole aspect of the problem under consideration, because of its limited scope, further reading in this area is suggested. Finally, the empirical findings of this study and the review of the current situation of Algeria in international trade suggest the following policy recommendations, in that order:

- a) To enhance economic growth, the government may adopt stronger export promotion strategies in Algeria . Free trade policies may be implemented i.e. lowering trade and tariff barriers and relaxation of trade barriers so that bilateral trade with neighboring countries may increase.
- b) Development of infra-structure may facilitate exports, as well as provision of uninterrupted energy supplies.
- c) More diversifications in Algerian economy – industries in particular- are needed.

Chapter three: Globalization impact on Algerian economic growth

Chapter four: Empirical results and discussions

Chapter four: Empirical results and discussions

"Diversification and globalization are the keys to the future". -Fujio Mitarai-

Chapter four: Empirical results and discussions

4-1-Introduction

This paper empirically estimates the long-run relationship between Algerian GDP and its determinants; namely, Export, Import, Industry, and Agriculture.

I use this model in order to forecast the Globalization impact on the Algerian activities; the stationary analysis, the cointegration analysis, and the error correction model have done in its econometric framework.

Because of multi-collinearity between my independent variable (export and agriculture) , I did the cointegration two times in this paper, the first time I took GDP as a dependent variables and the : Export, Import, the Industry, and Agriculture as an independent (explanatory) variables. However we got the problem of high value in VIF test, so that; I decided to test the Cointegration between my variables (E-G & J.J Test) where I used the same framework but the explanatory variable Agriculture was omitted.

Chapter four: Empirical results and discussions

4.2 Unit Root Tests

Before conducting cointegration analysis, we first need to check out the stationarity of the series¹⁸⁵. Several unit root tests exist to check for stationarity of the series, and we apply augmented Dickey-Fuller (ADF) (1981) test to examine the series' characteristics of stationarity in this paper. (Table (04))

- We compare p-value with 5%
- Critical t –statistic value and the calculated t –statistic value
- We say that the variable has a unit roots (stationary) if critical t-statistic t –statistic

Unit root hypothesis:

- Null hypothesis: H0: The variable has a unit root
- Alternative Hypothesis: H1: the variable is stationary

The null hypothesis of unit root is not rejected for all series. Hence, all the series are non-stationary in the level. We conduct the same test on the first difference of these series and find them stationary. According to ADF test, all variables are not stationary at level. We differenced the data and run our test again (See table unit roots and ADFTest results)

As can be shown in Table (04), the null hypothesis can't be rejected for levels of all variables in all tests, but the null hypothesis is rejected at least on one of the significance levels (1%, 5% or 10%) in every test for the first differences of all variables. Thus, it can be said that all variables are integrated of the first order, so that we can run the cointegration test

¹⁸⁵ G. S. Maddala and Shaowen Wu, A Comparative study of unit root tests with panel data and a new simple test ,1999, OXFORD BULLETIN OF ECONOMICS AND STATISTICS, SPECIAL ISSUE (1999) ,0305-9049, P644-647

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Table 4: Unit roots

		UNIT ROOT TEST TABLE (PP)				
		<u>At Level</u>				
		LGDP	LINDUS	LAGRI	LEXPO	LIMPO
With Con...	t-Statistic	-0.6597	-4.6922	1.2765	-1.1695	-1.0139
	Prob.	0.8479	0.0003	0.9983	0.6814	0.7423
		n0	***	n0	n0	n0
With Con...	t-Statistic	-1.6570	-2.9159	-5.4450	-6.0372	-2.8736
	Prob.	0.7568	0.1657	0.0002	0.0000	0.1789
		n0	n0	***	***	n0
Without C...	t-Statistic	4.0325	2.4000	2.8256	0.6428	0.6088
	Prob.	1.0000	0.9956	0.9986	0.8521	0.8449
		n0	n0	n0	n0	n0
		<u>At First Difference</u>				
		d(LGDP)	d(LINDUS)	d(LAGRI)	d(LEXPO)	d(LIMPO)
With Con...	t-Statistic	-9.1208	-8.1967	-9.9696	-10.7586	-9.4519
	Prob.	0.0000	0.0000	0.0000	0.0000	0.0000
		***	***	***	***	***
With Con...	t-Statistic	-9.2725	-9.3087	-10.9683	-10.6124	-9.4486
	Prob.	0.0000	0.0000	0.0000	0.0000	0.0000
		***	***	***	***	***
Without C...	t-Statistic	-6.9186	-7.4432	-8.4072	-10.5880	-9.4767
	Prob.	0.0000	0.0000	0.0000	0.0000	0.0000
		***	***	***	***	***

Source: Ph.D student estimation using Eviews-09

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UNIT ROOT TEST TABLE (ADF)						
<u>At Level</u>						
		LGDP	LINDUS	LAGRI	LEXPO	LIMPO
With Con...	t-Statistic	-1.3454	-7.6319	0.6038	-1.2993	-0.7905
	Prob.	0.6020	0.0000	0.9886	0.6219	0.8137
		n0	***	n0	n0	n0
With Con...	t-Statistic	-3.3332	-2.7914	-5.3245	-3.0599	-3.1169
	Prob.	0.0737	0.2066	0.0003	0.1280	0.1137
		*	n0	***	n0	n0
Without C...	t-Statistic	3.6028	2.8976	2.2769	0.4637	0.5181
	Prob.	0.9999	0.9988	0.9940	0.8109	0.8246
		n0	n0	n0	n0	n0
<u>At First Difference</u>						
		d(LGDP)	d(LINDUS)	d(LAGRI)	d(LEXPO)	d(LIMPO)
With Con...	t-Statistic	-2.9064	-6.8286	-9.5432	-10.2075	-9.3317
	Prob.	0.0516	0.0000	0.0000	0.0000	0.0000
		*	***	***	***	***
With Con...	t-Statistic	-8.8491	-8.6769	-9.8093	-16.0189	-9.3551
	Prob.	0.0000	0.0000	0.0000	0.0000	0.0000
		***	***	***	***	***
Without C...	t-Statistic	-1.5568	-1.2106	-8.4436	-1.2949	-9.3349
	Prob.	0.1113	0.2037	0.0000	0.1775	0.0000
		n0	n0	***	n0	***

Notes: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1%. and (no) Not Significant
*Mackinnon (1996) one-sided p-values.

