

# Global Value Chain, Low-value Segment and Export Dynamics in the

# Automotive Sector in Morocco

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**Abstract:** The growth through export became the regular political process in developing countries. The automotive sector affected by the globalization of value chain knows growing trend of exports to Morocco (18.2% growth in 2012 against 9.1% in 2008) and particularly to development of new production segment low cost (Wiring, Seat/Seat cover, Plastic ...). This suggests that the low value segments increases the growth of the sector's exports and production exported vehicles. This paper tests this hypothesis. This evidence collected from macroeconomic data of sector automotive during the period 2008-2012 support the hypothesis and found clearly the facts. Finally, the proximity to markets plays an important role for these segments with low value of production.

**Key words:** global value chain (GVC); export dynamics; proximity; low-value segment automotive sector; Morocco

**JEL codes:** F19, L62, F69

# **1. Introduction**

Often referred to by the terms "geographical fragmentation of production", "vertical disintegration" or "slicing of value chain", the "global value chains" or GVC is defined as a complex structure of international production, from product design to final use, increased commercial interdependence between countries and thus creates a new commercial reality worldwide. We are witnessing a narrow industrial and commercial interconnection between countries. This interconnection has opened a more focused way to a global and regional integration facilitating trade within supply chains. The world trade experienced a significant rise following increased exchanges intermediate goods in the world. In 2009, world exports of manufactured intermediate goods by value far exceeded exports of consumer goods and equipment goods, reaching nearly 51% of total exports of goods excluding energy. The year 2012 was also followed an upward trend continues.

The globalization of value chains strongly influences the growth of exports from developing countries. The automotive sector affected by the GVC has been trending higher exports to Morocco. Sector exports increased from 14.476 billion dirhams (1.750 billion dollars) in 2008 to 22.920 billion dirhams (2.770 billion dollars) in 2012 (Ministry of Industry). This export dynamics are positive developments on some new production of low-cost

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segment (wiring, seat cover, plastic ...) and are easily exported to approximate markets like the European market for Morocco. Moreover, if the automotive sector has been chosen as a sector of growth for the national economy under "Plan Emergence" (PE) launched by the government in 2005, this is because the automotive industry remains one of the sectors that are distinguished by annual growth rates to double-digit investment and exports. Mainly, positioned on the "Low-Cost", the automotive industry has received great support from the state through its industrial policy based on an incentive and attractive environment, a dedicated infrastructure as part of integrated industrial platforms, and a training plan focused on priority skills of Morocco (wiring, stamping part, surface treatment, automotive and specialty manufactured...). The strategy set as its main objective to bring foreign manufacturers to invest in Morocco. Indeed, the country seeks to position itself among the LCC (Low Cost Countries) to attract business outsourcing and offshoring of American and European who need to stay competitive. On the international market, there is really a business opportunity to capture with conventional industrial fear that increasingly the arrival of competition from Asian countries, including China and India. The competition that promises to "cut prices". Finally, with the new industrial policy in 2009 called "Pacte National pour l'Émergence Industrielle" (PNEI) continues to support the Moroccan automotive sector.

In our analysis of the observation at the basis of macroeconomic data on exports in the Moroccan automotive sector between 2008 to 2012, we assume that the product segments with low added value production increase and boost export growth in the sector. In addition, we also add that proximity to markets can foster this dynamism.

Firstly we present in literature review, some lessons from the relationship of the phenomenon of global value chains and international trade dynamics in export growth for developing countries. In addition, how specialization in low value segments and proximity to markets can help the growth of a sector. Secondly, after giving an overview of the automotive industry in Morocco as fields of study, we show, in terms of our methodology, the use of macroeconomic data exclusively for export in the automotive sector in Morocco from 2008 to 2012 in three levels of observations: (1) Global Export; (2) Exports by product and product segment and (3) Exports by destination. Third, a brief interpretation of the results will show on the observed data, and finally a conclusion of this paper.

### 2. Literature Review

The emergence of networks of production and exchange around the world has given birth to the phenomenon of globalization of the value chain. This economic phenomenon was induced by a combination of technical, institutional and political change leading to the emergence of global value chain (IDE-JETRO and WTO, 2011). The global value chain or GVC is defined as:

"A complex production structure describing a set of full range of activities to get a product or service from its conception to its end use, and how these activities are distributed geographically and across international borders".

