

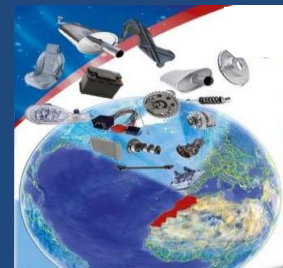
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Microeconomics of Competitiveness
Firms, Clusters and Economic Development

The Automotive Cluster in Morocco

Competitiveness and
recommendations for
future growth

Benjamin Maturana
Kinley Salmon
Juan Espinosa
Ruben Brekelmans



Executive summary

The Moroccan economy has performed strongly over the last 15 years with an average real GDP growth of around 4%. The automotive cluster has been one of the recent success stories of the Moroccan economy. It has grown into a cluster with a vehicle production of 167,000 per year, €2.8 billion in exports and 85,000 employees. Renault is the predominant car manufacturer in Morocco.

The Moroccan automotive cluster has had a strong value proposition. First, it offered a good place to start an automotive cluster: strategic location close to Europe and emerging markets, free trade agreements with large consumer markets, and a stable political environment. Second, the government made significant investments to make the business environment more attractive: investments in training centers, special economic zones, infrastructure, and tax incentives for automotive producers.

However, this value proposition is not sufficient to maintain the same growth rate in the future. In order to make the cluster more competitive and perpetuate growth in the short, medium and long term, we make 5 recommendations. In the short term (before 2017), Morocco needs to optimize its current strategy by 1) investing more in training and starting education reform, and 2) organizing better collaboration between stakeholders. In the medium term (before 2020), the cluster needs to find new sources of demand and reach new scale levels in production. This can be realized by 3) exporting more to emerging markets in the Middle East and Africa, and by 4) attracting a second large manufacturer and suppliers in missing segments. Finally, in order to continue growth in the long term (after 2020), the cluster needs to 5) move up gradually towards more value adding activities, such as R&D and design.

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1. COMPETITIVENESS OF MOROCCO

1a. Country profile

The kingdom of Morocco is strategically located in North Africa, south of the Strait of Gibraltar, separated 14km from Europe. With a territory of 450.000km² it is slightly larger than California. Morocco borders Algeria to the east and Mauritania to the south.

The Moroccan population of 32 million is mostly of Arab descent. 99% identifies religiously with Islam¹. Spain and France occupied the country in the 19th and 20th century. Around 30% of population speaks French, which is widely taught in primary schools.

The primary natural resource is phosphate, a mineral used to produce fertilizers, detergents, food additives and batteries. Phosphate and related industries comprised

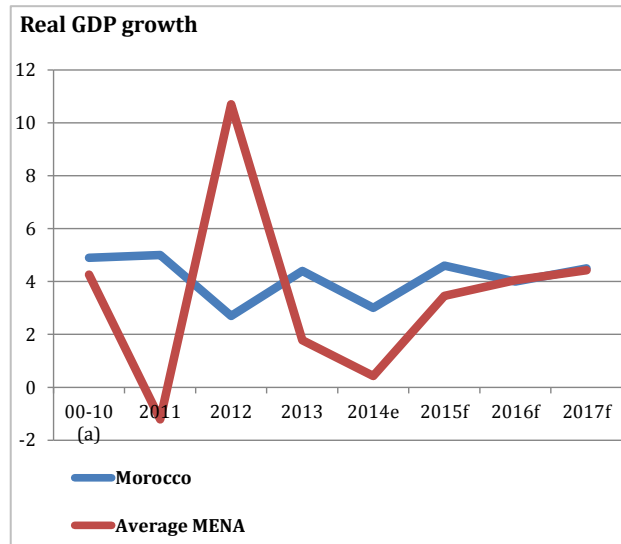
¹ Pew Forum. (2013). *Global Religious Landscape*. Washington DC.

around 30% of exports in 2012². Other exported minerals include iron, zinc and copper. Additionally, the country’s temperate Mediterranean climate is appropriate for agriculture, allowing the production of a wide variety of fruits and vegetables. Morocco’s geography is suitable for generating renewable energy, including wind, solar and hydroelectric power.

Morocco is a constitutional monarchy, ruled by King Mohammed VI since 1999. In response to the Arab Spring in 2010-11, the King introduced a series of constitutional reforms to strengthen the power of the Prime Minister and parliament. This helped to avoid major protests, making Morocco one of the most stable countries of the region. However, the king still holds most political power and continues to set the policy agenda.

1b. Economic performance

The Moroccan economy performed strongly over the past 15 years, with an average GDP growth of almost 4% for 2010-2014 and a lower volatility than other countries in the region (see exhibit 1³). GDP per capita has doubled since 2000, reaching \$7,200 USD by 2013⁴. Extreme poverty and poverty levels have gone down substantially,



-Exhibit 1: Real GDP growth Morocco and other countries in the region-

but a significant proportion of the population is still just above the poverty line. Inequality continues to be a problem, reflected by a Gini index of 40.9⁵.

² The Atlas of Economic Complexity, retrieved from: <http://atlas.cid.harvard.edu/>

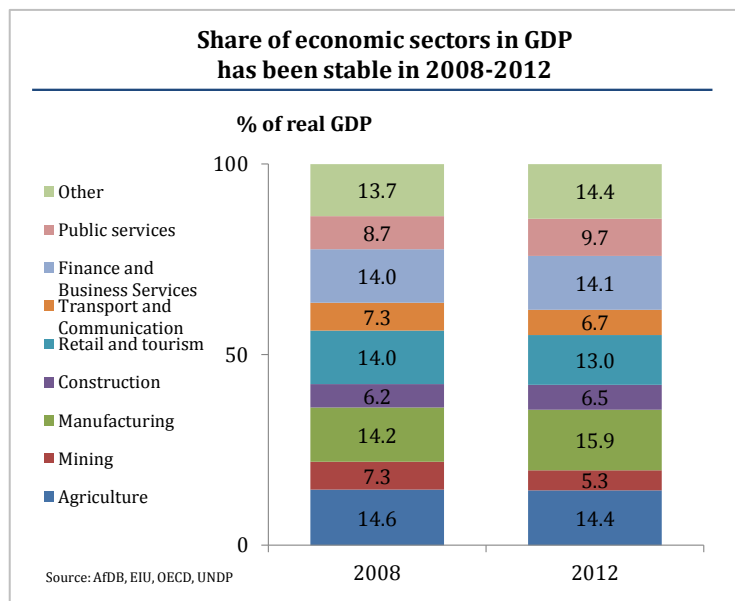
³ The World Bank, World Development Indicators.

⁴ Idem

Labor force participation is a challenge for Morocco. Participation fell from 56% in 2000 to 52% in 2013, and is particularly low among women and youth. Unemployment has been stable at 9% in the last 5 years, but is particularly high among youth (18%⁶). Low wages in Morocco reflect low productivity levels; since 2000⁷ there has only been a slight improvement. The rate of innovation is also low, reflected by less than 200 patents per year. Finally, a limited number of new economic sectors have emerged in the last 15 years⁸.

1c. Composition of the economy

The composition of the economy has been relatively stable since 2008 (see Exhibit 2). Although gradually shrinking, agriculture remains one of the pillars of the economy, employing 39% of workers.⁹ The most notable change has taken place in manufacturing, increasing from 14.2% in 2008 to 15.9% in 2012.



-Exhibit 2: Composition of economy 2008-2012

This increase is partly caused by the growth in the automotive industry and the aeronautics industry. Finally, Morocco has a large tourism industry: in 2012 the country received 9 million international tourists, which brought 8 billion dollars in revenue.¹⁰

⁵ Harvard Business School. (2014). *Doing Business in Morocco, Country Case*. N9-315-007

⁶ The World Bank, World Development Indicators.