Source: Ph.D student estimation using Eviews-09

Notes: Null hypothesis: The variable has a unit root → our variables have not unit roots

When the p-value for all the variables is less than 5% so they are significant

All our variables are stationary at the 1st difference.

Source: Student forecast using Eviews-09-

From the table above we can say that, our modeling variables are non-stationary at level, but they become stationary after converting them to one difference level then, which mean that our variables are integrated of same order I (1).When the variables are integrated of the same order, we can run cointegration tests (E.G test & J.J test) . Before conducting our model , let`s check the Variance Inflation Factors (VIF).

4-3-Problem of multi-collinearity

If it exist a high correlation between any two independent variables, problem of multi-collinearity arises. Variance Inflation Factors (VIF) measures how much the variance of the

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estimated regression coefficients are inflated as compared to when the predictor variables are not linearly related.

Use to describe how much multi-collinearity¹⁸⁶ (correlation between predictors) exists in a regression analysis. Multi-collinearity is problematic because it can increase the variance of the regression coefficients, making them unstable and difficult to interpret.

➤ Variance Inflation Factors (VIF) Definition

Multi-collinearity: when two independent variables are highly correlated, then it gives a negatives sign in the regression, in other words, when we run our model in its OLS with all the 4 independent variables, we got the export which is very related to GDP, we find it insignificant, thus our export regression coefficient is not significant even though, theoretically, the export should be highly correlated with GDP.

➤ Variance Inflation Factors (VIF) Investigation

Table 5: Variance Inflation Factors

Date: 05/28/17 Time: 14:07

Sample: 1960 2015

Included observations: 56

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.290640	7341.208	NA
LEXPO	0.001773	26430.03	8.171060
LIMPO	0.000331	4812.533	2.532836
LINDUS	0.000473	7198.936	4.058397
LAGRI	0.000551	6909.959	7.747913

Source: student work outcome using Eviews-09-

We can see that, there are two variables appear with very high VIF value, the variables are:

Export, Agriculture ➔ so, we have to run two equations in the next steps, and we choose the best one¹⁸⁷.

¹⁸⁶ What is VIF? Retrieved from: <http://support.minitab.com/en-us/minitab/17/topic-library/modeling-statistics/regression-and-correlation/model-assumptions/what-is-a-variance-inflation-factor-vif>

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The equations are either equ(1) or equ(2):

Equ (1): $Lgdp=f(Limport+lindustry+lagriculture)$

Equ (2): $lgdp=f(limport+lexport+lindustry)^*$

4-4-Least Squares

From the above, we say that we will work on the equation which contains Import, Export, and Industry as independent variables.

➤ Equ : $lgdp=f(limport+lexport+lindustry)$ is estimated in table()

Table 6: Model OLS estimation

Dependent Variable: LGDP

Method: Least Squares

Date: 05/28/17 Time: 13:53

Sample: 1960 2015

Included observations: 56

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.479514	0.902567	-6.071034	0.0000
LIMPO	0.230042	0.042824	5.371782	0.0000
LEXPO	0.494795	0.072326	6.841192	0.0000
LINDUS	0.529339	0.052856	10.01482	0.0000
R-squared	0.967076	Mean dependent var	25.04474	
Adjusted R-squared	0.965176	S.D. dependent var	0.618004	
S.E. of regression	0.115327	Akaike info criterion	-1.413345	
Sum squared resid	0.691614	Schwarz criterion	-1.268677	
Log likelihood	43.57366	Hannan-Quinn criter.	-1.357257	
F-statistic	509.1242	Durbin-Watson stat	1.429594	
Prob(F-statistic)	0.000000			

¹⁸⁷ For me -the PhD student-, I prefer to take the 2nd equation* because , export are very important to define the Globalization and also agriculture is one of the industry sectors (Should be included) , and this explain more the studying model

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Source: student work outcome using Eviews-09-

From the table (06), one can conclude that: all my modeling variables are significant (regarding to p-value < 5%) , the Fisher statistic value is highly significant, this result confirm that we really have a connection between the taken variables. we can explain these result by the Algerian economic situation in the last decade, all of as we know that 98% of export are oil and gas , that`s why our international trade depends on export¹⁸⁸.

From R-square=0.96, one can conclude the strong relationship between the modeling variables; the dependent variable (GDP) and it`s explanatory variables (Export, Import, and Industry)

Our model is not a spurious because: R-square is less than Durbin-Watson stat (0.96<1.42)

Algerian economy is highly dependent on petroleum and natural gas exports. It is estimated that hydrocarbons account for roughly 60% of budget revenues, 30% of GDP, and over 95% of export earnings. Algeria has \$150 billion in foreign currency reserves and a large stabilization fund. State dominance over the economy, corruption and bureaucracy continue to hamper further development and diversification of the economy.

While in theory, the net effect of trade openness on budget balance is ambiguous, empirically trade openness increases country`s exposure to external shocks regardless of whether it is related to the natural openness, which is based on structural determinants of trade openness, e.g. the size of the country and its geographical characteristics; or to trade-policy openness, which is determined by decision makers.