(Description adapted by GVC Initiative, Duke University, http://www.globalvaluechains.org).

The GVC are complex production structures and international supply. The concept was made as part of the lineage system value management concept of value chain defined by Porter (1980). The value chains represent the various stages leading to the finished product (Porter, 1980). Otherwise, a shared production within the company. These steps are a succession of production activities (value added), from product design to manufacturing and finally to its final marketing. Value chain can break down the activity of the company sequence of elementary operations and identify potential sources of competitive advantage (Detrie et al., 1993 in Strategor, p. 45). The

concept of value chain is mainly used in strategic analysis and business management. It is considered as a systematic approach to examine the sources of competitive advantage. Separation of activities within the firm given rise to a distribution of activities at the international level reflecting the specialization of nations. National economies specialize in specific activities, which give rise to trade. International exchange between nation allows expand the division of labor and thereby makes more efficient. This extensive division of labor among nations is already a recent phenomenon, promoted by reducing transaction costs and communication (Duranton & Puga, 2005; Defever, 2006; Fujita & Gokan, 2005; Fujita & Thisse, 2006; Krugman & Venables, 1995, 1996). Krugman (1995) was considered, through the sentence "slicing the value chain" that the international decomposition of the value chain is one of the four most important stylized facts of the current global trade. However, the problem of decomposition of the international value chain is a subject still little studied international economics. Moreover, very little theoretical or empirical work directly refer to this concept. With the theory of international economics and theories of fragmentation this leads to consider firstly the productive system and secondly all service functions upstream and downstream production.

Baldwin (2009) studies the increase in trade intensity by GVC. He analyzed the potential effects of the rise of GVC using a new theoretical framework of trade. According to his study, the new trade theory is favored by GVC because it to analyze the distribution of space activities, especially characterized by a core and a periphery model. This distribution allows better product segments located in areas of efficient production. Globerman (2010) reviews the theoretical foundations of international trade and the location of the company. Following these remarks, the trade taking place within the GVC produce the same benefits as those of international trade, but stating that this trade is at a finer level of disaggregation and encompasses more services, which should lead to additional gains from trade. Thus, the expected gains from trade theory hold in the presence of GVC. Although, the importance of GVC in trade is difficult to measure, Sydor (2011) to give one of the most obvious is the changing ratio Trade/global GDP increased from about 22% in 2009 to climb to just over 24% at the end of 2010. This growth in Trade/GDP ratio in the world shows the growing influence of global value chains in international trade. In addition, the growth of intermediate inputs arising from the fragmentation of production worldwide trade is responsible for a large share of trade growth in world GDP (Sturgeon & Gerrefi, 2009). Sturgeon and Memedovoc (2010) show that with a classification system improved the exchange of intermediate inputs rose faster than total trade. Beltramello, De Backer and Moussiegt (2012) also study the effect of GVC in the export performance of country. The GVC now play an important role in the policies of national economies. In addition, with the appearance significant of intermediate trade the volume and diversity of exchanged and manufactured products experienced an increase. This increase shows the influence of the globalization of manufacturing production.

For developing countries, it is mainly product segments with low added value, which are the most preferred production in these countries and their trade largely increases in their exports and thus growth. In the production process of a product there are different sub segment products and activity of lower value-added production to the highest value. The majority of developing countries have mainly factor that promotes specialization in low value-added segments of production: labor cheap, intensive and qualified, standard production, foreign trade zones, resource and raw material available and accessible, proximity of large market ... These factors have most developing countries are the main benefits of privileged product segments with low added value. Returning to the model Ricardo, in 1817, the theory of international trade was dominated by the concept of "Comparative Advantage" in which each participant to trade will specialize in the production of the good (final) for which he has a comparative

advantage. However, due to the complex phenomenon of international production of goods each country will specialize on the comparative advantage of "tasks" or "segments" that these countries are doing at a given stage of the GVC a final product. Trade in parts, components and accessories encourage specialization in developing economies. This is gives rise to an exchange of tasks that adds value throughout the production chain of a product adopted by developing countries. These countries is more adaptable to the production tasks of standard product containing low value in its production and allows to export these products quickly and easily. The upgrade to product segments with a higher added value is necessary and indispensable for retained their place in the chain and be more integrated to avoid being spread by competition and disappear completely. The high-value activities are critical importance to maintaining and improving the level of living.