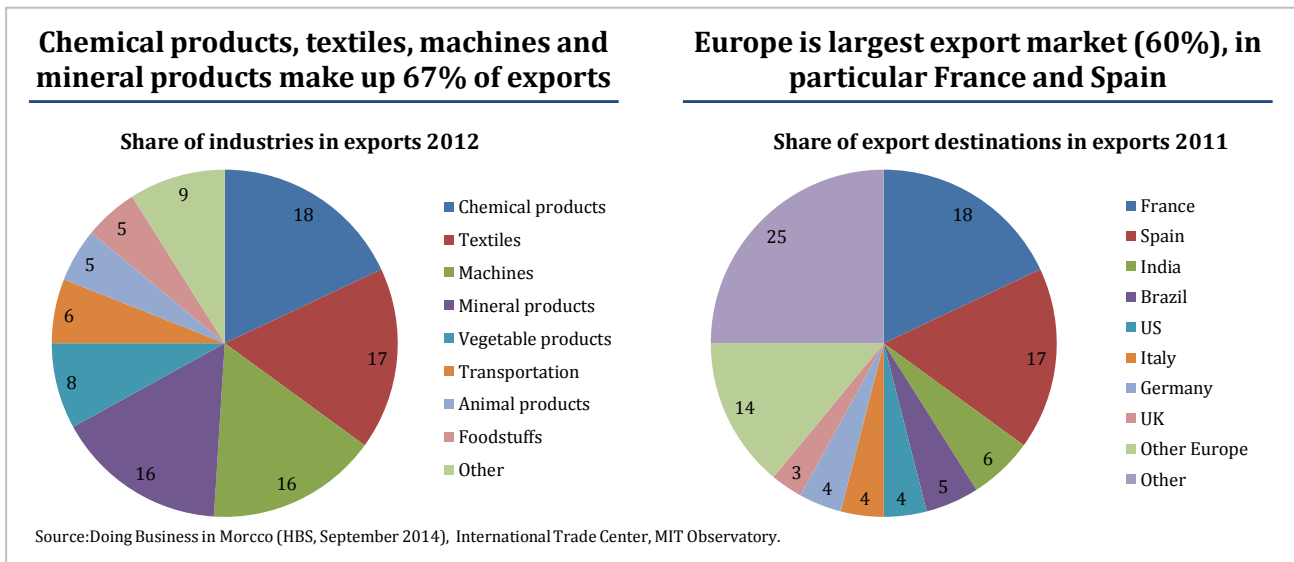
⁷ Idem

⁸ The Atlas of Economic Complexity

⁹ World Bank, World Data Bank

¹⁰ World Bank, World Data Bank

Exports of Morocco are not diversified and mostly directed to Europe (see Exhibit 3). Four product categories (chemical products, textiles, machines and mineral products) make up two thirds of the total exports. One of the major exports products is phosphate, of which Morocco has around three quarters of the world’s reserves. Morocco is also strong in textiles, particularly ready-to-wear products, high-quality leather goods and hand-woven cloths. Morocco exports 60% to Europe¹¹, while exports to Africa are limited.



-Exhibit 3: Breakdown of exports in industries and export destinations-

1d. Performance on macro competitiveness

Morocco has a mixed score on monetary and fiscal policies (see Exhibit 4). Inflation, exchange rates, taxes and Foreign Direct Investment (FDI) are sound, while the country has weaknesses to overcome regarding its fiscal budget, debt and trade balance.

On human development, Morocco has shown constant improvement since 1980. It's score on the Human Development Index has improved from 0.40 in 1980 to 0.62 in 2013. This reflects increases in life expectancy (13.3 years in 1980-2013), average years of

¹¹ MIT Observatory and International Trade Center.

schooling (increased 3.2 years), and GNI per capita (almost 100%)¹². Morocco is categorized as ‘Medium Human Development’ and ranks 129th out of 187 countries.

Dimensions	Score	Explanation
Inflation	✓	<ul style="list-style-type: none"> • Below 2% for the last 4 years and 1.45% on average 2008 -2015 • Does not seem to be a major concern
Exchange Rates	✓	<ul style="list-style-type: none"> • Moroccan Dirham is a tightly managed float against euro dominated basket of currencies. Tends to move in line with euro • Possible changes towards a more flexible regime in near future
Fiscal Budget	✗	<ul style="list-style-type: none"> • High fiscal deficit of 7.4% in 2012 • Goal to decrease the deficit below 3% by 2017, by reduction in fuel subsidies, improved tax collection, and pension system reform
Debt	✗	<ul style="list-style-type: none"> • External debt stock increased from 24% of GDP in 2008 to 38% in 2013. • Crisis in Euro zone, Arab spring and adverse weather forced Morocco to borrow to cover its deficit
Taxes	✓	<ul style="list-style-type: none"> • Tax revenues slowly increased since 2009, reaching 24.5% of GDP in 2012. • Main taxes are income (max imum rate 38%) , corporate (30%) and VAT (20%)
Trade Balance	✗	<ul style="list-style-type: none"> • Current account balance negative since 2007, almost 8% of GDP in last 3 years. • Deficit projected for next years, financed by FDI and borrowing
FDI	✓	<ul style="list-style-type: none"> • Increasing since 2010 • 20% increase in 2013, reaching a total of 3.2% of GDP

Source: World Bank, UNDP, CIA Factbook

-Exhibit 4: Score on Monetary and Fiscal Policies-

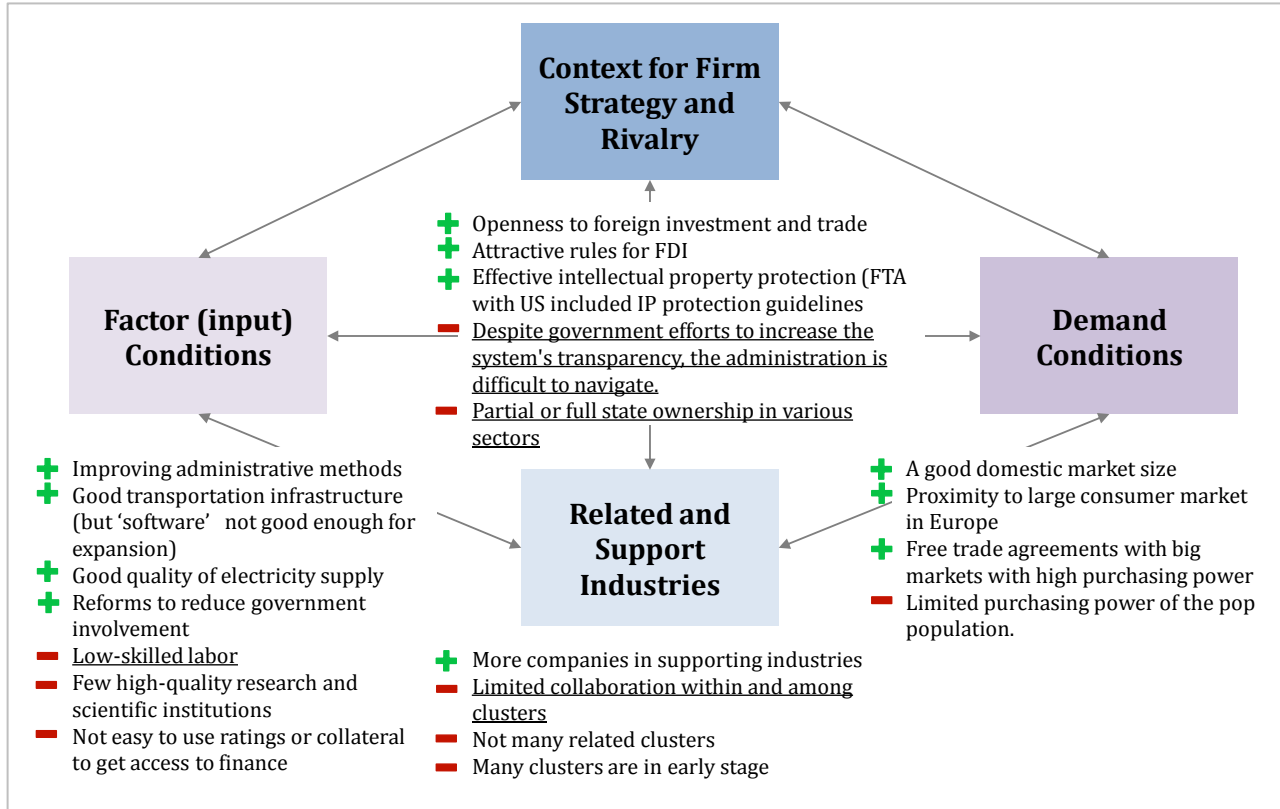
Public institutions in Morocco have a mixed record. Morocco scores slightly below average on economic freedom¹³. There is widespread corruption and recent court cases involved the embezzlement of millions by public servants. Courts are inadequate and unreliable. On the other hand, economic and institutional reforms have contributed to the country’s stability over the last year. The new Constitution of 2011 guarantees human rights, individual and collective liberty, and plurality of Moroccan identity.

¹² United Nations, retrieved from <http://hdr.undp.org/en/data>.

¹³ Heritage Foundation (2015). *2015 Index of Economic Freedom*.

1e. Strength and weaknesses of business environment

The diamond for Morocco’s business environment (Exhibit 5) shows the strengths and weaknesses of the four main elements of the business environment. We address the four underlined weaknesses in more detail later in this paragraph. For an overall view of Morocco’s competitiveness (both macro and micro), see Appendix 1.



