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**MOROCCO: GROWTH STRATEGY FOR 2025
IN AN EVOLVING INTERNATIONAL
ENVIRONMENT**

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**Pierre-Richard Agénor
Karim El Aynaoui**

Morocco
Growth strategy for 2025
in an evolving
international environment

OCP POLICY CENTER

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About OCP Policy Center

OCP Policy Center is a Moroccan policy-oriented Think Tank whose mission is to contribute to knowledge sharing and to enrich reflection on key economic and international relations issues, considered as essential to the economic and social development of Morocco, and more broadly to the African continent. For this purpose, the Think Tank relies on independent research, a network of partners and leading research associates, in the spirit of an open exchange and debate platform.

By offering a “Southern perspective” from a middle-income African country, on major international debates and strategic challenges that the developing and emerging countries are facing, OCP Policy Center aims to make a meaningful contribution to four thematic areas: agriculture, environment and food security; economic and social development; commodity economics; and “Global Morocco,” a program dedicated to understanding key strategic regional and global evolutions shaping the future of Morocco.

On this basis, OCP Policy Center is actively engaged in analyzing public policies and promoting international cooperation for the development of countries in the southern hemisphere. One of its objectives is to contribute to the emergence of a wider Atlantic for which the potential remains largely untapped. Aware that achieving these goals also requires the development of human capital, the Think Tank aims to participate in strengthening national and continental capacities in the area of economic analysis and management.

In this regard, OCP Policy Center aims to be an incubator of ideas and a proactive source of proposed actions for public policies in emerging economies, and more broadly for all stakeholders engaged in the growth and development process on both the national and regional arenas. In particular, the Think Tank is dedicated to bridging between academic research and policy making.

Parallel to this, OCP Policy Center strives to build a network of young leaders dedicated to Africa’s transformation, by providing a space for cooperation for a new generation of decision makers in the economic, policy, business and civil society sectors.

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Acknowledgements

This report is a product of a journey that began as a result of reflection nearly two years ago, and is the culmination of many years of research devoted to understanding the workings of the Moroccan economy. The main motivation at the source of this work lies in the changing international environment that requires all middle-income countries, including Morocco, to rethink and reformulate their growth strategies.

We particularly express our gratitude to Mostafa Terrab, President and CEO of OCP Group and Chairman of the OCP Foundation for making this report possible. We also thank him for his support and suggestions throughout this report.

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Executive summary

Morocco has experienced rapid growth during the first decade of this century. Between the periods 1990-1999, 2000-2009 and 2010-2013, the annual gross domestic product (GDP) growth rate rose on average from 3.2% to 4.7% and 3.9%, respectively. In a context where macroeconomic stability was maintained, and the business environment has improved, the country has pursued a strategy that is fundamentally based on the expansion of domestic demand, particularly in public investment. This strategy has had undeniably positive effects on both economic and human development. It has allowed the country to grow at a rate close to its potential rate, to improve access to basic infrastructure services (water, electricity and roads, especially in rural areas), to increase the life expectancy of its citizens, and to reduce poverty and vulnerability –despite persistent unemployment– while keeping inflation at relatively low levels.

While this growth strategy has proven to be beneficial for the country in many respects, a number of indicators suggest that it has reached its limits. The perspective taken in this report is that fundamental changes in the international environment, which Morocco has to confront, make it necessary to rethink and reformulate this policy. The centerpiece of this new strategy is the need for Morocco to accelerate its transition to the top of the world technology frontier –defined by the most developed countries– to better position itself in global value chains, and prepare to compete in the international markets for goods and services that require intensive skilled labor and technological inputs. Meanwhile, in the short and medium term, the country must find competitive margins in low-skill-intensive activities, particularly in light manufacturing. This strategic vision presented in this report is accompanied by a series of recommendations for the short and medium term, particularly concerning the direction of economic policy.

Specifically, there are four basic reasons why the Moroccan economy is at a crucial stage in its evolution.

- 1) Changes in the international division of labor have accelerated in recent years, apparent in large part by global growth moving eastward, particularly with the emergence of China as the second largest economy in the world. The risk for Morocco is to become caught between the rapid-growing low-income countries, with abundant and low-cost labor, and the middle-income, larger countries capable of innovating quickly to move to the top of the world technology frontier. In a “moderate growth trap” of this type, job creation is often insufficient to absorb the expansion of the labor force. The low-income countries include several rapid-growing Asian countries (Cambodia, India, Vietnam, and Indonesia), while examples of middle-income countries include Brazil and Turkey. In addition, China’s massive investment in Sub-Saharan Africa in recent years has helped accelerate the participation of some countries in the region in the new international division of labor, especially in light manufacturing with low qualification requirements. This development, which results in a loss of potential markets for Morocco, may further contribute to closing the growth trap that the country faces.

In parallel, through the structure of its trade and financial relations with Europe, Morocco remains bound to a region that is facing a series of structural problems and whose medium-term growth prospects –and probably beyond– remain unfavorable. At the same time, the Maghreb region has not been a source of expanded trade and foreign direct investment (FDI), and therefore has not become a new driving force for growth, in spite of expectations.