From table (06) we can explore the estimation equation for the **long run relationship**:

$$LGDP = 0.494794590515 * LEXPO + 0.230042373435 * LIMPO + 0.52933900625 * LINDUS - 5.47951416614$$

¹⁸⁸ The **zero-sum game approach**: the mercantilist views the gains from international trade will result from exporting

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4-5- Testing for cointegration:

The testing procedure¹⁸⁹ is carried out in two phases¹⁹⁰. Using, e.g. ADF, in the first step we test whether both of the series are I (1). In the second step the cointegration of the series is tested using Engel-Granger and Johansson Jeselius Tests.

4-5-1 Test hypothesis

Cointegration methods have been very popular tools in applied economic work since their introduction about twenty years ago¹⁹¹. The pre-requisite of the cointegration analysis is to determine the level of integration, I (1) for all the concerned variables, the basic requirement for the Engel-Granger test is the stationarity of the dependent variable at first difference. In this study, as stated above, the underlying variables are lGDP, lexport, limport, and lindustry.

4-5-2 Methodology

In order to test for the hypothesis discuss above I utilize the methodology suggested by Engle and Granger (1987); in testing I proceed as follows:

- ✧ I test whether the assumed time series are I (1) which is a necessary condition for the further testing procedure. To do that I employ the very standard Augmented Dickey-Fuller test (ADFt) and Philips-Perron *unit root test* (PPt). First, I test for the unit roots in the cases when intercept and trend is present in the regression, then when there is the intercept only, and finally without intercept and trend. If I am not able to reject the null hypothesis about the unit root I run the ADFt & PPt stationary test on the first differences of the original time series, In this step, I should be already able to reject the null hypothesis about the unit root in order to be able to conclude that the original time series (GDP, Export, Import, Industry and Agriculture) are I (1).
- ✧ Estimate the long-run relationships, i.e., run regression on the equations (1) and (2).
Save regression residuals.

¹⁸⁹ Perasan, 2001,

¹⁹⁰ Engel-Granger, 1987,

¹⁹¹ Egon Zakrajšek, Cointegration Basic Ideas and Key results, 2009, [M], Division of Monetary Affairs Federal Reserve Board

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- ✧ Make a residual series and test it using ADFt as I did with the others variables, but this time I should find stationary at the Level not at the 1st difference, not at the 2nd difference either so that I can run the cointegration test.
- ✧ If I conclude cointegration in relation (1) ; then I estimate the error-correction model (ECM) then we can say that we have an equilibrium relationship between the Algerian economic growth as a proxy variable of the globalization and the modeling independent variables (export, import, and industry).
- ✧ ECM: it describes how the modeling variables behave in the **short run** consistent with a long run cointegrating relationship.

4-6- Engle-Granger Tests panel

I focus in this thesis on testing two causal relationships expected by the economic theory. Testing is done on the annually economic data of the Algerian economy. The prerequisite for cointegration is that series are non-stationary at level, and become stationary after 1 time difference. Unit root tests are be applied to test the stationarity of the series. To assert the cointegration among variables, there are two tests can be applied: Engle and Granger (1987) two-step test and Johansen-Juselius test (Johansen and Juselius 1990, Johansen 1995) (See Table (07), and Table (08))

4.6 Engle-Granger and ECM Test panel

4-6-1-Lag selection

This lag selection would be quite easy using the Eviews-9 lag selection criteria and we got the table (07)

Table 7 : Var lag order selection

VAR Lag Order Selection Criteria

Endogenous variables: LGDP LEXPO LIMPO

LINDUS

Exogenous variables: C

Date: 05/29/17 Time: 16:15

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Sample: 1960 2015

Included observations: 51

Lag	LogL	LR	FPE	AIC	SC	HQ
0	80.45088	NA	5.86e-07	-2.998074	-2.846558	-2.940175
1	319.3816	431.0124	9.38e-11	-11.74046	-10.98288*	-11.45096
2	337.5852	29.98237	8.71e-11	-11.82687	-10.46323	-11.30578
3	364.1312	39.55865	5.94e-11	-12.24044	-10.27073	-11.48776
4	384.5805	27.26579	5.30e-11	-12.41492	-9.839155	-11.43065
5	411.3732	31.52078*	3.84e-11*	-12.83816*	-9.656333	-11.62229*

Source: student work outcome using Eviews-09-

According to lag section criteria, the optimum number of lags should be chosen is lag=5

4.6.2 Error Correction Model:

Table 8: ECM

Dependent Variable: DLGDP

Method: Least Squares

Date: 05/29/17 Time: 15:15

Sample (adjusted): 1961 2015

Included observations: 55 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.018365	0.004803	3.823776	0.0004
DLEXPO	0.073833	0.048586	1.519631	0.1349
DLIMPO	0.097285	0.029931	3.250293	0.0021
DLINDUS	0.349634	0.051828	6.746110	0.0000
U1(-1)	-0.165557	0.053687	-3.083767	0.0033
R-squared	0.813291	Mean dependent var	0.035196	
Adjusted R-squared	0.798354	S.D. dependent var	0.072012	
S.E. of regression	0.032337	Akaike info criterion	-3.938688	
Sum squared resid	0.052285	Schwarz criterion	-3.756203	
Log likelihood	113.3139	Hannan-Quinn criter.	-3.868120	

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F-statistic	54.44893	Durbin-Watson stat	2.104724
Prob(F-statistic)	0.000000		

Source: student work outcome using Eviews-09-

The estimated coefficient of the error correction term (- 0.16) is statistically significant at the 5 per cent level and with the appropriate (negative) sign. This suggests the validity of a long - run equilibrium relationship among the variables in equation (01). The estimated coefficient value of (- 0.16) suggests that the system corrects its previous period's disequilibrium by 16 per cent a year. In other words, Error correction term (ECM) correct the disequilibrium of the regression, the speed of its correction is: 16.55% annually¹⁹²

From our Error Correction Model, we can see that the sign of D (ECM) is negative, and it is significant (p-value < 5%) → this result give validity to our model; our variables have also short run equilibrium relationship.