-Exhibit 5: Strengths and weaknesses of Morocco’s business environment-

*Factor*¹⁴*Conditions:* Factor conditions have improved due to administrative reform. Morocco has built good transportation and electricity infrastructure, facilitating trade and industrial production. The main problem with factor conditions is low-skilled labor; this is a constraint for creating high productivity jobs. A related challenge is the small number of

¹⁴ The follow section draws on interviews which are listed in the appendix.

high-quality research and scientific institutions. The difficulty in using ratings or collateral to access financial resources hinders large scale investments.

Context for Firm Strategy and Rivalry: Morocco has opened up the economy for trade through free trade agreements. It has attractive rules for FDI and effective intellectual property protection. However, despite efforts to increase the public system's transparency, for businesses it is still difficult to navigate the bureaucracy. Partial or full state ownership in various key sectors impedes rivalry and companies' ability to design strategies.

Demand conditions: Morocco's has a sizable domestic market (32 million citizens) and is close to large consumer markets in Europe. In addition, it has expanded its export opportunities by free trade agreements with other large consumer markets like the US. The main obstacle is the limited purchasing power of a large majority of Moroccans.

Related and Support Industries: As more industries develop (for example automotive and aeronautics), more suppliers for manufacturing industries are coming to Morocco. The main weakness is limited collaboration within clusters and among clusters with similar processes and inputs. Many clusters are still in the early stage of development.

We identified four key weaknesses in Morocco's business environment (see also Exhibit 5):

1. *Low-skilled labor:* Morocco poor quality education, resulting in a low-skill workforce and high youth unemployment. Despite high expenditure in primary and secondary education, low quality leads to low literacy rates (among the bottom third of lower middle-income countries). Major reasons for this low quality are poor teaching methods, large classes, few performance measures to monitor the quality of teachers, inefficiencies in spending and corruption. Another big problem is inferior tertiary education, engendering skills mismatch and youth unemployment. A large number of

students are unable to find jobs matching their training (18% youth unemployment in 2014), while employers complain about skill shortages.¹⁵ There are three underlying reasons for Morocco's bad tertiary education. First, universities cannot handle large amounts of students. Second, technical skills are (culturally) undervalued in the educational system, while needed in the workforce. Third, students learn insufficiently French at primary and secondary school, while needed in universities and the professional world.

2. Public administration is difficult to navigate for businesses: The lack of transparency in the regulatory system hinders Morocco's competitiveness. Despite efforts to increase the system's transparency, the administration is still opaque. Many routine permits are difficult to obtain (especially those required by local governments) and public tenders are often not transparent. Businesses complain about the inefficiency and the lack of transparency in the judicial system. Contract enforcement takes 510 days, requires 40 procedures, and costs 25.2% of the value of a claim¹⁶. As a consequence, businesses mention 'inefficient government' as the most problematic factor for doing business¹⁷ (more than corruption, tax system, access to financing and labor regulation).

3. Partial or full state ownership in various sectors: High level of state ownership in key economic sectors (like the phosphate industry and related holdings) hinders competition and rivalry. The royal family controls the National Investment Company, which is a large private holding company and the biggest private shareholder in the

¹⁵ The World Bank, World Development Indicators.

¹⁶ World Bank, Doing Business Indicators. Retrieved from: <http://www.doingbusiness.org/data/exploreeconomies/morocco/>

¹⁷ IMF (2014). *Morocco Country Report*. No. 14/65, p.13.

economy with profits of \$757.6 million dollars in 2013¹⁸. The company has a large stake in many sectors, including agribusiness, construction and mining. State Owned Enterprises (SOE) compete with private firms and often have scale advantages. They divert the government from other important public challenges. The government has acquired stakes in growing industries before to benefit from growth, making these industries less attractive for foreign companies.

4. *Limited collaboration within and among clusters:* Interviews suggest there is limited collaboration within and between clusters, hampering the expansion of clusters and related industries. First, private companies are often hesitant to cooperate with each other, which also restrains collaboration across clusters. Smaller companies are usually not involved in institutes for collaboration, making it difficult for them to access industry's best practices. Collaboration between the government and private companies is also limited. In many sectors the government does not listen to a wide range of businesses, fueling policies that benefit a few. In more advanced sectors, public agencies have insufficient capacity to understand the needs of the private sector. Finally, there is a lack in cooperation between universities and the private sector. The skills and qualifications that students acquire in various programs (for example in tourism and hoteling) do not match business needs.

2. COMPETITIVENESS OF AUTOMOTIVE CLUSTER IN MOROCCO

2a. Cluster profile and actors

The automotive industry in Morocco has grown into a substantial cluster, which by 2013 had a vehicle production of 167,000, €2.8 billion in exports, 85,000 employees¹⁹ and over 200 companies. The cluster is mostly based in the Casablanca Industrial Zone and the

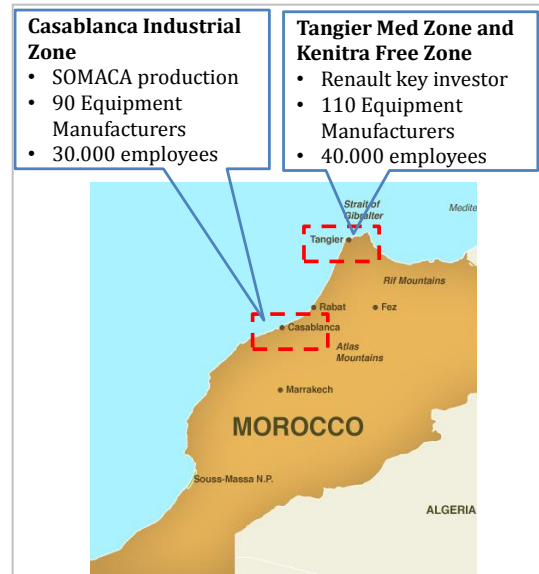
¹⁸ Reuters (2014a) *Morocco royal holding's profit rises 22.6 pct in 2013*, March 31st.

¹⁹ Invest in Morocco. (2014). *Morocco, Investment Opportunities in the Automotive sector*.

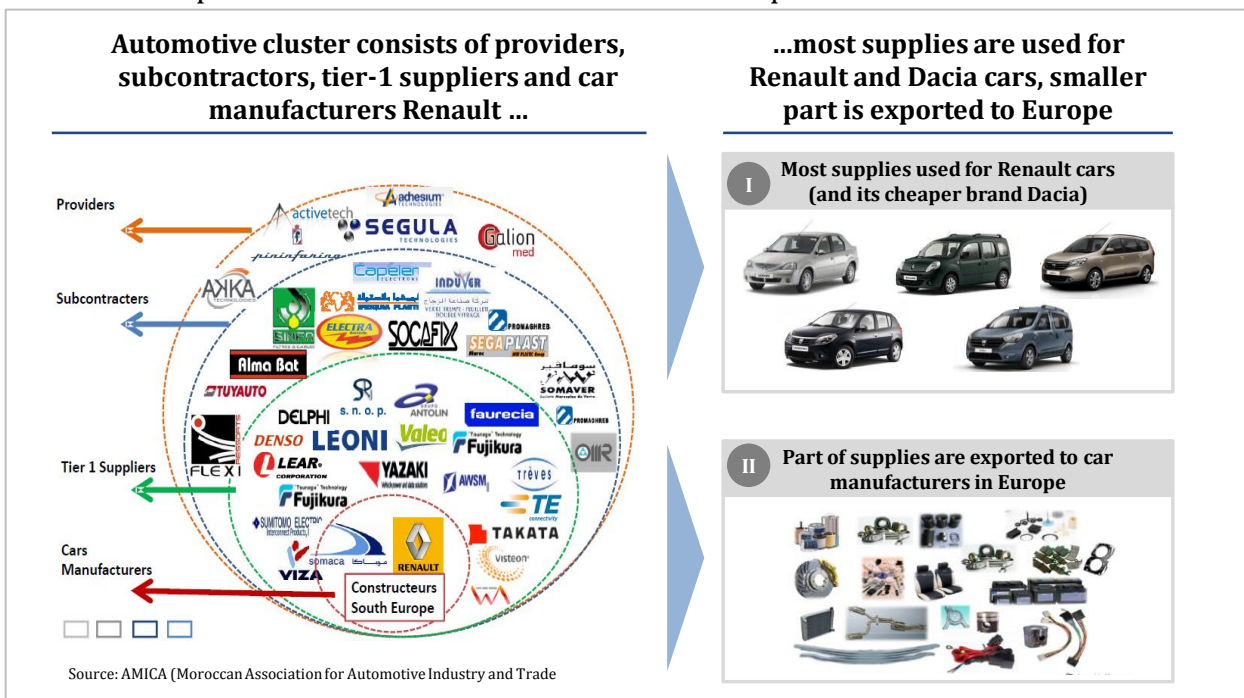
Tangier/Kenitra free zones (see Exhibit 6). These zones offer fiscal incentives and have strong infrastructure (a modern road network and state-of-the-art ports). The cluster benefits from geographical proximity to large European consumer markets and the potential to function as a gateway to emerging markets in North Africa and the Middle East. The main player of the cluster is Renault, which owns 80% of the Casablanca plant and is the only manufacturer in Tangier.