- 2) While the Moroccan economy has overcome the difficulties brought about by the global financial crisis, a number of indicators clearly suggest that the growth strategy has been slowing since 2010: continuous growth of macroeconomic imbalances, both fiscal and balance of payments deficits; a loss of competitiveness due to the appreciation of the real exchange rate and rising labor costs; a slowing trend growth rate; a limited improvement in the workforce quality, which hampers the country’s ability to adjust; and persistent unemployment. This overall

situation can be accompanied by an erosion of trust by agents about the future prospects of the economy.

As mentioned earlier, Morocco's growth performance over the past decade has mainly been due to the expansion of domestic demand, coupled with increases in real wages –partly related to minimum wage increases initiated by the government– and public investment ratios that are high by historical standards. Indeed, the country's public investment to GDP ratio has achieved one of the highest levels in the world. While these investments have had a positive effect on production capacity, available data seem to suggest that they have also suffered from efficiency problems and have reached diminishing returns, at least in some sectors, mainly due to a bias in their sector and country allocation. In addition, productive private investment, especially in manufacturing, has not increased as expected, which may have been the result of several factors: limited complementarity effect associated with public capital; significant crowding out effects; and significant progress, though still insufficient, in the business environment. All these factors may have contributed to reducing the incentives to invest in activities that would allow Morocco to accelerate its transition to the top of the world technology frontier.

These limitations of the current growth strategy are exacerbated by the nature of the exchange rate regime, which continues to hamper the appropriate adjustments in the real exchange rate –in particular in response to trade shocks. These limitations contribute to the deterioration of Morocco's competitiveness and curb its ability to diversify the range of its exported products while encouraging imports. In turn, this increase in imports raises the current account deficit of the balance of payments in the short term, and also leads to deindustrialization in the medium and long term.

- 3) Despite the favorable growth performance during the 2000s, the unemployment rate remains stubbornly high, particularly among youth and skilled workers. There are multiple reasons for the continuing tensions in the labor market. They include: a growth rate that is insufficient to fully absorb the expansion of the labor force; insufficient private investment in key growth sectors, as indicated above; and institutional rigidities –including the quality of dialogue between employers and unions, high hiring

and dismissal costs, and friction in the functioning of the legal framework for resolving labor disputes. In addition there is a considerable disparity between the type of skills produced by the education system and those necessary to move to an innovation system in order to better integrate into global value chains, and to face competition in international markets on a sound basis.

- 4) Morocco's macroeconomic policy framework has served the country well in the past, but it must now evolve to address several issues related to the process of financial globalization and greater trade openness of the economy, which expose the country to more volatilities, with significant risk for national impact. To avoid destabilizing effects, the current framework needs to evolve to allow a timely response to external shocks and to mitigate cyclical fluctuations around the economy's trend growth rate. To achieve this goal, the scope of instruments used by the Central Bank should be expanded to include a new set of macroprudential tools to manage risk from the financial sector. These instruments should be articulated and coordinated with the traditional imperatives of banking supervision and monetary policy –which itself must show greater flexibility in the movements of key policy rates.

In terms of fiscal policy, discretionary wide scale tax adjustments on taxation, rising fiscal imbalances, and low capacity to meet the challenges of changing economic conditions, have helped reduce the predictability of the macroeconomic management framework and destabilized the expectations of economic agents, eroding their confidence in the future.

These challenges are not insurmountable. By adopting a new integrated and ambitious strategy to promote growth and employment, Morocco could better leverage the new international environment. In this report's perspective, this strategy should be based on three pillars:

- 1) Foster a short-term boost in competitiveness by adopting a number of measures to reduce production costs in labor-intensive sectors, and pursue quality improvement efforts in this labor pool;
- 2) Promote private activity in productive sectors that will help the country to accelerate its transition to the top of the world

technology frontier and compete in international markets for technology and skilled labor-intensive goods and services, while improving its position in global value chains;

- 3) Rethink the role the state should play in facilitating this transition, particularly in terms of incentives for private agents to invest, the type of public services that would increase the productivity of private inputs in strategic activities sectors, and in terms of support for a regional integration strategy.

To achieve these basic objectives, the key elements of the new framework for economic growth should include:

- 1) A more appropriate composition of public investment spending –possibly in a context of a lower total level of these expenditures, imposed by fiscal consolidation– between basic infrastructure (roads, energy, basic telecommunications systems, water and sanitation) and advanced infrastructure (for advanced information communication technology) as well as a better distribution of public capital between the country’s regions. This reallocation of infrastructure investment spending is essential to promote the adjustment of production structures, that is to say, a transition from unskilled labor intensive activities based on imitation –or limited adaptation– of foreign products that rely on imported technologies, towards skilled labor intensive activities based on national innovation. The latter require rapid access to information to exploit the opportunities offered by new markets and promote the development of international knowledge networks. To promote innovation a key proposal of this report is the creation of a public program like STARTUP-Chile, which would aim to attract talented young entrepreneurs from around the world, particularly the Middle East and low-growth countries in Europe. Such a program would provide temporary subsidies and would include additional measures to facilitate the mobility of individuals. It would have the ability to produce major short-term benefits for the economy as a whole.
- 2) Strengthening policies to promote quality education –both in the secondary and tertiary sectors– and continuing education, national innovation, and the rule of law, with a sectoral perspective based on key economic areas.