Short run equation

$$DLGDP = 0.0183651583761 + 0.0738329739215 * DLEXPO + 0.0972848956758 * DLIMPO + 0.349634076388 * DLINDUS - 0.165557159739 * U1(-1)$$

Table 9: ADF test for the ECM

ADF Test Statistic	-5.30402 < 0.01	1% Critical Value*	-4.949133
		5% Critical Value	-4.443649
		10% Critical Value	-4.193627

*Vogelsang (1993) asymptotic one-sided p-value.

Source: student work outcome using Eviews-09-

¹⁹² We are using annual data , that`s why the correction is annually

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From the table above, it's very clear that ADF test for the residuals (ECM) is less than the MacKinnon and Vogelsang critical values so that confirm that our model that led us to reject the null hypothesis, which means that our model has no unit roots, meaning that there is a cointegration relationship among the variables.

4-7- Johansen-Juselius Test

In a multivariate system the Johansen-Juselius method of testing cointegration between a set of variables is preferred to the Engle-Granger two-step procedure. It is expected to examine the question of cointegration and provide not only an estimation methodology but also explicit procedures for testing the number of cointegration vectors as well as the restrictions suggested by economic theory in a multivariate setting. Import demand involves five variables, so we use Johansen and Juselius test. Table (05) tells the results of Johansen-Juselius cointegration tests for the series, From the Trace test and the Max-eigen value test indicates 1 cointegrating equation(s) at the 5% level.

The Johansen test has two forms: the trace test and the maximum eigenvalue test. Both forms/tests address the Cointegration presence hypothesis, but each asks very different questions.

Trace Test

The trace test examines the number of linear combinations (i.e. K) to be equal to a given value (K_0), and the alternative hypothesis for K to be greater than K_0

$$H_0: K = K_0$$

$$H_1: K > K_0$$

To test for the existence of Cointegration using the trace test, we set $K_0 = 0$ (no cointegration), and examine whether the null hypothesis can be rejected. If this the case, then we conclude

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there is at least one cointegration relationship.

In this case, we need to reject the null hypothesis to establish the presence of Cointegration between the variables.

Maximum Eigenvalue Test

With the maximum eigenvalue test, we ask the same central question as the Johansen test. The difference, however, is an alternate hypothesis:

$$H_0: K = K_0$$

$$H_1: K = K_0 + 1$$

So, starting with $K_0 = 0$ and rejecting the null hypothesis implies that there is only one possible combination of the non-stationary variables to yield a stationary process.

Johansen-Juselius likelihood

Table 10: Johanson-Jeselius likelihood

Date: 05/29/17 Time: 16:17

Sample (adjusted): 1966 2015

Included observations: 50 after adjustments

Trend assumption: Linear deterministic trend

Series: LGDP LIMPO LEXPO LINDUS

Lags interval (in first differences): 1 to 5

Unrestricted Cointegration Rank Test (Trace)

Hypothesized	Trace	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.569077	82.40173	47.85613	0.0000
At most 1 *	0.405476	40.31048	29.79707	0.0022
At most 2	0.238044	14.31075	15.49471	0.0748

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At most 3 0.014247 0.717460 3.841466 0.3970

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized	Max-Eigen	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.569077	42.09125	27.58434	0.0004
At most 1 *	0.405476	25.99973	21.13162	0.0095
At most 2	0.238044	13.59329	14.26460	0.0636
At most 3	0.014247	0.717460	3.841466	0.3970

Max-eigenvalue test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by $b'S_{11}^{-1}b=I$):

LGDP	LIMPO	LEXPO	LINDUS
0.709080	-9.054776	-10.12355	17.08055
26.77436	-5.861392	-7.795799	-24.34338
9.669649	-6.007864	-26.01956	17.52896
-33.15853	11.25445	26.62515	3.307951

Unrestricted Adjustment Coefficients (alpha):

D(LGDP)	0.009845	0.014042	0.005046	0.000280
D(LIMPO)	0.055665	0.003965	-0.013667	0.001287
D(LEXPO)	0.017666	0.020150	0.017212	-0.001683
D(LINDUS)	0.010315	0.029888	0.004798	-0.002027

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1 Cointegrating Log
Equation(s): likelihood 418.5157

Normalized cointegrating coefficients (standard error in parentheses)

LGDP	LIMPO	LEXPO	LINDUS
1.000000	-12.76976	-14.27704	24.08834
	(2.24872)	(5.65557)	(7.43071)

Adjustment coefficients (standard error in parentheses)

D(LGDP) 0.006981
 (0.00347)

D(LIMPO) 0.039471
 (0.00768)

D(LEXPO) 0.012526
 (0.00694)

D(LINDUS) 0.007315
 (0.00692)

2 Cointegrating Log
Equation(s): likelihood 431.5155

Normalized cointegrating coefficients (standard error in parentheses)

LGDP	LIMPO	LEXPO	LINDUS
1.000000	0.000000	-0.047218	-1.345225
		(0.15941)	(0.16735)
0.000000	1.000000	1.114337	-1.991702
		(0.30734)	(0.32266)

Adjustment coefficients (standard error in parentheses)

D(LGDP) 0.382936 -0.171443
 (0.11031) (0.04442)