According to their role in the GVC, some countries specialize in exporting product segment requires a highly skilled workforce or moderately qualified, while others focus on activities with high labor intensity low qualifications or see as the United States tend to specialize in the all segments. Feenstra and Hanson (1996, 1997) extend from the Heckscher-Ohlin framework but divide the process of producing a final good or service a number of activities. These activities are then linked to the location where they can be executed in the most efficient manner. Contrary to Grosseman and Rossi-Hansberg (2008) where their business model refers to the task rather than activities. The value is a case of aggregation in the activities composed of tasks. Thus, an activity such as legal services, for example, can be divided into distinct tasks such as providing legal advice to high value or performance of administrative tasks of lesser value. Segments contain specific low value assets at lower cost or even non-specific assets that facilitate their production advantage in parallel within the production zone function: labor cheap and qualified for production product, infrastructure, tax incentives...

Market proximity plays an important role in the formation of its segments. This proximity will have the advantage of serving the nearby market to absorb the high demand, the speed and availability of products and orders. Geographical proximity to markets is essential. From economies of scale, geographical proximity is a key element in the emergence of international trade in goods from segment value chains of a final product. In this case, companies will settle approximatively to their customers and their suppliers to reduce their transportation costs and gain an advantage over their rivals (Sydor, 2011). Large densely populated centers attract production, resulting in a process that feeds on itself, as companies engaged in upstream and downstream after the current and emerges to clusters (Sydor, 2011). Countries specialize and thus become more efficient in production due to the presence of economies of scale (Krugman, 1980). Following the geographical proximity to the market, countries such as developing countries can benefit from trade gain. Gains from trade can arise from a reduction in costs due to economies of scale, more efficient use of resources, mitigation of distortions when approaching competition and a wide variety product. In the case of manufacturing, the centrifugal forces begin to influence and tend to expel activities away from major centers, but keeping proximity to markets for labor and delivery by localizing to the central regions (Centre-Periphery mode, Krugman, 1991).

Most developing countries are only promote the arrival of foreign companies originally developed countries to come installed on their territory so that their production or their country. The global value chain is mainly on the motivations that have led businesses fragmented production and distribute them in different places in the world. This is usually due primarily to the decision by companies seeking competitive advantage and profit. Therefore, the arrival of foreign company promotes specialization of developing countries in new segments and will help develop the growth of a sector see the emergence of new industry.

Production of a product like Car, Plane, Ship, Computer, Camera ... is increasingly fragmented worldwide.

These products include several sub-segments of products and components for manufacturing. Each country must specialize in one of the segments or components for which he obtained a benefit and a gain on the exchange. In Figure 1, we see clearly shared a product (Car) in different countries production. Each country specializes in each segment by product and there are countries that have the ability to specialize in almost all segments. However, it should be noted that companies in these countries are often installed in emerging or developing countries which provides specialization in turn on different product segment generally low value and benefit gains exchange companies since it is regularly exporting to other countries with large market potential.



Although the concept of Global Value Chains (GVC) has not been a general definition (Younes, 2012) and it belongs to a different concepts that are associated with: International Chain (Rastoin et al., 2006; Raikes et al., 2000), Global Commodity Chain (Gereffi & Korzeniewicz, 1994), Global production chain or International Supply Chain. GVC is simply a physical and geographical fragmentation of business processes globally. GVC allows the specialization of countries in product segments or activities for which they can gain an advantage in trade, thus enhancing their trade. The installation of foreign companies in developing countries is conducive to specialization in new segment value. We show an observational study in the automotive sector in Morocco strongly influenced by the global value chain of automotive production.

### 3. Methodology

The global automotive industry has been marked over the past decade by a evolution in world demand for manufacturing countries and the amplification of the phenomenon of outsourcing has enabled many developing countries to develop an automotive industry and to generate additional export flows very important. Our study is based on the Moroccan automotive sector through observation export data in this sector.

#### 3.1 Scope of the Study: The Moroccan Automotive Sector

In recent years, several large countries accelerate the process of trade opening. This acceleration resulted in some emerging economies, though to the availability of important factors of production, develop new industries Morocco is also part of this strategy of trade liberalization. The main initiative in this context is "Plan Emergence" introduced by the government in 2005 which is based on two complementary knowledge managements in the existing fabric and proactive targeting growth engines dimensions.