- 3) Labor market reforms to reduce the cost of labor, reduce knowledge disparities in order to promote the adoption of more intensive production methods in advanced technology and enable the country to better capitalize on the opportunities created by rapid changes it faces in global markets.
- 4) Specific policies towards strategic productive sectors, including agriculture, manufacturing, phosphates, and renewable energies. Beyond the unique dimension of these policies specific to each sector, they have a common challenge of adapting to a radically changing international environment. These policies also have a common goal of redeploying resources (investment of physical and human capital) in order to promote research and innovation, allowing a more favorable position on the world technology frontier, and thus maximizing benefits from the growth in demand expected in these areas.
- 5) Strengthening the role of the domestic financial sector in the financing of small and medium sized enterprises (SMEs), both in terms of production activities and innovation activities, and its ability to support the process of globalizing Moroccan non-financial companies, particularly in their regional strategy. It also concerns promoting greater competition in the financial sector to accelerate the development of market financing (non-bank), expand savings, and expand the financing of the economy.
- 6) Further liberalization of the capital account and the adoption of a more flexible exchange rate regime, in the form of a managed float, in order to reduce imports and help the recovery of the balance of payments, to reestablish cost competitiveness, which has been largely eroded in recent years, and to facilitate the absorption of external shocks.
- 7) An emphasis on the regional strategy to capitalize on Morocco's geographical position in the context of the new international division of labor, in order to gradually relocate unskilled labor intensive light manufacturing activities that are based on imitation in particular to the Francophone countries in Sub-Saharan Africa, so as to take advantage of low labor costs and promote "upgrading" of the country. As mentioned previously, China has significantly strengthened its presence in this region in recent years and has benefited to some extent from

being the “first investor” in some countries. Nevertheless, in a number of African Francophone countries, Morocco can benefit from an established presence in a number of sectors –including the financial sector– and common cultural heritage to face competition from China.

The strengthening of this regional integration dynamic would in time lead to the creation of export markets for products with higher technological content. It would also lead to the creation of integrated supply chains in several activities, favored by low labor costs. To implement the regional strategy, foreign direct investment (FDI) in Moroccan companies will need to increase significantly, especially in basic infrastructure. It may also require direct and indirect state support –at least initially– for example through the establishment of bilateral aid agreements and trade facilitation including a free trade area. In turn, to accelerate growth and the industrial transformation process in Morocco, these measures would help to attract FDI flows to Morocco from more advanced economies and contribute to the development of a virtuous circle –accelerating Morocco’s transition to a technology-intensive economy and a skilled labor pool.

- 8) The adoption of monetary, fiscal, and macroprudential policies that contribute to adapting and strengthening the macroeconomic policy framework’s capacity to mitigate –in association with a more flexible exchange rate regime– growth rate fluctuations observed around the growth rate potential, to keep current and anticipated inflation rates stable –so as to not interfere with the economic calculations of private agents– and reduce the procyclicality of the financial system and risks to financial stability. In this context, greater flexibility of monetary policy and the introduction of countercyclical macroprudential instruments would prove essential, as well as greater coordination between monetary and fiscal policies. An explicit fiscal rule would also enhance the credibility of policy in this area.

Regarding the conduct of fiscal policy beyond the necessary short-term consolidation needs, it would be beneficial to establish a more credible framework that may involve introducing a formal fiscal rule and improved transparency. To better meet the demands of managing the economic cycle, closer coordination between monetary and fiscal policies is desirable.

The impact of this integrated strategy on economic growth and employment has been evaluated from a quantitative macroeconomic model, calibrated for Morocco. This model –described in detail in Agénor and El Aynaoui (2014)– takes into account the sectors that produce intermediate and final goods; imitation and innovation activities; transforming unskilled labor into skilled labor; distortions in the labor market; the quality of public investment; the distinction between basic infrastructure and advanced infrastructure; the bidirectional relationship between FDI, economic growth and the quality of human capital; and the degree of enforcement of intellectual property rights associated with innovation.

This examination of the impact of individual policies and a composite reform program suggests that the proposed strategy would accelerate Morocco’s annual trend growth rate from its current rate of about 4% to about 6.2%. Once successfully implemented, it would create 160,000 and 200,000 jobs a year in net terms, and would result in a near doubling of per capita income over a ten year period, depending on the intensity of reforms –in particular of the labor market.

For comparison, during the last decade, the economy created about 120,000 jobs per year. The average value of the change in the number of the Moroccan active workforce is about 160,000 people annually for 2006-2008 and 2013 –thus excluding the years corresponding to the global financial crisis. Each point of GDP growth has created about 26,700 jobs. With an annual net creation of about 160,000 jobs, an increase in the labor force would be fully absorbed, while 200,000 new jobs would reduce unemployment by half.

Introduction

Morocco is facing a rapidly changing international economic environment, characterized by a high mobility of capital and a migration of the global growth engines towards Asia. This international context creates complex challenges and imposes high demands on the quality and responsiveness of the country's economic policy. Basically, these challenges exist because Morocco's capacity for innovation and productivity is still insufficient to meet competition from the most dynamic economies, while its price competitiveness is not strong enough to face labor-intensive activities from countries –old and new, especially in Asia– with significant unskilled low cost labor resources. In other words, the Moroccan economy may be squeezed between the low-revenue rapidly-growing countries with an abundant and inexpensive labor, and the other larger middle-income countries that are able to innovate quickly enough to move to the top of the world technology frontier, which is defined by the most developed countries.¹

This report's perspective is that in order to avoid this “moderate growth trap” between the most innovative and competitive countries and those countries with strong competitiveness due to low labor costs, Morocco must rethink and reformulate its growth and employment strategy.