The cluster is significantly integrated into the local economy. 43% of car parts are sourced from local suppliers, including

electronic components, plastics and metals. Exhibit 7 shows all the major suppliers. Renault uses these parts supplied to builds Logan, Tandero, Kangoo, Lodgy and Dokker cars, as well as its cheaper brand Dacia (see Exhibit 7). Some of the car parts made in Morocco are exported to other car manufacturers in Europe.

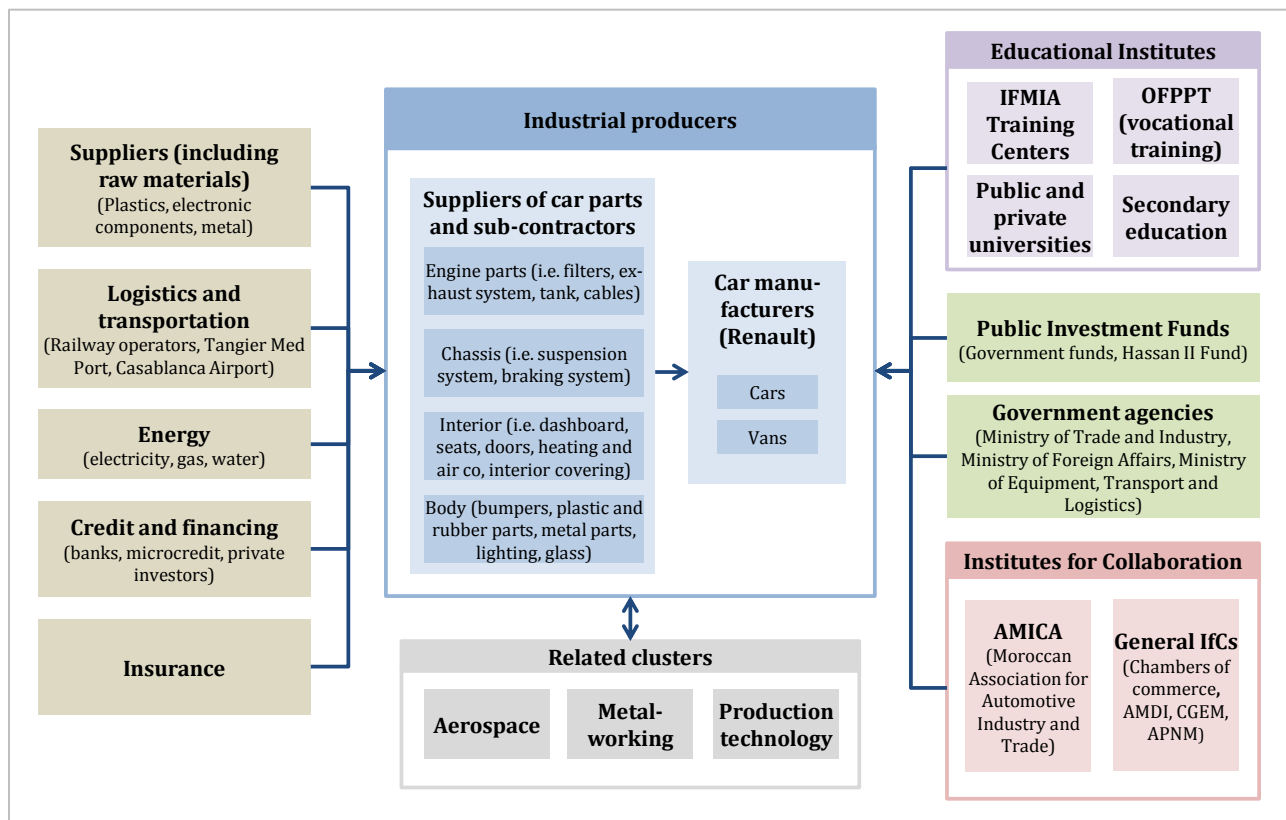


-Exhibit 6: Location of the automotive cluster in Morocco-



-Exhibit 7: Suppliers and produced Renault cars and car parts-

Exhibit 8 provides the cluster map, showing all major actors in the automotive cluster.. Educational institutes play an important role to train the workforce with the appropriate skills for the automotive industry, which is necessary to overcome the current skill gaps. Government agencies and public investment funds have been important for the initial growth of the cluster (as addressed in more detail in the next paragraph). Institutes for collaboration facilitate the creation and implementation of a common strategy among different actors, and diffuse knowledge and best practices in the industry.



-Exhibit 8: Cluster map-

2b. Historic development of the cluster

The history of the cluster dates back to 1960 and the installation of the SOMACA (Société Marocaine de Constructions Automobiles) plant by the Moroccan government. By 2003 Renault had taken over most of the property of the plant and started producing its

Logan model. The most important step forward for the cluster came in 2012 with the Renault investment of \$1.5 billion in a new production plant in Tangier.

The government's role has been essential for the recent growth and current success of the cluster. It considers the automotive cluster as one of the priority sectors of its industrial policy. In the 2000s the government created special economic zones including the Casablanca Industrial Zone, Tangier Med Zone and Kenitra Free Zone. These special economic zones provided reduced tax rates (corporate taxes are 0% for the first 5 years and 8.75% until the 25th year), exemption from export fees, and financial support for professional building costs and equipment investment. Additionally, the government created human resources subsidies of €450-2,700 per person per year for the training of operator, technicians and managers in the automotive cluster²⁰.

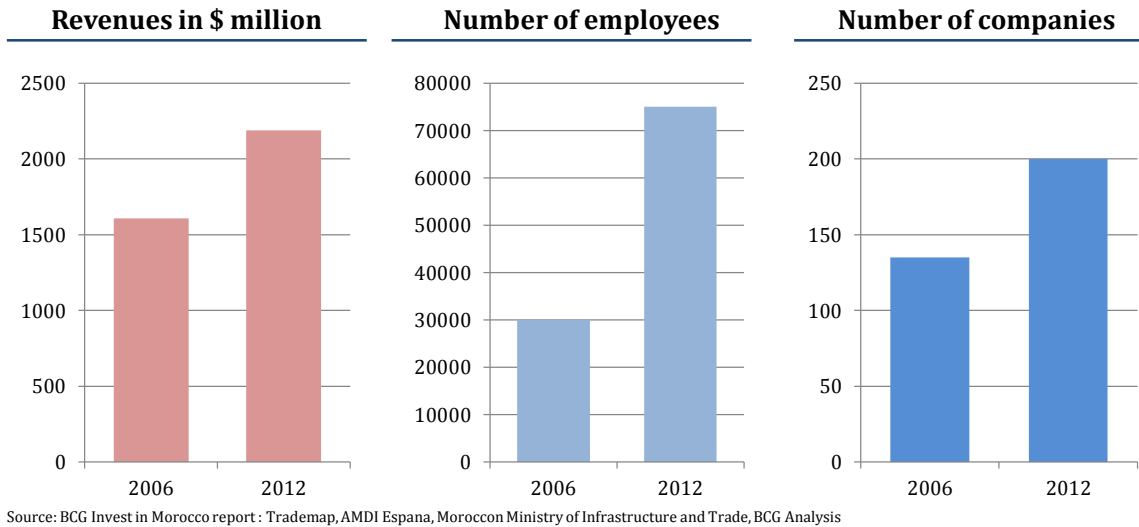
Furthermore, the government supports skill development by facilitating the creation of IFMIA training centers in Casablanca, Kenitra and Tangier. These centers have modern facilities to train technicians and managers for the automotive industry. The creation of new training centers was one of the main commitments of the government to attract the \$1.5 billion investment by Renault, and is key for further cluster expansion.

2c. Morocco Cluster Performance

The performance of the Moroccan automotive cluster has been very strong. As Exhibit 9 shows, the cluster has grown significantly between 2006 and 2012 in terms of revenues, employees and companies. This growth level has continued in more recent years and is expected to persist in the upcoming years.

²⁰ Invest in Morocco. (2014). *Morocco, Investment Opportunities in the Automotive sector*.

The automotive cluster in Morocco is growing rapidly in terms of revenues, employees and companies



-Exhibit 9: Revenues, employees and companies in the automotive cluster 2006-2012-

The Moroccan automotive cluster has achieved these impressive results in a challenging international market environment. The automotive market in Europe was hard hit by the global financial crisis and has been slow to recover. Europe's automotive industry recorded profits of €15 billion in 2007, but these fell dramatically to a €1 billion loss by 2012²¹. This makes Morocco's success all the more remarkable given their exports are heavily focused on Europe. This is in part explained by the fact that Dacia, the main product of Renault in Morocco, is aimed at the 'lower value' segment of the European car market, which has suffered less than the luxury and upper segments.