Moroccan automotive sector is part of the government strategy considered the key sector of the new global business in terms of export performance achieved during the past five years between 2008 and 2012 though to foreign direct investment in this sector is 3.6 billion dirhams (43.9%) in 2012 against only 913 million dirhams (19.2%) in 2010 total receipts of foreign direct investment in manufacturing. Do not forget also the resistance of the Moroccan automotive industry is facing world economic crisis in 2008 whose effects have not affected segment of the automotive industry even if its effect was felt on domestic suppliers.

The automotive industry in Morocco is generally represented by the local assembly, the automotive manufacturer and automotive supplier also called the automotive equipment. The industry of automotive equipment or "automotive sub-contracting" is one of the first industries worldwide. The global trade in automotive products industry accounted for in 2009 and 2010, 7% of world merchandise exports, a percentage that reflects the importance of this industry in the development of the global economy (Committee of french automotive manufacturers). In Morocco, the automotive supplier is represented by several actors, each of which has an important role in the functioning of the chain of automotive suppliers.

Each enterprise participating in the network of automotive suppliers plays an important role in the functioning of the value chain Moroccan automotive sector. Figure 2 below shows a representation of the value chain in the Moroccan automotive industry.





Source: Author's figure 2 is based on the source of Ministry of Commerce, Industry and Upgrading of the economy. See report DEPF (2005).

#### 3.2 Method Chosen for Observation

Our study aims to interpret the facts noted in the macroeconomic data on exports of the automotive sector in Morocco. We selected three types of macroeconomic data specifically on export Moroccan automotive sector.

3.2.1 Macroeconomic Data 1: Global Export

Use of this economic and commercial activity is considered as very important. It is generally designated as the sale of products (goods or services) from one country to another. This is especially crucial means to monopolize currency with which these currencies allow a country to intervene economically and financially on the outside market. The observation on global exports of Moroccan automotive sector aim to explain the evolution of the growth and dynamics of the sector.

3.2.2 Macroeconomic Data 2: Exports by Product and Product Segment

Data on exports by product and product segment are recorded at the base of the classification by the Harmonized System (CHS). The data taken on exports by product only concern products falling within Chapter number 11 Harmonized System (HS): "Automotive, Tractors, Cycles, Land Vehicles" (Code 87). On exports by product segment, data on the automotive sector are established on the basis of lists of operators, provided by the Ministry of Industry, Trade and New Technologies, with a breakdown by segment.

The observation on exports by product and product segment of the automobile in Morocco aim to show the importance of strong product segments with low value added in total products exported Moroccan automotive sector.

3.2.3 Macroeconomic Data 3: Exports by Destination

The Exports by destination consider principal countries where the Moroccan automotive sector exports more. The observation on exports by destination has for objective to better highlight the importance of a strong proximity to the European market.

All data taken at the three types of exports were mainly taken from the figures published by the Office of Changes (in French: "Office des Changes").

Office of Changes: is a public institution with legal personality and financial autonomy. This facility allows the state to enact measures relating to exchange control regulations but its main role to establish and publish statistics of foreign trade and Morocco's balance of payments.

We also have opted for observation periods from 2008 to 2012 and from 2010 to 2012. This choice is made based on data obtained from the strong rise in Moroccan automotive sector during this period coinciding the subprime crisis in the United States in 2008 perturbed the global markets.

Finally, the majority of statistical data used in this study were rounded million dirhams (MDH). The "dirham" is the official currency of Morocco. This is the Moroccan monetary currency represented by the acronym "MAD" (ISO code: 4217). However, we are converting some values in U.S. dollars (USD) in order to better present the values in a universal currency. The conversion is made by the court 1USD = 8.27260 MAD (www.xe.com).

# 4. Results

The automotive sector in Morocco is characterized by a strong international opening. An increasing trend in exports sector is found between 2008 and 2012. In addition, new business sector grows and product segments with low value are the most exported and are experiencing a continued growth. Destination of exports of automotive sector is oriented mainly to the European market, which concentrates in itself a significant share of exports in the global automotive sector.

#### 4.1 Global Export

Moroccan automotive sector has seen a trend towards higher exports. According to amounts published by the Ministry of Industry in Morocco the total sector exports have increased from 14.476 billion dirhams in 2008 (1.750 billion dollars) to 22.920 billion dirhams in 2012 (2.770 billion dollars) with an average growth of 11.3% during this period.