The report is organized as follows. Part I provides an overview of the changing international environment that Morocco is facing. Part II provides an overview of the country's current growth policy and its limits. The elements of the proposed new growth policy in this report are presented in Part III. The impact of this new policy on the growth rate of economic activity and employment is analyzed in Part IV, based on a quantitative model. The temporal sequencing of reforms needed for the implementation of this strategy is discussed in Part V.

1. The technological frontier is the most effective set of existing technologies (combination of production factors).

The changing international environment

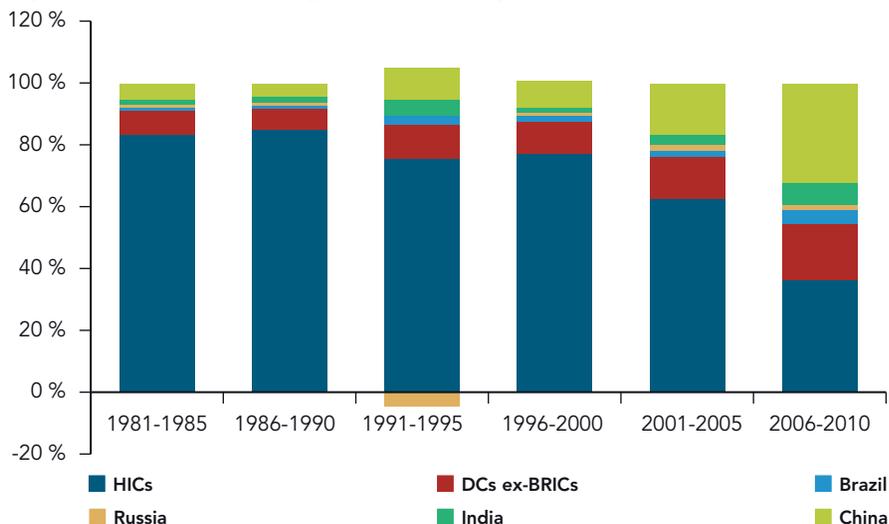
The international economic integration process has accelerated over the past two decades, fostered by more open policies and trade liberalization in a growing number of countries, as well as many technical advances, especially in transport and communications.

In this context, four elements are essential to understanding the changing international environment that Morocco faces: the emergence of China as a world power and the emergence of new Asian competitors; the globalization of value chains (or networks) and their growing role in international trade; the European Union's structural difficulties; and the challenges of international financial integration.

1.1 Emergence of China and new Asian competitors

Within a few decades of rapid growth, China has become the second largest economy in the world. Its contribution to world economic growth increased sharply between 1981-1985 and 2006-2010 (Figure 1). Between 2000-2010, for example, the average annual growth rate of real gross domestic product (GDP) was 10.8%, compared to 1.4% in the G7 countries and 1.8% for developed countries in general (Table 1). To put things in a more direct perspective, forty years ago China had a per capita income level five times lower than that of Morocco; in 2005, China's per capita income was 5% higher and nearly 63% in 2012 (Figure 2).

Figure 1 – Contribution to global economic growth, 1981-2010



Source: Chandra et al. (2012).

Table 1 – Economic profile of the G20 countries, 2010

Large Advanced Countries/Area	(1)	(2)	(3)	(4)	(5)
United States	309	14,646	14,636	47,310	1.8
Japan	127	5,334	4,412	34,610	0.9
Germany	82	3,522	3,115	38,100	0.9
France	65	2,750	2,255	34,750	1.3
United Kingdom	62	2,377	2,231	35,840	1.8
Italy	60	2,159	1,924	31,810	0.5
Canada	34	1,476	1,310	38,370	2.0
G7 (All the above)	739	32,264	29,883	40,369	1.4
Australia	22	1,030	823	36,910	3.2
Euro Area (17)	332	12,794	11,400	34,360	1.3
European Union (27)	502	17,361	15,904	31,681	1.5
Advanced in G20	994	39,847	37,085	37,258	1.6
All high income	1,127	43,683	42,073	37,317	1.8

Legend:

(1) Population in millions

(2) Gross National Income (GNI) in billions of US dollars¹

(3) Gross National Income (GNI) at Purchasing Power Parity (PPP) in billion US dollars

(4) Per Capita GNI in PPP in dollars

(5) Average Yearly Growth of real GDP 2000-2010 in percentages

1. This report refers to US dollars unless otherwise stated.

Large Emerging Market Economies	(1)	(2)	(3)	(4)	(5)
China	1,338	5,721	10,222	7,640	10.8
India	1,225	1,554	4,160	3,400	8.0
Russia	142	1,404	2,727	19,240	5.4
Brazil	195	1,830	2,145	11,000	3.7
South Africa	50	305	520	10,360	3.9
BRICS (All above)	2,950	10,814	19,774	6,706	8.8
Korea	49	972	1,423	29,100	4.1
Indonesia	240	599	1,008	4,200	5.3
Mexico	113	1,008	1,627	14,340	2.1
Argentina	40	348	629	15,570	5.6
Turkey	73	720	1,230	15,530	4.7
Saudi Arabia	27	434	610	22,750	3.6
Emerging in G20	3,492	14,895	26,301	7,505	8.1
All Emerging	5,767	18,949	33,538	5,996	6.4

Source: Klein and Salvatore (2013).