D(LIMPO) 0.145632 -0.527271
 (0.28945) (0.11657)

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D(LEXPO)	0.552037	-0.278068
	(0.24142)	(0.09723)
D(LINDUS)	0.807552	-0.268591
	(0.21327)	(0.08589)

3 Cointegrating	Log	
Equation(s):	likelihood	438.3122

Normalized cointegrating coefficients (standard error in parentheses)

LGDP	LIMPO	LEXPO	LINDUS
1.000000	0.000000	0.000000	-1.391699
			(0.04077)
0.000000	1.000000	0.000000	-0.894921
			(0.12781)
0.000000	0.000000	1.000000	-0.984246
			(0.07875)

Adjustment coefficients (standard error in parentheses)

D(LGDP)	0.431733	-0.201762	-0.340434
	(0.11409)	(0.04947)	(0.11614)
D(LIMPO)	0.013480	-0.445163	-0.238832
	(0.29882)	(0.12956)	(0.30419)
D(LEXPO)	0.718470	-0.381475	-0.783775
	(0.23938)	(0.10379)	(0.24368)
D(LINDUS)	0.853947	-0.297417	-0.462273
	(0.22527)	(0.09767)	(0.22932)

Source: Ph.D student estimation using Eviews-09

The coefficient Wald test

Wald test here is used to test the joint significance of a subset of coefficients, namely, export, import, and industry. These three variables are individually significant based on t-tests with very low p values. But before dropping them together, we may want to test the joint

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significance of them using Wald test.

$$H_0: C(1)=C(2)=C(3)=C(4)=0$$

$$H_1: C(1)\neq C(2)\neq C(3)\neq C(4)\neq 0$$

Table11: Wald test

Wald Test:

Equation: EQ02

Test Statistic	Value	Df	Probability
F-statistic	660620.2	(4, 52)	0.0000
Chi-square	2642481.	4	0.0000

Source: Ph.D student estimation using Eviews-09

P-value is very significant (0.000000) and less than 5% , we reject our H_0 and we accept the alternative hypothesis , so that the variables are significant jointly.

From the previous chapter we talk about the spurious model; so, one can ask:

Is this model spurious? It quit easy to answer this question, If $R\text{-square} > \text{Durban -Watson Value}$ → The model is a spurious model. Then, we have to check the residual if they are serially correlated. As first step, we can say that our model is not a spurious model because each time of estimation we got $R\text{-square} < \text{Durban -Watson Value}$

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4-8-Diagnostic test panel

A model is developed and then normality of residuals is evaluated in time-series analysis. Examine the normalized plot of residuals for the model before evaluating an intervention. Transform the DV if residuals are non-normal. The normalized plot of residuals is examined as part of the diagnostic phase of modeling, as discussed in Section and demonstrated in Section in the last section (The results are shown in the Graph (03)in the Appendix), The usual square root, logarithmic, or inverse transformations are appropriate in the event of non-normally distributed residuals. Furthermore, we check the stability of the import demand function and applied a battery of diagnostic tests in this regard. The Breusch-Godfrey LM test demonstrates no indication of serial correlation. No evidence of autoregressive conditional heteroscedasticity (ARCH) was confirmed by ARCH Lm test. Ramsey’s RESET test validates the functional form used in the study.

To enforce our model, let us check it’s Serial correlation; for a good model it no serial correlation. For the serial correlation test, we can put the following hypothesis:

H0: The model has serial correlation

H1: Our model has no serial correlation, rejecting the null hypothesis

Table 12: Breusch-Godfrey Serial Correlation LM test

F-statistic	2.640460	Prob. F(2,48)	0.0817
Obs*R-squared	5.451305	Prob. Chi-Square(2)	0.0655

Source: PH.d student estimation outcome using Eviews-09-

We have: $0.06 > 0.05$; so we accept the null hypotheses

Table 13: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.380793	Prob. F(4,50)	0.8213
Obs*R-squared	1.625959	Prob. Chi-Square(4)	0.8041
Scaled explained SS	5.148605	Prob. Chi-Square(4)	0.2724

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Table14: Q-test of residuals

Date: 06/01/17 Time: 11:33
 Sample: 1960 2015
 Included observations: 55

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob
		1 -0.22...	-0.22...	3.0083	0.083
		2 0.171	0.126	4.7427	0.093
		3 -0.01...	0.052	4.7544	0.191
		4 -0.06...	-0.08...	5.0351	0.284
		5 0.337	0.324	12.154	0.033
		6 -0.18...	-0.05...	14.397	0.026
		7 0.127	-0.01...	15.447	0.031
		8 -0.12...	-0.07...	16.422	0.037
		9 -0.03...	-0.06...	16.509	0.057
		1... 0.185	0.104	18.884	0.042
		1... -0.11...	0.018	19.855	0.047
		1... 0.131	0.034	21.104	0.049
		1... -0.22...	-0.14...	24.701	0.025
		1... 0.002	-0.07...	24.701	0.038
		1... 0.002	-0.05...	24.702	0.054
		1... -0.00...	0.062	24.702	0.075
		1... 0.068	0.028	25.080	0.093
		1... -0.12...	0.019	26.318	0.093
		1... 0.025	-0.01...	26.372	0.120
		2... 0.013	0.031	26.387	0.153
		2... -0.06...	-0.11...	26.713	0.181
		2... 0.044	-0.04...	26.901	0.215
		2... -0.08...	0.022	27.535	0.234
		2... 0.061	0.067	27.916	0.264

Source: PH.d student estimation outcome using Eviews-09-

From the table above, it's clear that all the point are included into the intervals so that confirm the cointegration relationship among the variables.