We can see in Figure 3 a slight decrease between 2008 to 2009 with 1.845 billion dirhams less than 12.7% decrease. Certainly, the automobile sector in Morocco is only slightly influenced by the international crisis of 2008. The effect of the crisis and certainly competition cars, gave a halt to the growth observed since 2003 in Morocco.





We note in the amounts given this time by the Office of Changes relative the exportations of automotive industry in the global exportations in Morocco. We observe effectively over a period of 5 years (2008-2012) an upward trend of total exports of the sector. Indeed, in Figure 4, the automobile industry has generated an additional export of 12.4 billion dirhams (25.164 against 12.738). This performance has contributed to the overall development of Moroccan exports of around 18.2%. Thus, the share of industry exports in total Moroccan exports rose 13.6% in 2012 (and 18.4% in the total export outside OCP (Office Chérifien des phosphates) against 9.1% in 2008 (and 13.2% in the total export outside OCP). We also add that the Moroccan automotive sector is characterized, from 2009, with a positive trade balance that generates a surplus of around 3.6 billion dirhams in 2011 and 2.5 billion dirhams in 2012 (Office of Changes).



Share of exports in the automotive industry in total exports (%)

Figure 4 Share of Exports in the Automotive Industry in Total Moroccan Exports Source: Office of Changes

The effects of public policies have the greatest contribution cope with this growth sector exports. We should know that 2005 was the start of the named "Plan Emergence" government program that has facilitated the sector and attract more foreign subcontractors to settle in Morocco. He also encouraged the emergence of new Moroccan suppliers. However, several of them are multidisciplinary (Building, automotive, heavy industry, chemistry and para-chemical ...): they operated initially in other sectors and subsequently diversified their activities by engaging in automotive equipment, niche carrier found. Then, a second government program called "Pacte National pour l'Émergence Industrielle" (PNEI) was launched in 2009 to further develop the sector. The results given in Figure 5 and Figure 6 show the effect that can have the implementation of State's industrial policy in the automotive sector in Morocco.

Finally, we see clearly that the Moroccan automotive sector experienced a growing evolution of its total exports. We will see that these exports are mainly represented by products and product segments with low added value allowing increasingly dynamic global exports of automotive in Morocco.

## 4.2 Exports by Product and Product Segment

The evolutionary growth of total exports of Moroccan automotive sector is largely due to the increase in export of products and product segment with low added value such as wiring, the cover seat, plastic processing ... Concerning the export product, we observe 11 automotive products exported in 2008 and 2010. Comparing the two periods, we see an increase in value for each exported product. The product "ROUE.PART "(Wheel) to known the strongest growth with 10.9 billion dirhams (12.7 against 1.8) is an evolution of 60.4% in 2010. Conversely, 11 products have experienced a progression to higher amount of export.

If we combine the export wirings (CAB = Câblages) namely products "CAB. D'EMBRAY. GAIN", "CAB.START & VAC", "CAB. FREIN.GAIN" and "CAB.CAPOT.GAIN" in one segment we can see in Figure 5 and Figure 6 it includes itself around 15.2 billion dirhams for 2008 (1.8 billion dollars) and 18.3 billion dirhams for 2010 (2.2 billion dollars). In terms of growth in this segment, the amount to move up reaching an additional 3.1 billion dirhams or 20.6% increase in 2010. The activity of wiring in Morocco is very important in the sector. Indeed, the wiring is particularly concentrated with 8 companies producing 79% of exports. These operators are mainly abroad specifically: Japanese, American, French and German.

(Million of dirhams)



Figure 5 Exports by Product in 2008 Source: Office of Changes



Source: Office of Change

Overall, exports of parts and components of the vehicle are exported to more than 50% of exports of the automotive industry in Morocco in 2012. They achieved an increase of 0.53% over the period compared to 2010 with only 0.24%. This justifies the strong presence of new global automotive equipments in Morocco, the rise in volume of local integration and diversification of several products in the area.