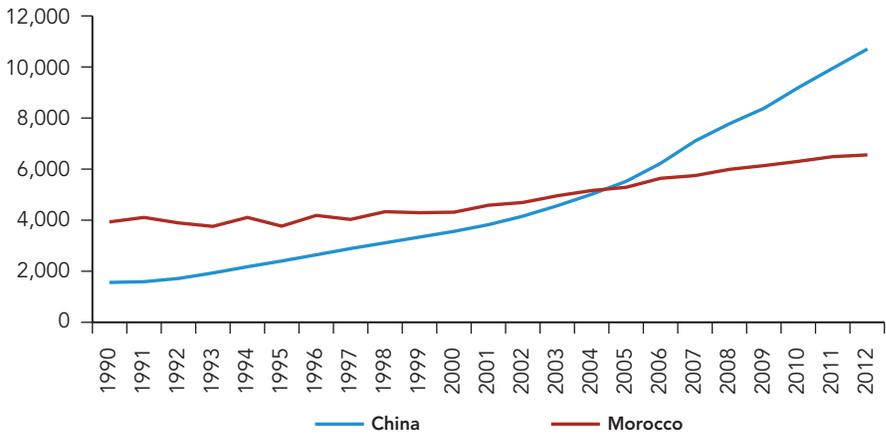
Note: G20 includes United States, Japan, Germany, France, United Kingdom, Italy, Canada, Australia and the European Union as a whole (among advanced countries), China, India, Russia, Brazil and South Africa (BRICS), Korea, Indonesia, Mexico, Argentina, Turkey and Saudi Arabia.

Legend:

- (1) Population in millions
- (2) Gross National Income (GNI) in billions of US dollars¹
- (3) Gross National Income (GNI) at Purchasing Power Parity (PPP) in billion US dollars
- (4) Per Capita GNI in PPP in dollars
- (5) Average Yearly Growth of real GDP 2000-2010 in percentages

1. This report refers to US dollars unless otherwise stated.

Figure 2 – China and Morocco: real income per capita, 1990-2012
(\$ international constant 2011, Purchasing Power Parity (PPP))



Source: World Bank.

It is important to note that the changes that China has experienced took place in parallel with its demographic transition, which has resulted in a continuous decline in its natural population rate increase.

Several components are behind China's rapid growth, including a sustained accumulation of factors –stimulated by high savings rates and significant rural-urban migration, creating a labor reservoir for business expansion in urban areas– an undervalued exchange rate, and massive industrial subsidies.² This expansion has been accompanied by strong growth in exports. In 2013, as shown in Table 2, China was the world's largest exporter of goods, with 11.7% of the total world market, versus 8.4% for the United States, 7.7% for Germany, and 3.8% for Japan. The same year, China was the second largest importer of goods, with 10.3% of the market, compared to 12.3% for the USA, 6.3% for Germany and 4.4% for Japan.

2. According to Haley and Haley (2013) for example, the large Chinese state owned industrial enterprises received over U.S. \$300 billion of government grants between 1985 and 2005.

**Table 2 – World trade in products: Leading exporters and importers, 2013
(in US\$ billions and in percent)**

Rank	Exporters	Value	Share	Annual % Change
1	China	2,209	11.7	8
2	United States	1,580	8.4	2
3	Germany	1,453	7.7	3
4	Japan	715	3.8	-10
5	Netherlands	672	3.6	3
6	France	580	3.1	2
7	Korea, Republic of	560	3.0	2
8	United Kingdom	542	2.9	15
9	Hong Kong, China	536	2.8	9
	- domestic exports	20	0.1	-11
	- re-exports	516	2.7	10
10	Russian Federation	523	2.8	-1
Rank	Importers	Value	Share	Annual % Change
1	United States	2,329	12.3	0
2	China	1,950	10.3	7
3	Germany	1,189	6.3	2
4	Japan	833	4.4	-6
5	France	681	3.6	1
6	United Kingdom	655	3.5	-5
7	Hong Kong, China	622	3.3	12
	- retained imports	141	0.7	4
8	Netherlands	590	3.1	0
9	Korea, Republic of	516	2.7	-1
10	Italy	477	2.5	-2
11	Canada	474	2.5	0

Source: United Nations Conference on Trade and Development (UNCTAD), *World Trade Report 2014*³

3. See https://www.wto.org/english/res_e/booksp_e/world_trade_report14_e.pdf.

The long-term outlook is favorable. According to recent Organisation for Economic Co-operation and Development (OECD) projections, the growth rate of the Chinese economy will remain at 6.6% per year on average during the period from 2011 to 2030, before stabilizing at 2.3% between 2030 and 2060 (Table 3). During the same period, the growth rate will be only 2.3 and 2.0% for the United States, 1.3 and 1.0% for Germany, and 2.7 and 1.0% for South Korea. According to other United Nations forecasts, by 2050 China, Brazil and India together will account for 40% of world production, compared to only 10% in 1950 (Figure 3).