The Q-test of residuals seems no problem, the AC and PAC are significant at 24 period

From the diagnostic test one can conclude that: their statistics show no evidence of misspecification of functional form, no serial correlation, nor any problem of heteroscedasticity. The stability of any function is very crucial over the sample period for the efficacy of any policy .The stable globalization is a symptom of efficient Algerian economic activities policymakers.

For a correct model: we should have:

- ✓ Residuals should not be Heteroscedasticity:

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- ✓ Residuals Not be serially correlated
- ✓ Should be normal distribution

We checked these test, and we got a positive result which mean that our variables are really cointegrated.

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4-9-Concluding remarks and interpretation

From the last presenting model, one can conclude that Globalization in its proxy -GDP- has a great impact on the Algerian economic activities.

All our variables are integrated at the first difference I (1), that`s why I run a cointegration test using E-G and J-J modeling steps

We faced the multi-collinearity problem that obliged us to omit the one variable which is agriculture and run the model with three independent variables, and they are: export, import, and industry.

From our Error Correction Model, we can see that the sign of D (ECM) is negative, and it is significant ($p\text{-value} < 5\%$) which give validity to our model; our variables have a long run equilibrium relationship.

We investigate the properties of Johansen`s (1988, 1991) maximum eigenvalue and trace tests for cointegration under the empirically relevant situation, then we conclude there is at least one cointegration relationship which enforce our findings.

Diagnostic tests statistics show no evidence of misspecification of functional form, no serial correlation, nor any problem of heteroscedasticity. The stability of any function is very crucial over the sample period for the efficacy of any policy .The stable globalization is a symptom of efficient Algerian economic activities policymakers.

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Conclusion

5-1-Conclusion

The primary objective of this study has been to estimate the critical parameters of globalization and their impact on the Algerian GDP as a proxy variable for the Algerian economic growth.

The empirical results obtained show that, in both long run and short run, there are a positive and significant relationships between the economic growth (GDP) and the Algerian export. On the other hand, there is positive and significant relationships between the Algerian economic growth and it`s import in the long run, and also a significant relationship in the short run, and the same scenario between the industry as a independent variable and the GDP as a dependent proxy variable for globalization.

From what has given above, one can resume that Globalization is the process of international integration and the increase in the global trade of goods, services, capital, and technology. It is also, the core benefits of globalization are explained by comparative advantages of producing certain products in various countries. On the other hand, disadvantages of globalization include the destruction of certain domestic industries, potentially high costs if mismanaged, and increases in wages.

The considerable gap in the past between the economic theorist, who had much to say about equilibrium but relatively less to say about dynamics and the econometrician whose models concentrated on the short-run dynamics disregarding the long-run equilibrium, has been bridged by the concept of cointegration. In addition to allowing the data to determine the short-run dynamics, cointegration suggest that models can be significantly improved by including long-run equilibrium conditions as suggested by economic theory.

The generic existence of such long-run relationships, in turn, should be tested using the techniques discussed in chapter (03) to reduce the risk of finding spurious conclusions. The literature on cointegration has greatly enhanced the existing methods of dynamic econometric modeling of economic time series and should be consider nowadays as a very valuable part of the practitioner`s toolkit.

Although the methods used to obtain these results are quite computationally intensive, they are entirely feasible with current personal computer technology. The use of response surface regressions to summarize results is valuable for two reasons¹⁹³. First, this approach allows one to estimate asymptotic critical values without actually using infinitely large samples¹⁹⁴. Second, it makes it possible to tabulate results for all sample sizes based on experimental results for only a few.

The stationarity tests of the above four time series included in the Study showed that they are non-stationary and integrated of degree one. The variables were found to be cointegrated and, therefore, possess a long-run equilibrium relation. Also, the error correction model (ECM) was used to specify the short-run dynamics for Algeria growth using Engel-Granger approach.

The method used is an Error correction model testing approach to cointegration, developed within an Engel-Granger framework to investigate the existence of a long-run equilibrium relationship between Globalization patterns and Algerian economic growth, the results provide strong evidence that the summarized in the a stronger role in determining the long run as well as short run behavior of the globalization on the Algerian economic activities.

The policy implication is that difficulties in the import demand should be corrected through policies for income or growth, Although the exchange rate regime can improve the Algerian trade balance.

While in theory, the net effect of trade openness on budget balance is ambiguous, empirically trade openness increases country's exposure to external shocks regardless of whether it is related to the natural openness, which is based on structural determinants of trade openness, e.g. the size of the country and its geographical characteristics; or to trade-policy openness, which is determined by decision makers.

¹⁹³ Critical Values for Cointegration Tests,1-2010 working paper, QED(Queen`s Economics Department), James G. MacKinnon ,Queen`s University

¹⁹⁴ Tahraoui khadidja, 2013, Algeria Import Demand : Cointegration Testing(1970-2010), Master`s dissertation paper, Business College ,Shanghai University

Each case can have a different solution but good policies will help in all cases, a broad array of targeted policies, such as the creation of a well adapted export incentive structure, a reduction in trade-related costs, and proactive public export promotion institutions can help promote export diversifications¹⁹⁵ which help the diversification of Algerian import.

Algeria has enormous possibilities to boost its economic growth, including huge foreign-exchange reserves derived from oil and gas. A development strategy targeting stronger, sustained growth would create more jobs, especially for young people, and alleviate the housing shortage the country is facing. The national strategic option is therefore to revitalize the process intended to diversify the economy starting with the non-oil sector¹⁹⁶ while deepening the reforms needed for the structural transformation of the economy.

In addition to what has given, Algeria have to do it`s possible to increase its tourism infrastructure , which mean ; effective governments improve people`s standard of living by ensuring access to essential services-health, education, water and sanitation, electricity, transport-and the opportunity to live and work in peace and security.