Generally, the Moroccan automotive sector is experiencing a strong development of the production activity of the product, parts and components whose value is low. In fact, these products essentially require qualified but also intensive and cheap labor. In addition, with increasing exports of these products, the automotive industry mainly benefits the rise of factory RENAULT first and only automotive constructor currently living in Morocco. The arrival of the manufacturer RENAULT in Morocco has increased the number of new suppliers and subcontractors in Morocco and therefore the development of new product segment. These companies in the sector are positioned on industries using a skilled labor intensive, such as wiring harnesses, covers seat, assembly of electronic components ... In addition, three quarters of Moroccan manufacturers operating in the market for original equipment. According to the Office of Changes, the overall performance of the automotive sector is mainly due to the increase of 59% of export revenues manufacturers and therefore the performance of the Renault factory.

(Million of dirhams)

In Table 1, we also see a growing trend of automotive product segments of lowest value. Total exports by product segment of the automotive industry in Morocco have experienced an amount worth 25.1 billion dirhams in 2012 against 13.6 billion dirhams in 2008 is an additional of 11.5 billion dirhams. Primarily, the growth segment of the automotive industry in Morocco is due with the start of the activity of the industrial complex of RENAULT Tangier which has increased the export volume of vehicles 89.712 units, or 7.3 billion dirhams in 2012 against only 2.7 billion dirhams in 2011. However, the large part of the product segments exported back to the wiring segments. The activity of the wiring remains the least strong determinant of the automotive industry with sales accounting for nearly 59% of total exports of the sector. Despite the decline in 2009 due to the economic crisis, an export of "Wiring" segment has reached nearly 14.8 billion dirhams in 2012 against only 10.7 billion dirhams in 2008, i.e., a growth rate annual 10% throughout the period.

A third important segment is seats and seat's covers which exports amounted to 1.3 billion dirhams in 2012 against 1.2 billion dirhams in 2008. For other segments, all are growing their exports 2012 compared to the previous year 2011: Transformation of rubber (29.3%), Plastic processing (0.5%), Metal processing (60.8%), Heavy weight (82.9%), Other (18%). These observations of results show clearly the strong growth segments of low value-added products in total exports of automotive sector.

					(Million of dirhams)
Segment	2008	2009	2010	2011	2012
Wiring	10737	9015	14661	17603	14806
Automotive Construction	530	1044	1229	2705	7295
Seat/Seat's cover	1252	915	1189	1652	1303
Transformation of rubber	19	27	150	184	238
Plastic processing	282	246	220	216	217
Metal processing	118	149	153	130	209
Heavy weight	314	256	196	105	192
Other	407	373	599	766	904
Total	13658	12025	18397	23361	25164

 Table 1
 Evolution of Exports of the Automotive Industry by Segment

Source: Office of Changes

Development and export of product segments with low added value boosts exports of developing countries and hence economic growth sector, particularly in the case observed in this study on the automotive sector in Morocco.

Thus, the segment of the "Wiring" and "Seats/Seat's cover" are major employment-generating segments and weighed only had until 2011 to more than 80% of Moroccan automotive exports. However, due to the strong development of the complete vehicle assembly with the rise of SOMACA factory in Casablanca and especially the new facility the company RENAULT Tangiers, 2012 was a strong growth in exports the automotive industry in Morocco and generate high added value in the sector.

Re-exports after temporary admission for inward processing (Admission temporaire pour perfectionnement actif: ATPA) account for almost all (95% in 2011 and 99% in 2012) exports of the automotive industry. Value added generated by the automotive industry from re-exports after ATPA, amounted to 10.5 billion dirhams in 2011, and 9.8 billion dirhams in 2012, respectively 47.1% and 39.5% of the value of re-exports after ATPA. A growth in higher value-added compared to 2008 with only 5.8 billion dirhams (Office of Changes).

				(Million	of dirhams)
Entitled	2008	2009	2010	2011	2012
Imports temporary admission for inward processing (with or without payment)	7145	4805	7684	11796	15065
Re-exports after temporary admission for inward processing	12939	10704	17501	22287	24890
Added value	5795	5900	9817	10491	9824
Rate of added value (%)	44.8	55.1	56.1	47.1	39.5

Table 2	Value Added Generated by the Automotive Industry to Re-exports from the Following Temporary Admission for
	Inward Processing

Source: Office of Changes.