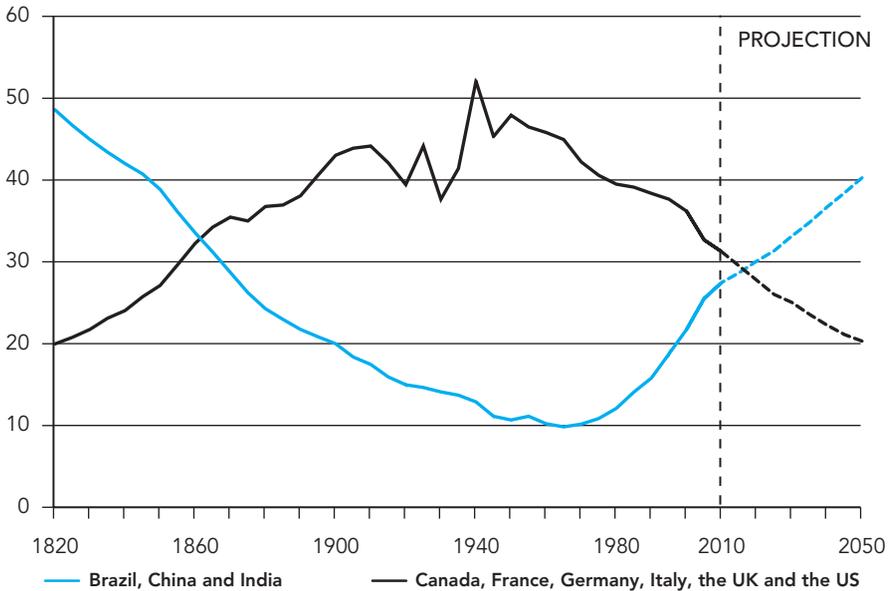
**Table 3 – Growth rate of real GDP per country, 1995-2060
(Average values per sub-period)**

	Average growth in GDP 1995-2011	Average growth in GDP 2011-2030	Average growth in GDP 2030-2060
United States	2.5	2.3	2.0
Japan	0.9	1.2	1.4
Germany	1.4	1.3	1.0
France	1.7	2.0	1.4
United Kingdom	2.3	1.9	2.2
Italy	1.0	1.3	1.5
Canada	2.6	2.1	2.3
Korea, Republic of	4.6	2.7	1.0
China	10.0	6.6	2.3
Indonesia	4.4	5.3	3.4
India	7.5	6.7	4.0

Source: Organisation for Economic Co-operation and Development (2012).

Figure 3 – China, Brazil and India's share of world output, 1820-2050

Share of global output (%)



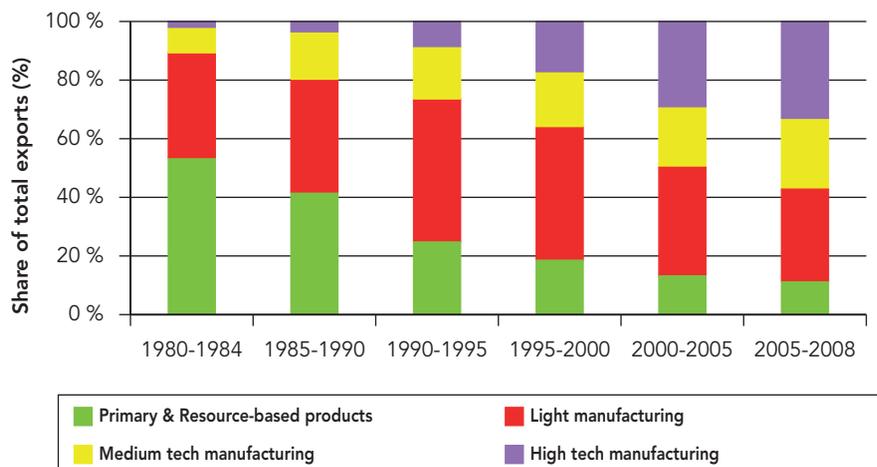
Source: UNDP, *Human Development Report 2013*⁴.

It is also important to note that the composition of Chinese exports has undergone a significant transformation in recent years (Table 4 and Figure 4). The share of primary products declined significantly between 1980 and 2008, while the share of technology-intensive manufactured goods rose sharply, and now accounts for over 30% of China's exports.⁵ At the same time the share of light manufactured goods made with high labor intensity has decreased significantly. The process of industrial transformation in China has actually accelerated considerably in recent years and the phenomenon of “technological catch-up” will continue (Schellekens, 2013). This evolution was helped

4. See <http://hdr.undp.org/en/2013-report>.

5. The most commonly used method for classifying high-tech products –used in particular by the Organisation for Economic Cooperation and Development (OECD)– is based on aggregated data; the indicators for technological content are calculated at the sector level and all products belonging to a “high tech” sector are considered products with high technological content. This methodology allows the classification of different sectors of economic activity into four groups: high technology, medium-high technology, medium-low technology, and low technology. In this classification, high technology industries include all production from high-tech branches. However, it should be noted that this classification introduces a selection bias because all the high-tech industry products do not contain high technological content. Similarly, some products from so-called low-tech industries can contain high content with technological sophistication.

Figure 4 – China: Composition of exports, 1980-2008



Source: Chandra and al. (2012).