To conclude, as a simple Algerian citizen I hope that the Algerian government can deal as fast as it`s possible in order to treat this living period and so on , the rationale measures and austerity can go in same way with globalization to decline (or move away) the actual stress on the Algerian economy.

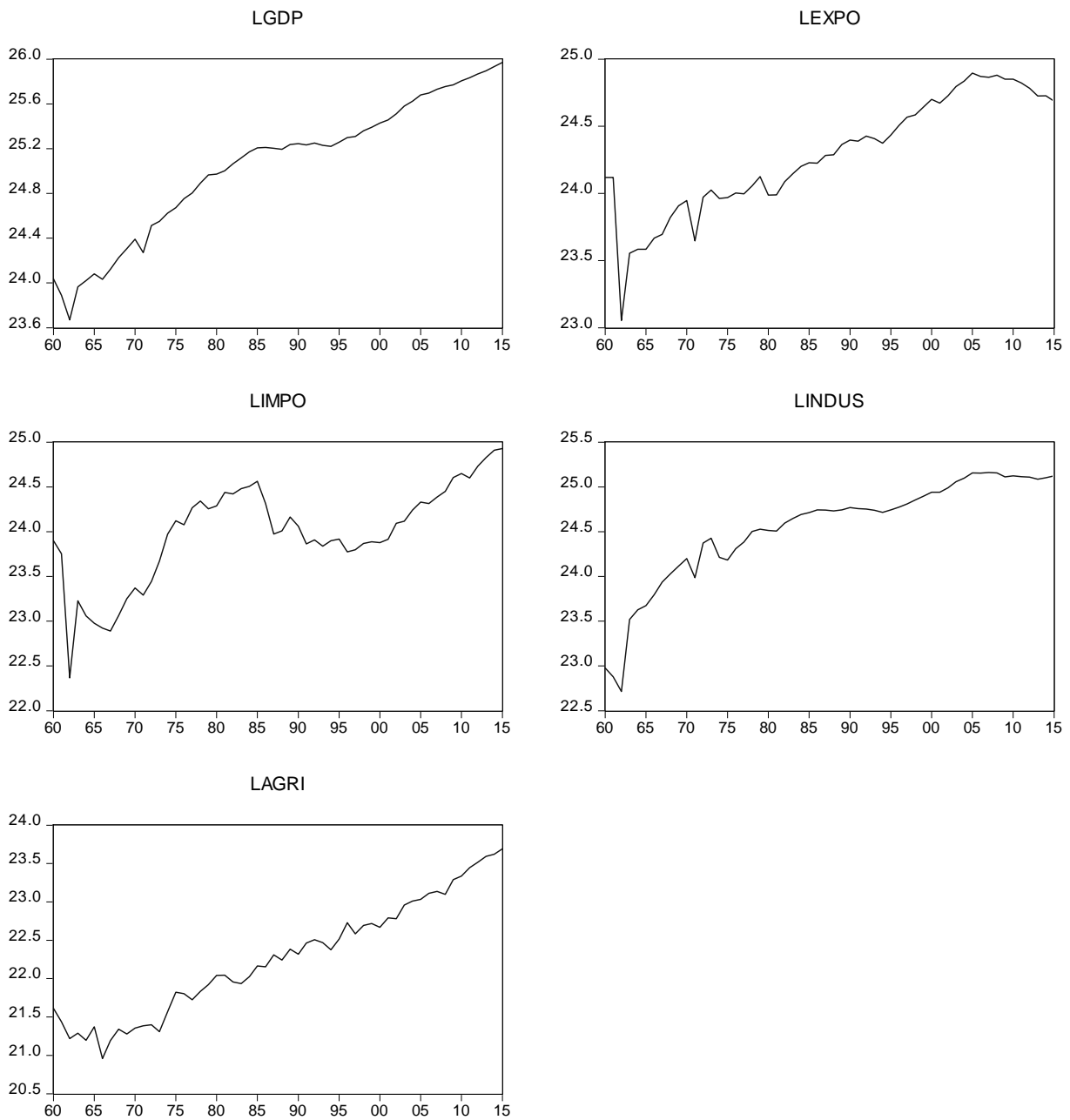
¹⁹⁵ World Bank (2009)