In fact, foreign direct investments (FDI) are generally the main driver of the dynamics of the Moroccan automotive industry. In fact, according to amounts observed the Moroccan exchange's Office, these investments are increasingly attracted by the low cost of skilled labor and reached almost 3.6 billion dirhams in 2012 or 43.9% of FDI in manufacturing. It is in the automotive construction that these investments are affected the most. The segment of "Automotive Construction" is increasing in Morocco due to the increased productivity of the segment, given the new created or provided for in the plan for emergence to attract new investment and promote industrial platforms, among others, the arrival of other manufacturers in Morocco (e.g., integrated industrial platform of Tangier (Tangier free zone, Tangier Automotive City) and Kenitra (Atlantic free zone, Kenitra Automotive City).

More generally, the essential is that the export dynamics of Moroccan automotive sector is due to the presence of companies from outside Morocco. Several foreign manufacturers and subcontractors are coming up their businesses in the territory following the strong approximation to the European market. Proximity to markets is an important growth and export dynamics of the Moroccan automotive sector.

### 4.3 Exports by Destination

Export of automobile sector in Morocco flows for nearly 94% of total sector exports to the European market in 2012. France is the top destination for exports of Moroccan automotive industry with 10.8 billion dirhams in 2012 against 7.9 billion dirhams in 2010. Moreover, two thirds of Morocco's trade is with France and Spain. They are involved in 2012 to 67% in the total trade conducted with foreign countries. The trade balance reached on transactions with these two countries remained positive during the last three years (2010-2012).

						(Million of airnams		
Pays	2010			2011		2012		
	Export	Import	Export	Import	Export	Import		
UE	16652	12431	22028	18187	23748	21056		
France	7989	3990	9088	5695	10865	8728		
Spain	5071	3057	8085	5010	7352	5189		
Germany	730	1998	507	2588	762	2959		
Italy	1321	761	1571	1134	1535	919		
Great Britain	698	52	1185	78	1276	70		
Egypt	440	7	290	7	764	1		
Turkey	470	80	468	181	194	210		
Tunisia	569	213	188	198	26	235		
United-States	4	102	7	117	34	249		
Others	261	1274	381	1088	396	967		
Total	18397	14107	23361	19777	25163	22718		
Trade balance	+18397		+3584		+2445			

Table 3 Exports of Morocco with Partner Countries in the Automotive Industry

Source: Office of Changes, Foreign Trade of Morocco, provisional edition, 2012.

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While competition is important in the global market of the automotive industry, Morocco continues to improve its competitive position in foreign markets. With 0.23% of global automotive exports in 2012, Morocco beat Tunisia (0.15%) and Egypt (0.08%) leading African competitors in the automotive sector (Office of Change). However, the position of Morocco is still far from Turkey (1.4%). In these results, it is clear that the European market has the largest share of Morocco's commercial transactions in the automotive industry.

In another observation of numbers, according to the manufacturer RENAULT-Morocco, nearly 72% of exports are destined for the European market (end August 2012). France is in first place with 44% of total exports, followed by Germany with 9%, Italy (8%), Belgium (4%), Spain (4%) and Romania (3%).

(Million of dirhams)



Source: Renault-Morocco/infographics. The Economist (*L'Economiste*)

The proximity to the European market is important to boosting exports of Moroccan automotive industry and particularly the export of product segments with lower value. The distance between Morocco and Europe is only 14 Km through proximity to the south of Spain (AMICA, 2013). In time, or 45 minutes by air between Tangier and Madrid and around 3 hours between Tangier and Paris. In addition, also with the freeway network and international airports, Morocco is experiencing a development of its infrastructure through integrated industrial export platforms (P2i) included in the free trade zones like the export processing zone in Tangier (Tangier Free Zone-TFZ) or the zone of export in Kenitra (Atlantic Free Zone-AFZ) specially dedicated to the automotive industry. The port of Tangier- Mediterranean (Tangier-Med) and the port of Casablanca promotes trade by sea across the main ports of European countries. This infrastructure allows easy transfer of goods to Europe. Moreover, near most major automotive constructor are originally from European countries such as RENAULT (France), FIAT (Italy), VOLKSWAGEN (Germany), etc. and several foreign manufacturers also install their subsidiary in different European countries such as GENERAL MOTORS (United States), TOYOTA (Japan), HYUNDAI (South Korea), etc.. In addition, there is a significant market for supplier and subcontractor networks in the European zone which allows a large flow of trade in goods. The access to a market where competition is global can force firms to engage in more innovative activities and therefore more dynamic gain from trade (OCDE,

2007). Market demand vehicle is also important in these countries especially with 507.4 million of the consumer (January 2014) and market of over 18 million vehicles. The European market is the third world power and the second demographic automotive market in the world after China. Finally, the Moroccan state has advanced status in its relations with the European Union. In Figure 9, we show a map showing the strong proximity of Morocco to the European market. This strong connection, facilitates commercial transactions and in particular the export growth of the sector. Moreover, given the strong presence of automakers and automotive suppliers account in European countries, this proximity will allow ease accelerating the production of parts and components companies based in Morocco demand of their client and therefore increase the export segment of products with low value of production.