**Table 4 – China: Share in global exports, by sector, 1990 and 2008
(Percent of global exports for each sector)**

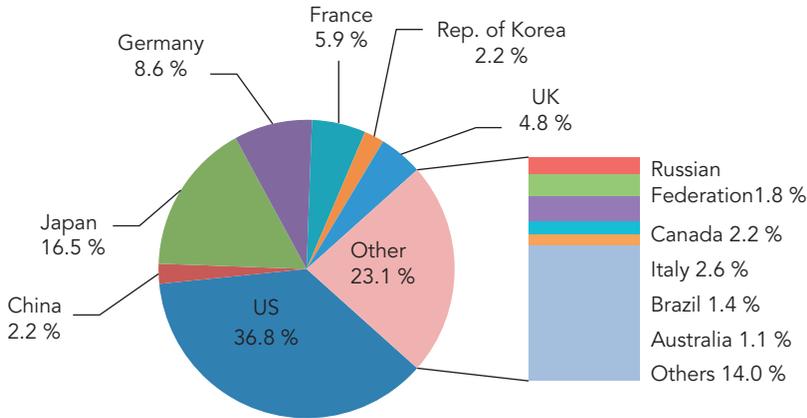
	1990	2008
Textile-clothing-leather	7.8	32.0
Electronic products	1.3	22.4
Electrical equipment	1.8	19.8
Wood-paper-toys	2.8	19.2
Steel products	1.0	9.4
Total	1.7	9.4
Mechanical products	0.5	8.2
Chemical products	1.2	6.6
Non-ferrous metals	0.8	4.2
Agro-food products	1.9	3.0
Vehicles	0.1	2.9
Energy products	1.5	1.0

Source: Artus and al. (2011).

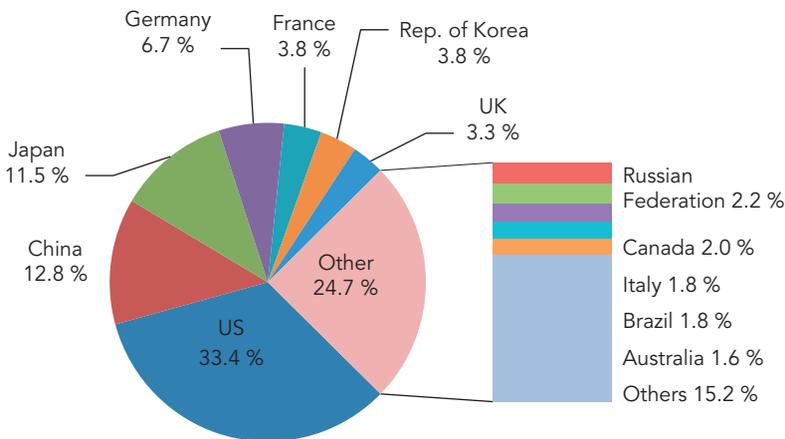
by the sharp increase in research and development (R&D) investment in China, which rose from 2.2% of the total amount worldwide in 1993 to 12.8% in 2009 (Figure 5).

Figure 5 – Countries’ relative share of global spending on research and development in 1993 and 2009

(R&D), 1993



2009



Source: World Intellectual Property Organization (WIPO) (2011).

Note: R&D data refer to gross domestic expenditure on R&D (GERD).

Several other Asian countries have also emerged as new competitors: Bangladesh, Indonesia, Vietnam (Box 1) and, to a lesser extent, Cambodia and Laos. Countries like Nepal and the Philippines are also engaged in phase of transformation and rapid growth. These countries have relatively low labor costs and have experienced a sharp increase in direct investment from several countries, including China. From this point of view, the transition initiated by China to an economy based on innovation has created new opportunities for countries in the region, particularly in the area of light manufactured goods.

The emergence of China as the second world power, as well as the emergence of new Asian competitors, have important implications for all countries of the world and for their growth strategies. For Morocco in particular, these changes involve an increased potential competition in high labor-intensive activities, which over time will require an adjustment of its productive structures and a strengthening of its competitiveness. These two issues will be discussed in detail later in this report.

Box 1 – The new Asian competitors

Several Asian countries, including Bangladesh, Indonesia, Vietnam and Laos are now engaged in a process of rapid growth, fostered by low wages and the relocation of many Chinese manufacturing operations.

Indonesia, for example, with about 250 million inhabitants, is one of the most populous countries in the world, and one of the youngest (average age of 28 years old). Its middle class is the fastest growing in the world. Despite insufficient basic infrastructure (electricity, drinking water), the country has experienced growth of about 6.0% per year in recent years. While remaining a major producer and exporter of raw materials (such as coal, palm oil, rice, natural gas and rubber), exports of other products have also increased in recent years.

Laos, a country with a population of only 6.5 million people, experienced a real GDP growth rate of 8.3% in 2012, the highest in South Asia. GDP per capita increased from US\$ 300 in 2001 to US\$ 1,200 in 2011. The country is now classified by the World Bank within the rank of “lower middle income” countries and could access the status of a “middle income” country by 2020. The reasons for this growth are clear: in addition to tourism, Laos has taken advantage of its extensive mining, agro-forestry and hydroelectric resources.