The global automotive industry, despite the struggles in Europe, has now returned to pre-crisis profit levels. This growth has come predominantly from Brazil, Russia, India,

²¹ McKinsey & Company. (2013). *The road to 2020 and beyond: What's driving the global automotive industry?*

China (BRICs) and other emerging markets rather than developed markets like Japan, North America and Europe²².

Four major trends will strongly affect future growth in the global automotive industry²³. First, in established markets such as Europe and North America, manufacturers will be under pressure to deal with greater complexity around environmental and safety regulation, which is likely to raise production costs. Automotive producers will need to invest substantially in new technologies to meet these regulatory. Second, emerging markets will hugely increase in importance. By 2020 emerging markets are likely to represent 60 percent of global sales, but production bases are not well aligned with this new sales reality. This represents an opportunity for Morocco, or a threat if manufacturers shift production to other countries in the region. Third, digital and connectivity features in cars are likely to increase in importance. Fourth, suppliers of components are likely to become increasingly important as their share of total added value is set to increase. Manufacturers like Renault therefore need to ensure that their suppliers match their new geographical presence, with a shifting focus towards emerging markets.

2d. Key competing clusters

A number of North African countries have a similar set of endowments to Morocco and some of them have also attempted to build an automotive cluster. However, Morocco is in the strongest position of any of them as a look at their relative positions shows.²⁴

²² Ibid

²³ The following section draws from McKinsey and Company, (2013) *The road to 2020 and beyond: What's driving the global automotive industry?*

²⁴ The following data is for 2012 and draws on Invest in Morocco. (2014). *Investment opportunities in the automotive sector*'.

Morocco has two OEMs in Renault and SOMACA and produced 167,000 cars in 2013. It has attracted 10 suppliers which could be considered 'global suppliers.' In 2012 it had exports revenues from the sector of approximately \$2.5 billion. In terms of exports, its nearest competitor is Tunisia, which had approximately \$1.2 billion. However, Tunisia has no vehicle OEM and only 7 global suppliers. Egypt on the other hand does produce vehicles, but largely through basic assembly and purely for the local market. It only has 4 global part suppliers present in the country and its exports totaled approximately \$400 million in 2012. Finally, Algeria has attempted to generate an automotive sector and has been in talks with Renault. However, its exports are limited and it has only two global parts suppliers present in the country.

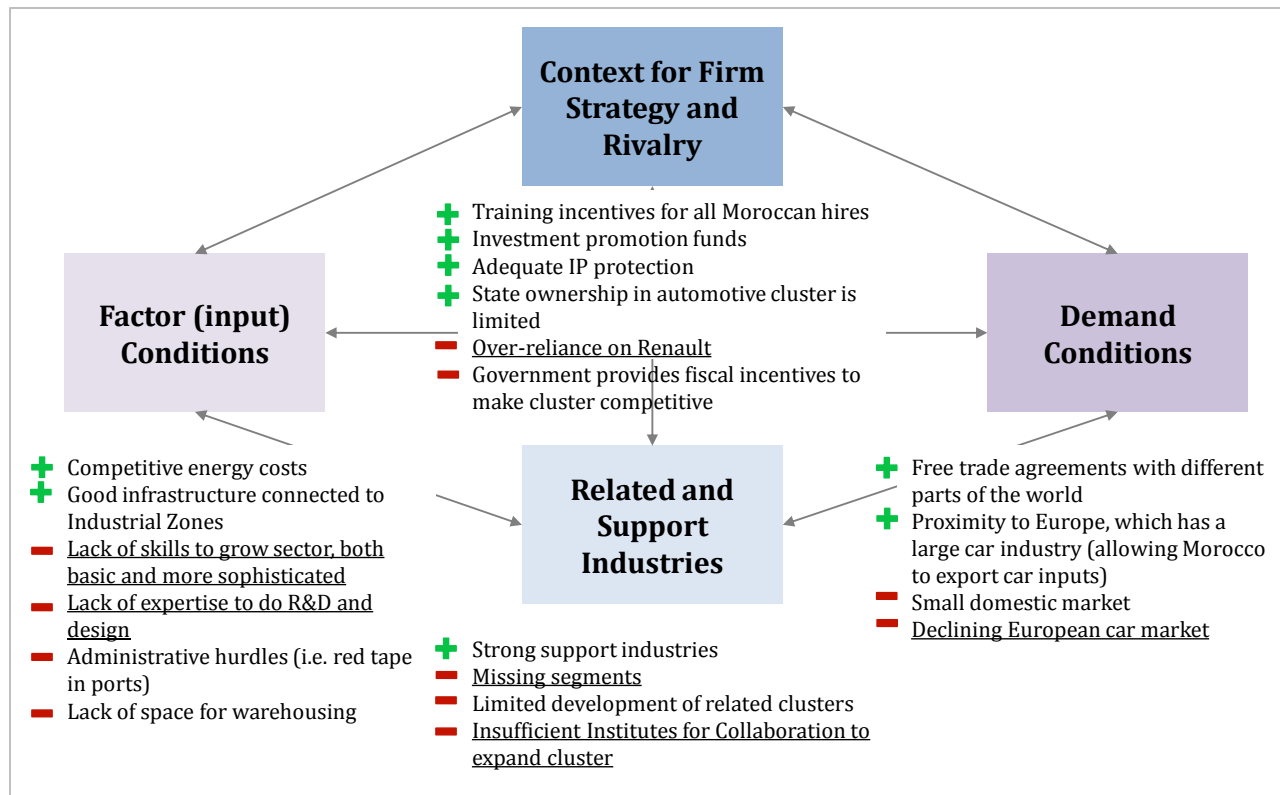
2e. Strengths and weaknesses of the cluster

The diamond for Morocco's automotive cluster (Exhibit 10) shows its strengths and weaknesses for the four main elements of the business environment. We address the six major weaknesses (underlined in Exhibit 10) in more detail later in this paragraph.

Factor conditions: A major strength for the automotive cluster is the strong infrastructure connected to special economic zones, in particular at the Tangier Port and the strong road network. Main weaknesses are the lack of skilled labor to expand the cluster, and the lack of labor and expertise to move the cluster up to more value-adding and complex activities (for example R&D and design). Other obstacles for further growth are administrative hurdles in ports and lack of space for warehousing.

Context for Firm Strategy and Rivalry: In contrast with many other economic sectors, state ownership in the automotive cluster is limited, allowing for a sufficient degree of

competition. The government provides training incentives, has set up investment promotion funds, and adequately protects Intellectual Property (IP). A major risk for the cluster is over-reliance on Renault as the single car manufacturer. Another sign of structural weakness is the dependence on fiscal incentives to keep the cluster competitive.



-Exhibit 10: Strengths and weaknesses in the business environment of the automotive cluster-

Demand conditions: Morocco has a large number of free trade agreements, which cumulatively gives them access to 55 countries, representing 60% of world GDP²⁵. Europe's geographical proximity enables Morocco to export supplies to European car manufacturers. However, the European car market is declining and the domestic Moroccan market is small.

²⁵ Invest in Morocco. (2014). *Investment opportunities in the automotive sector*.

Related and support industries: With an integration rate of 43% and the presence of providers and sub-contracts, the cluster has some strong support industries. Nevertheless, the cluster is still missing some important segments and spillovers from and to related clusters (aeronautics, metalworking, production technology) are still limited. Current Institutes for Collaborations (IfCs) seem inadequate to surge the cluster to new scale levels.

We identified six primary weaknesses in the business environment of Moroccan automotive cluster (as underlined in Exhibit 10):

1. *Lack of skills to grow sector:* Despite training incentives provided by the government, existing efforts to facilitate skills training are insufficient to grow the sector rapidly. Beginning in 2009 Morocco aimed to train 70,000 people for the sector including 29,000 technicians and 7,000 engineers²⁶. Morocco has aimed to make 2,000 qualified students graduate per year from its automotive training school (IFMIA) and to train 15,000 engineers per year in its engineering schools. This is to be supplemented by the attraction of top Moroccan engineering talent studying abroad. However, these targets have proven to be overly ambitious. Engineering is less popular than social sciences among students and the number of engineering graduates is not at the required level. For training schools there have also been delays as curricula are established and capacity constraints such as lack of teachers, finance and equipment are addressed. Overall progress has been too slow.