¹⁹⁶ www.wikipedia.org/wiki/Economy_of_Algeria

Appendix

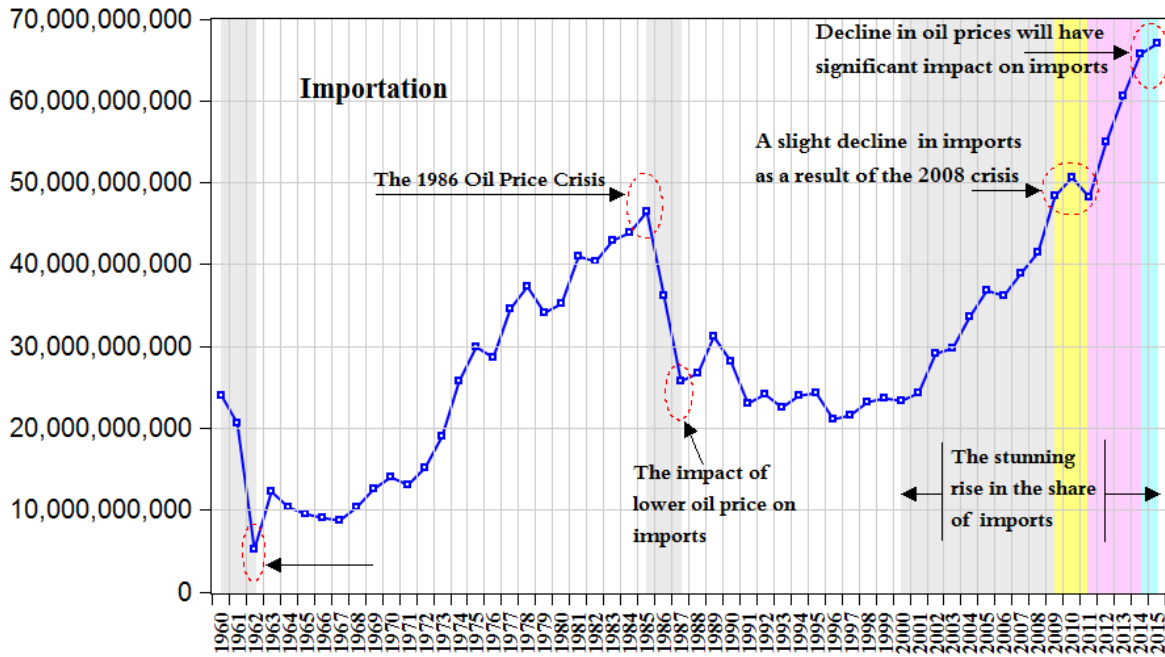
Appendix

Graph (01): multiple graphs for the model variables (GDP, Import, Export, Agriculture, Industry)



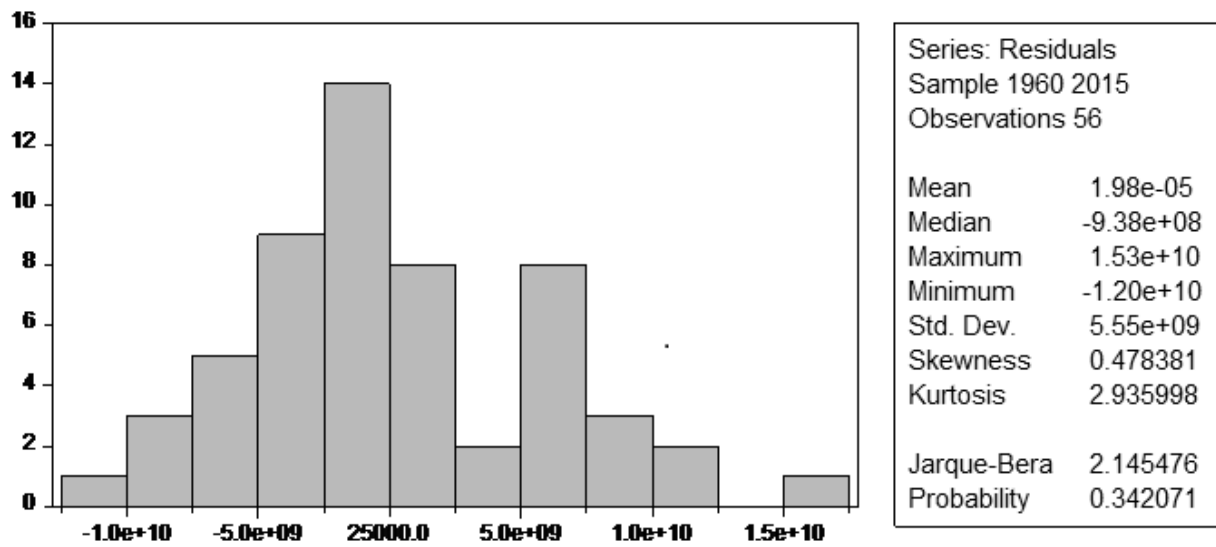
Source: PH.d student estimation outcome using Eviews-09-

Graph (02): Algeria Importation (1960-2015)



Source: PH.d student estimation outcome using Eviews-09-

Graph (03): Normality test



Source: PH.d student estimation outcome using Eviews-09-

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Abstract

In this thesis, we investigate the impact of globalization and trade openness on the economic growth of Algeria by econometric testing using a Cointegration model (E-G & JJ modeling). In order to examine the existence of a causal relationship (both long run and short run) between economic growth and globalization in terms of trade openness measured by exports and imports of Algeria and industry as well, the Granger causality was used with vector auto-regression methodology along with two different approaches for testing of cointegration; Johansen's cointegration procedure showed that all the above-mentioned variables are co-integrated implying these macro economic variables have long-run equilibrium relationship with economic growth via GDP growth.

Keywords: Algeria, Export, Import, Economic Growth, Agriculture, Industry, Cointegration, Granger Causality.

Résumé :

Dans cette thèse, nous étudions l'impact de la mondialisation et de l'ouverture dans le commerce sur la croissance économique de l'Algérie par des tests économétriques utilisant un modèle de Cointegration (E-G et JJ). Pour examiner l'existence d'une relation causale (à long terme et à court terme) entre La croissance économique et la mondialisation en termes d'ouverture commerciale mesurée par les exportations et les importations de l'Algérie et par l'industrie algérienne, la causalité de Granger a été utilisée avec la méthodologie de régression automatique vectorielle (VAR) avec deux approches différentes pour tester la cointegration.

الملخص:

في هذه الأطروحة، سنحاول دراسة تأثير الانفتاح والتحرير (العولمة) على النمو الاقتصادي للجزائر وذلك باستخدام طرق الاقتصاد القياسي (التكامل المشترك و سببية غرانجر).

النتائج المتحصل عليها تؤكد وجود علاقة سببية بين الناتج المحلي الإجمالي و المتغيرات المستقلة

(صادرات، واردات، صناعة) كل من تقنية " جوهانسون " و نموذج تصحيح الخطأ (ECM) يؤكدان

وجود علاقة تكاملية بين المتغيرات محط الدراسة.