Figure 9 Map of the Proximity of Morocco with Europe Source: Author

#### 4.4 General Findings of Observation

Moroccan automotive sector experienced over the last five years (2008-2012) increasing trend in exports. Segments with low added value as "Wiring" and "Seat/Seat's cover" for example promote dynamic export sector. Proximity to markets reinforced the movement of these segments in high demand by companies. We give below our two main findings of our study observatory exports in the automotive sector in Morocco.

First observation: The product segments low value increases the export growth of the automotive sector in developing countries as in the case of Morocco.

The automotive sector in Morocco is experiencing a strong influence of the global production of the automobile. The Moroccan automotive sector is poorly integrated into the global value chain of the automotive although experiencing a strong growth in some segments and differentiation of certain products for export.

The arrival of a car manufacturing company (e.g., RENAULT) allows the concentration and the increase in the number of companies in the automotive equipment and subcontractors. The strong presence of these companies increases the production and export of vehicles and automotive products: automotive parts and components.

The segments of product with low added value are exported to more than 50% of exports of the automotive industry in 2012. The activity of the "Wiring" is at best the strongest determinant of the automotive industry followed the "Automotive Construction" and the segment "Seats/Seat's cover".

Second observation: The flows of exports of Moroccan automotive sector are mainly for the European market. Finally, the proximity of market is favorable to the growth of low value-added segments

The proximity of a market is conducive to increased export flows and particularly low value segments. The production of low-value product that is most generally flows tense and large quantity according to customer's request (Just-in-time) and proximity plays an important role in terms of delivery time and quantity exported product.

This proximity is no coincidence, since it must be based on where are installed the automotive manufacturing companies where vehicle assemblers. They absorb more these products: vehicle part and components.

# 5. Conclusion

Internationally, the global value chain (GVC) reflects physical and geographical fragmentation process of firms following a logic optimization where companies are increasingly turning to international sources of supply, intermediate goods and services, efficient and less costly. Increased divisibility of production activities explain the phenomenon of GVC (Borga & Zeile, 2004). The companies operate in all markets and are relocating to low cost, thereby competing directly the various territories whatever the distance that separates them. Which increases at first sight the growth of imports and exports specifically in developing countries, particularly in the case of Morocco through its automotive sector where exports of vehicles and components have greatly increased it a few years ago (2008-2012). This increase is mainly based on segments with low values and is conducive to the growth of Moroccan exports in the sector. However, these segments can easily disappear because of global competition in the sector for neighboring countries like Algeria and Tunisia and Turkey as countries also approximatively to Europe or see Romania as countries belonging to the European Union.

We can ask a question in terms of this observational study the orientation and upgrade to segments with high added value is it not the keystones of the development and integration of the automotive sector in Morocco? This evolution towards high value-added segments it will allow the automotive sector integrate strongly and sustainably in the global value chain of automotive at least on major segments? Develop its human capital? Differentiate all segments of the sector's products or to adopt new product segment with higher added value in order to have better gains from trade and a strong position in global competition in the sector? Also to increase the number of firms at different production activities (Manufacturer, Original Equipment, Subcontractors, Service Providers)?... The question remains vague with several questions. However, there is empirical research and who explained the phenomenon of upgrading to products requiring high specialization of labor and specialization of a country to new production activities in particular with the adoption practices applied by the Asian countries whose results were surprising (the strategy of the rise in wild goose flies). At least explanations remain unclear especially when we talk about upgrading to a specific industry such as automotive or aerospace especially for a country in North Africa like Morocco, where the political, economic, social and cultural widely different Asian countries that

have experienced this development strategy in different sectors. The third observation we ask questioning: is it not to adopt the model of upgrading a product like cars, but with a pure application of the Moroccan system?

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