2. *Lack of expertise to do R&D and design:* The automotive cluster is still largely focused on the idea of being a cheap manufacturing hub, based on low wages and proximity to Europe. In terms of factor conditions, there is a lack of Research & Development (R&D),

²⁶ Invest in Morocco. (2014). *Investment opportunities in the automotive sector.*

while this is needed in the longer term to enable the cluster to add more value in the automotive supply chains. There have been some tentative shifts towards increased R&D presence in Morocco. Peugeot has considering shifting some R&D²⁷ to Morocco and the supplier Lear and Leoni Wiring has invested in some R&D capabilities. However, still almost all of the design, testing, and proof work occurs in Europe. This makes it challenging for Morocco to move up the value chain in the automotive cluster.

3. Over-reliance on Renault: Regarding the context for firm strategy and rivalry, the Moroccan automotive cluster is over-reliant on Renault. Renault produces in Tangier and also owns 80% of SOMACA which produces in Casablanca. There are 200 other companies in the cluster, but many of these derive their revenues in whole or in part from Renault's presence. This creates a number of risks. If Renault were to downsize or reduce its production this could endanger the whole cluster. In addition, without a second manufacturer, the current volume of finished vehicles makes it difficult to attract additional suppliers to the cluster, as many suppliers need large production volumes of finished vehicles to produce break-even. For example, car engines can only be manufactured profitably under a minimum production of 1 million per year. Renault's dominant position also allows it to potentially squeeze suppliers' margins, thereby reducing the attractiveness of the cluster to new suppliers.

4. Declining European car market: Exhibit 11 shows the European car has diminished significantly since 2008. This has two major implications for the Moroccan automotive cluster. On the one hand it reduces demand for Morocco's vehicle production, which is particularly concerning given 90% of Morocco's car exports go to Europe. On the

²⁷ Reuters, (2014b) *Peugeot Takes Low Cost Step with Moroccan Outsourcing.*

other hand, the declining European market also dramatically reduces the likelihood of attracting a new car manufacturer to Morocco. Capacity utilization of vehicle production

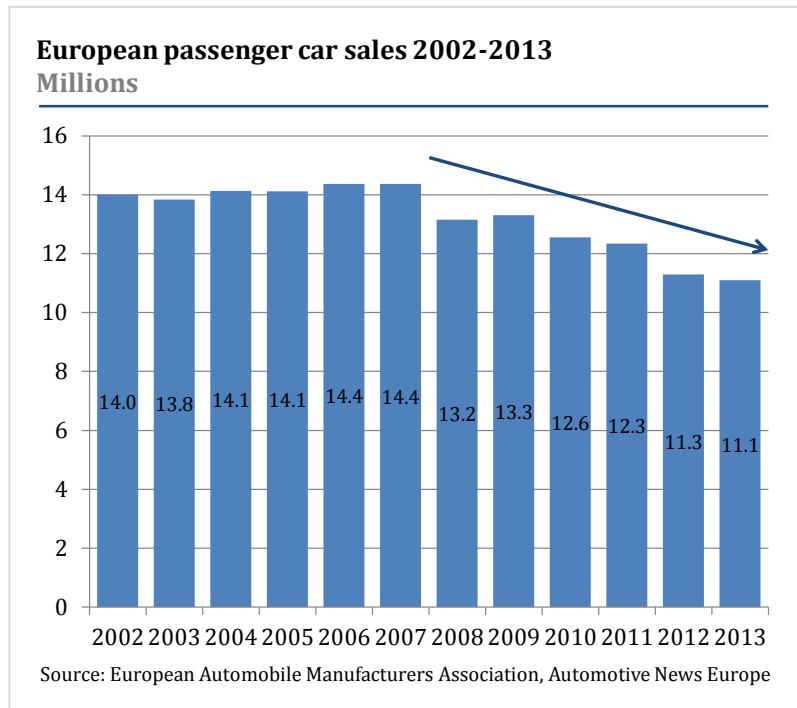
plants in Europe in 2014 was only 70%, which has resulted in most plants being unprofitable²⁸.

Given the excess production capacity in Europe, it is highly unlikely that European manufacturers are interested to invest in new plants in Morocco to serve the European market.

They are more likely to use existing capacity in Europe to

meet any up-tick in demand. Even though Morocco may have lower production costs, it is politically costly to offshore jobs to Morocco. Setting up additional new capacity would be easier to justify, but the overcapacity problem makes that unlikely.

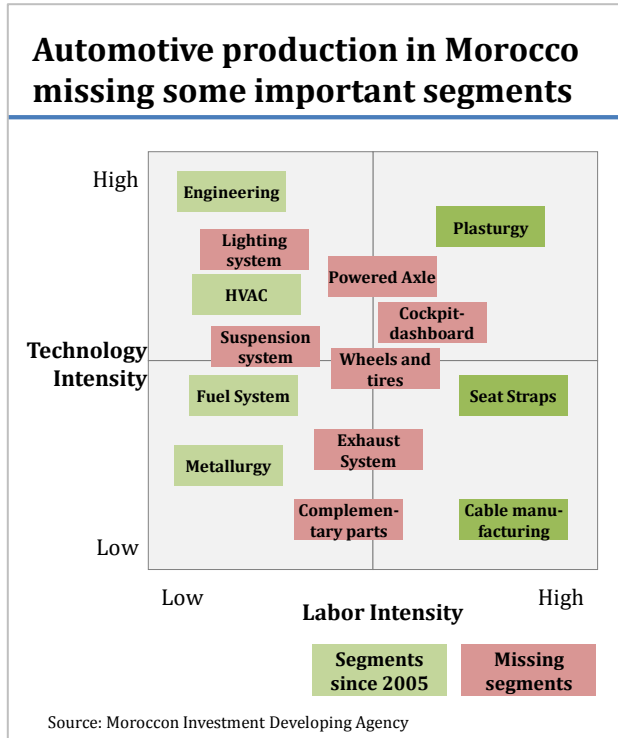
5. *Missing segments:* As shown in Exhibit 12, despite an integration rate of 43%, the Moroccan automotive cluster is still missing some important segments, like exhaust systems, suspension systems, powered axles, and wheels and tires. As addresses earlier, one of the primary reasons for this is the relatively low scale of final vehicle production in Morocco. Countries with higher vehicle production are typically able to attract a wider



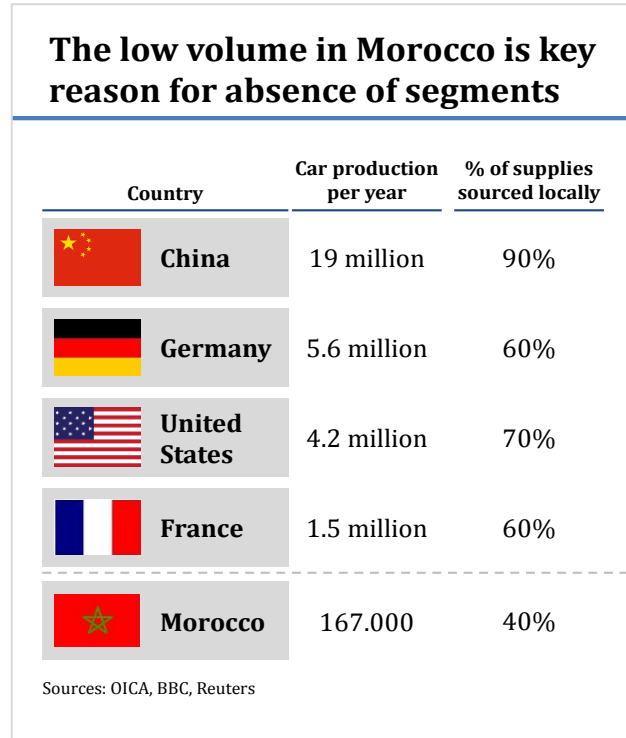
-Exhibit 11: European car sales 2002-2013-

²⁸ Automotive News Europe (2014), *European plant capacity usage Improves, but breakeven still years away*,

array of parts suppliers, as Exhibit 13 shows. There is also a lack of the technical expertise in some segments to set up or attract a new segment.



-Exhibit 12: Missing segments in Moroccan automotive cluster-



-Exhibit 13: Production and % of local sourcing of major car producing countries-

6. *Insufficient Institutes for Collaboration (IfCs) to expand cluster.* The existing ones are insufficiently capable of lifting the cluster towards new production levels. On the one hand, the Moroccan Association for Automotive Industry and Trade (AMICA) is the main business association. Its members and participants include Renault, suppliers, and a large number of importers and distributors. It aims to improve competitiveness, training development, export promotion, and technology transfer. It played a significant role in bringing Renault to Morocco in the first place. Although AMICA cooperates with the Moroccan government, it is not always involved in all major decisions on the business environment. Likewise, the collaboration with public education (secondary education and

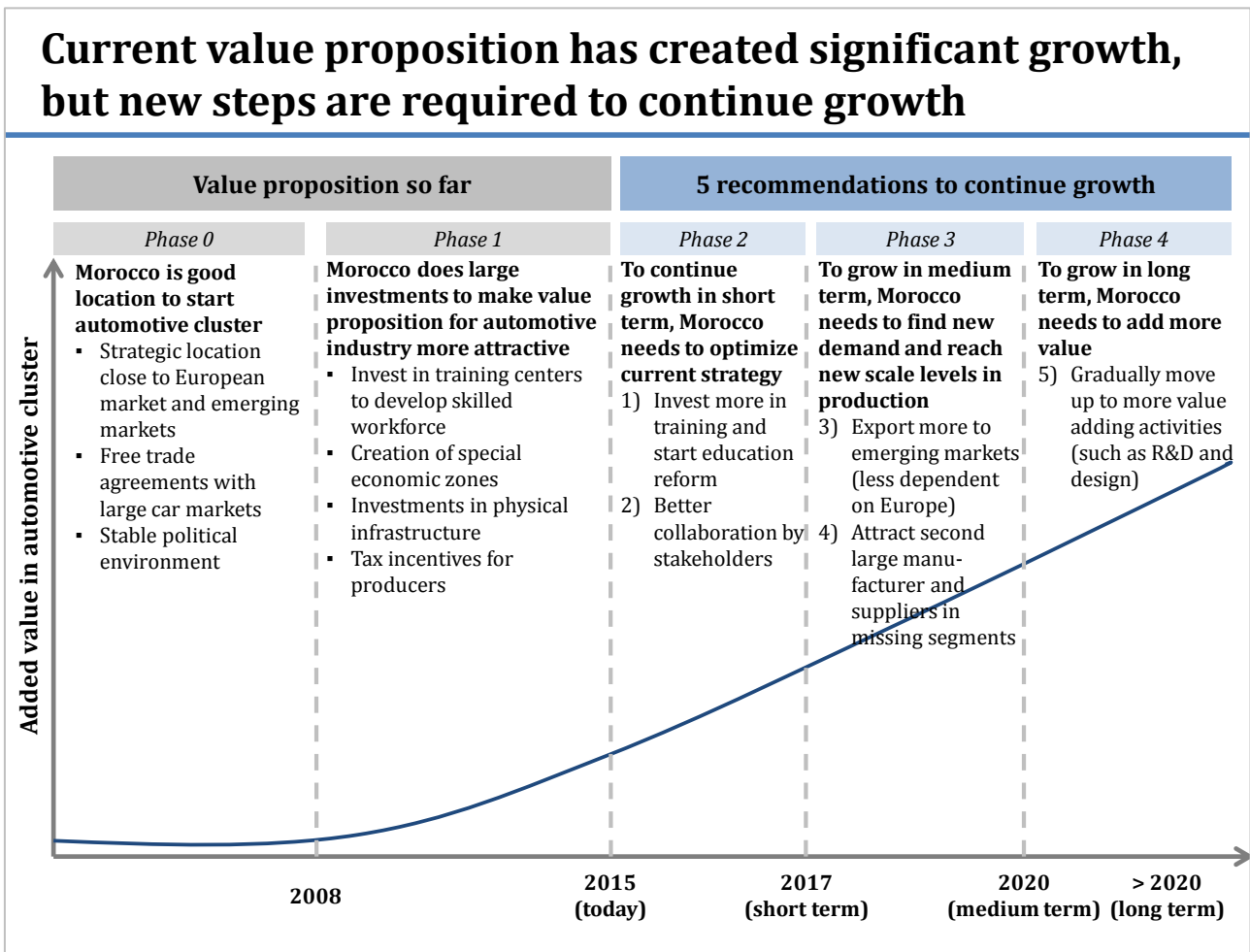
public universities) is limited. Smaller producers are underrepresented in AMICA and it does not collaborate closely with IfCs in related clusters. In addition to AMICA, there are some general IfCs, but their specific expertise on the automotive cluster is limited. On the other hand, government policymaking for the automotive cluster is also fragmented among agencies and different levels of government (national vs local). At the moment, there is no IfC in which government agencies, private companies and educational institutions are all represented, and able to create common strategies for the cluster.

3. Recommendations

Until now the Moroccan automotive cluster had a strong value proposition. First, it offered a good place to start an automotive cluster: a strategic location close to Europe and emerging markets, free trade agreements with large consumer markets, and a stable political environment. Second, the government made significant investments to make the business environment more attractive: investments in training centers, special economic zones, strong infrastructure, and tax incentives for automotive producers. However, this value proposition is not enough to maintain the same growth path. The automotive cluster cannot forever rely on tax incentives to keep it competitive. In order to make the cluster more competitive and perpetuate growth in the short, medium and long term, we make 5 recommendations (see Exhibit 14). These 5 recommendations enable the Moroccan government to gradually scale down its current fiscal incentives, once the cluster becomes more competitive.

In the short term (until 2017), Morocco needs to optimize its current strategy by investing more in training and starting education reform, and organizing better

collaboration between stakeholders. In the medium term (until 2020), the cluster needs to find new sources of demand and reach new scale levels in production. This can be realized by exporting more to emerging markets in the Middle East and Africa, and by attracting a second large manufacturer and suppliers in missing segments. Finally, in order to continue growth in the long term (after 2020), the cluster needs to move up gradually towards more value adding activities, such as R&D and design. In the remainder of this chapter we address each of our 5 recommendations in more detail.



-Exhibit 14: Value proposition until today and 5 recommendations in short, medium and long term to continue growth of automotive cluster-

1. Invest more in training and start educational reform (short term: before 2017).

Morocco needs to build a larger workforce that possesses the necessary skills to expand the sector. In order to realize this, relevant actors in education and training need to undertake four actions in the short term.

First, existing efforts to strengthen workforce training need to be intensified and scaled up. IFMIA training centers should receive more support from businesses and the Ministry of Education to develop curricula and absorb large pool of applicants. The Millennium Challenge Corporation (MCC) has announced to invest more in vocational training centers. The Ministry of Education and AMICA should look for more similar investment partners.

Second, before further increasing education expenditure (which is already high compared to other lower middle income countries), the Ministry of Education should start reforming primary and secondary education. It must remove inefficiencies and corruption, measure schools' and teachers' performance, and design specific interventions to improve educational quality.

Third, businesses in growing sectors should be more involved in determining what kind of investments in secondary and tertiary education are needed. The Ministry of Education needs to develop a collaboration mechanism to adapt the education system to the evolving needs of the private sector. The Ministry should also require primary and secondary schools to teach students French, in order to better prepare them for university and the job market.

Finally, students need to be encouraged to choose for engineering studies instead of social sciences. The success of the automotive cluster can serve as a promotion tool to demonstrate students that job prospects are better with a technical or engineering degree.

2. Organize better collaboration between all relevant stakeholders (short term: before 2017). There is currently no Institute for Collaboration (IfC) in the automotive cluster in which the private sector, public sector, educational institutes and NGOs come together. Either the government or the private sector is in the lead for common activities. For example, the government drives the effort of attracting a second foreign manufacturer, while private suppliers could also support this endeavor. Likewise, the private sector (AMICA) is in the lead for setting up training centers, while there is limited connection to existing public educational institutes.

In order to organize a better collaboration between all relevant actors, a new IfC should be created that institutionalizes a common policy by public sector, private sector and educational institutes. This is better than including the government and educational institutes into AMICA (the business association for the automotive cluster), since this would be perceived as an attempt by the government to gain stronger control of the private sector. Incorporating private companies in existing public IfCs would also be difficult, since these public IfCs are more general in nature and do usually not have specific departments or committees for the automotive cluster.

This newly founded IfC should involve Small and Medium Enterprises (SMEs) and public universities (which are now underrepresented in IfCs and discussion forums). This IfC should also create local branches, to better coordinate policies between the national and

local level of government. Furthermore, the new IfC should extend its external network to suppliers early in the value chain (delivering important raw materials and inputs), related clusters (to search for synergies and areas for cooperation with for example the aeronautics cluster), and automotive IfCs abroad. By cooperating with foreign IfCs the new IfC may find new opportunities for Moroccan suppliers to serve value chains abroad.

3. Export more to emerging markets (Africa and Middle East) to reduce dependency on Europe (medium term: before 2020). Europe is still by far the biggest consumer markets for cars in proximity to Morocco (13.8 million vehicle sales in 2012), but its size is declining and it has significant overcapacity. Average utilization in European plants is 70%, while 80% is needed to break even. On the other hand, North Africa and the Middle East have a significant market size (2.6 million vehicle sales in 2012), and Morocco has a strong competitive position compared to other countries such as Egypt, Algeria and Tunisia.²⁹ The African market is relatively small, but has significant growth potential and is still underserved by Western manufacturers. Western car manufacturer BMW even announced that Africa has at least as many opportunities for them as BRIC countries.

In order to become less dependent of the declining European market, the new Institute for Collaboration (IfC) (see recommendation 2) should take the lead in exploring sales opportunities in emerging markets in the Middle East and Africa. Until the new IfC is established, the Ministry of Industry and Trade is primarily responsible to drive this process. It should closely cooperate with AMICA, which in its turn should hold the Ministry accountable for making progress. Creating free trade agreements with other emerging

²⁹ Invest in Morocco. (2014). *Investment opportunities in the automotive sector.*

markets that apply to both cars and supplies would be a great step forward. The new IfC should also do a strategic analysis per country to determine why Moroccan producers are currently not or hardly exporting to this country. The Moroccan IfC should collaborate with its counterparts in these countries to remove the most important bottlenecks and launch mutual trade flows.

4. Create a strategy to attract second large car manufacturer and suppliers in missing segments (medium term: before 2020). First, in order to attract a second large car manufacturer in addition to Renault, a different strategic message is needed. Declining vehicle sales in Europe and excess production capacity of 4 million cars annually make Morocco less attractive as an export destination towards European markets. Instead, the Ministry of Industry and Trade (or preferable the newly founded IfC) should shift emphasis in marketing and courting to highlight Morocco's access to non-European markets including North Africa, Middle East and sub-Saharan Africa. It should also highlight its existing free trade agreements with the United States and countries in the Middle East and North Africa. As part of its strategy, the Moroccan government needs to determine how much it is willing to invest to attract a second manufacturer. It made large investments to accommodate Renault, but now there is a large debate within the government whether similar investments should be made for a second manufacturer (for example from South Asia or East Asia). The government should decide upon this as soon as possible, since the current uncertainty hinders progress.

Second, the new IfC (or if not yet established the Ministry of Industry and Trade) should create a strategy to attract suppliers in the missing segments. As a starting point of

this strategy, the new IfC should identify which missing segments are most attractive to develop in Morocco. It should evaluate this attractiveness based on existing skills in Morocco, the necessary scale level to produce the segment profitably, overcapacity in competing industrial areas (most notably Europe), and the export potential for each segment to both Europe and emerging markets. At the moment, the necessary baseline data to develop such a strategy does not exist. The new IfC should mobilize stakeholders both within the government and private companies to generate these data.

5. Gradually move up to more value adding activities in the value chain, such as R&D and design (long term: after 2020). The automotive cluster in Morocco cannot keep growing in the long term if car manufacturers and suppliers concentrate on low value adding activities. Even if the cluster implements the first four recommendations in the short and medium term, growth will saturate after 2020. Hence, the new IfC needs to create a long term strategy to move up the cluster to more value adding activities. Given that Morocco at present misses the skills and institutions to engage in these activities, the strategy needs to be gradual and adaptive.

It is important to involve all relevant stakeholders in developing this strategy. Renault needs to express its specific needs for applied knowledge and technology in Morocco, and contribute knowledge, funds, and human resources. Likewise, other private companies and suppliers must articulate their need for more advanced knowledge and technology, and also commit financial and human resources. Universities should set up more advanced curricula and hire external professors to educate their students on R&D and design. They should also share information with private companies on their existing

research capabilities and seek for potential areas of collaboration. Finally, the Moroccan government must create the right incentives for companies to move up the value chain and may consider temporarily subsidizing startup funds if necessary.

At some point in this strategic process, setting up a dedicated R&D institute for the automotive cluster may be an appropriate way to stimulate and coordinate activities to move up the value chain. If R&D for the automotive cluster has significant overlap with other clusters (for example aeronautics), the involved IfCs should consider setting up a shared institution. Leveraging synergies with related clusters can be a strong driver for continued growth in the long term.

List of interviews: ³⁰

Jill Avery	Senior Lecturer at Harvard Business School
Ahmed Chami	Former Minister of Industry, Trade and New Technologies of the Kingdom of Morocco.
Yassine Cherkaoui	Project Officer at OCP Utilities
Hayat Essakkati	Consultant at International Financial Cooperation (IFC)
Abdelhak Mounir	President Director General at IFMIA
Yassir Zouaoui	Associate Principal at McKinsey & Company

³⁰ Note, interviews have informed our overall thinking and analysis of the case.

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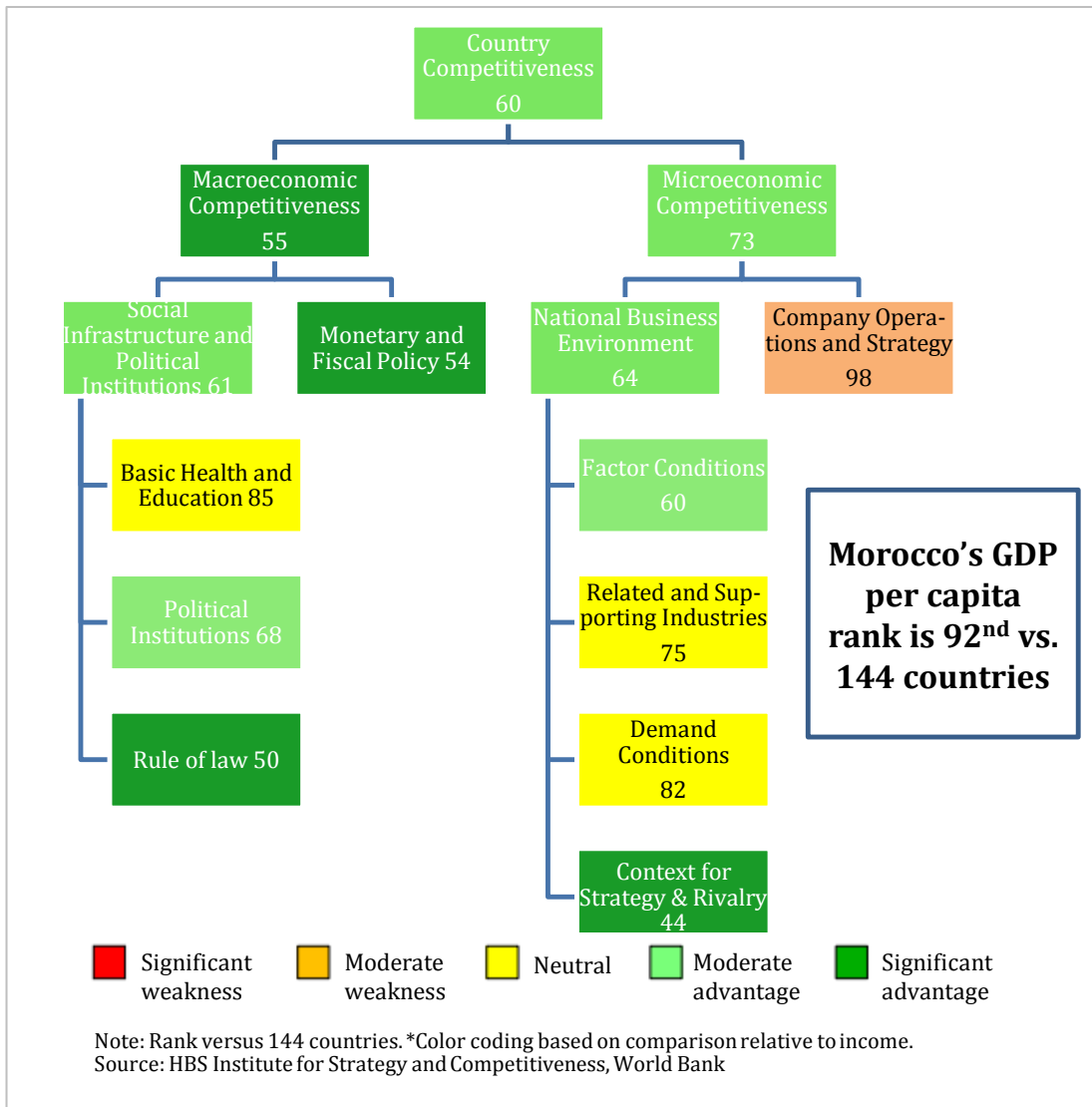
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Appendix

Exhibit 15 shows that the overall score on country competitiveness is high for Morocco (60th position) compared to its GDP per capita (92nd position). Moreover, Morocco ranks better for almost all sub-indicators in both micro- and macroeconomic competitiveness than for GDP per capita. There are two potential explanations for this. First, various countries with more endowments have higher GDP per capita than Morocco but lower competitiveness (like Libya and Venezuela). Second, some of Morocco’s improvements in competitiveness are relatively recent. Morocco is currently catching up in terms of GDP per capita. Morocco structural growth in real GDP of 3-5% is higher than some other middle income countries, such as Jordan, Algeria and Macedonia.



-Exhibit 15: Country competitiveness of Morocco-