Between 2001 and 2009, Vietnam, with a population of about 85 million inhabitants, experienced a real GDP growth rate of around 7.3% per year. The country remains specialized in certain primary products (agriculture, energy) and unsophisticated industrial products (shoes, clothes, food, etc.) that are low value-added and unskilled labor intensive. Exports account for over 70% of GDP, encouraged by a favorable exchange rate and low transport and communication costs. Vietnam’s participation in Asian production networks has been gradual through foreign direct investment by several countries (including Taiwan, Singapore, Japan and South Korea, and more recently the United States and China) and the establishment of foreign companies. Since the mid nineties, Vietnam’s increase in the share of world trade is the strongest of all the leading Asian exporters (including China). At the same time, industries with a higher technological level (particularly in the field of electrical and electronic industries) began to develop. To speed up this process of catching up and its vertical integration in the regional and global value chains, Vietnam should also gradually increase the skilled labor content of its exports.

1.2 Globalization of value chains

Globalization –the emergence of a vast global market for goods, services, capital and labor, which increasingly bypasses political borders, while emphasizing the interdependencies between countries– has been accompanied by the related phenomena of outsourcing and offshoring trade, which is to outsource parts of the production

process to specialized companies domestically or abroad, or directly transfer the production to a new external site in order to increase efficiency and reduce costs. New information and communications technology (ICT) –including office machines, data processing equipment, data communications, telecommunications, and telecommunications software and services- made these events possible not only for goods, but also for services. Indeed, technological improvements, standardization, development of infrastructure, and lower data transmission costs have also facilitated the purchase of services abroad. Many transnational companies use new ICT to allocate productive tasks between their subsidiaries abroad, depending on the comparative advantages of each country. In particular, “knowledge activities” such as entering data or research and advisory services can be easily executed via Internet, e-mail and teleconferencing or videoconferencing. The acceleration of the overall globalization process has thus resulted in the emergence of “global value chains.”⁶

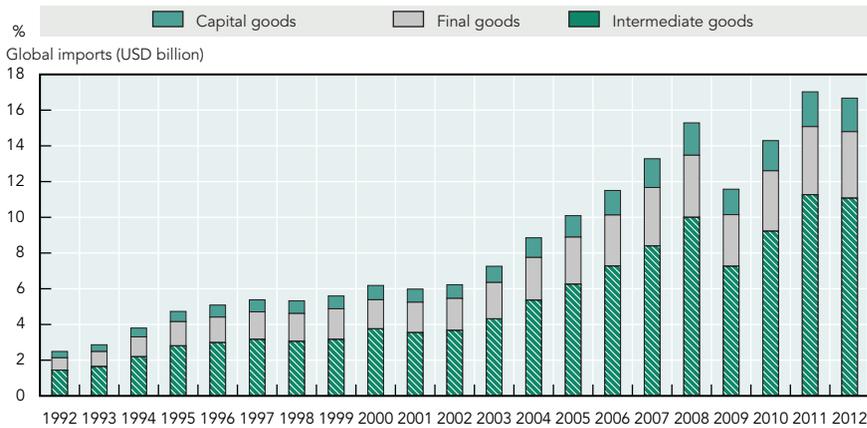
The trend towards the globalization of value chains –that is to say, the value added for any activity through different processes or tasks at each stage of production– is rational for companies, in the face of growing competition in domestic and international markets that obliges an increase in efficiency and a reduction of costs.⁷ From raw material to the finished product, the whole process of goods production has experienced a fragmentation that today allows each sub-process to be conducted where the skills and raw materials are available at competitive costs. This is especially true for high-technology sectors, which are more internationalized than

6. See Organisation for Economic Cooperation and Development (2007), United Nations Industrial Development Organization (2009), Sturgeon and Memedovic (2010), Chandra and al. (2012), Cattaneo and al. (2013), and African Development Bank (2014) for a more detailed discussion.

7. In general, the approach in terms of value chains aims to examine the development of a country’s competitive advantage. The chain itself is a series of activities that create or build value and are aggregated to estimate the total value of the organization. Three useful concepts in this context are the supply chain, management of the supply chain, and the logistics chain (Ministry of Equipment and Transport, 2006; Box 2). The *supply chain* is a set of organizations directly connected together or linked by one or more streams of products, services, finance or information upstream or downstream from a source to a customer. *Supply chain management* involves the active management and coordination of the flow of products, services and information. This management extends from the raw material to the end user of the product. Its main objective is to optimize customer-supplier flows in a comprehensive manner, that is to say, reduce the product’s costs and life cycle while maintaining quality. The *supply chain* is the set of links relating to the supply logistics. It is a succession of industrial and commercial operations that begin with the supply of raw materials and end with the sale of the product. It involves the company, its suppliers and subcontractors.

less technology-intensive sectors, primarily because the high-tech companies do not have all the necessary knowledge in-house, and must increasingly use external resources.⁸ Companies also aim to enter new markets and obtain strategic resources that may help them harness foreign knowledge. The globalization of value chains is why today more than half of the world's manufactured imports are intermediate goods, meaning primary goods, parts, components and semi-finished goods (Figure 6).

Figure 6 – Unbundling of trade: trade growth driven by intermediate goods, 1992-2012



Source: African Development Bank (2014).

The rise of global value chains also offers new opportunities for small and medium enterprises (SMEs), which, however, face significant challenges in accessing international markets: quality standards requirements, management, financial aspects, and the ability to upgrade the company's internal technology. As suppliers, SMEs are often more empowered in the value chain and may in time accomplish increasingly complex tasks. They can thus be gradually pushed

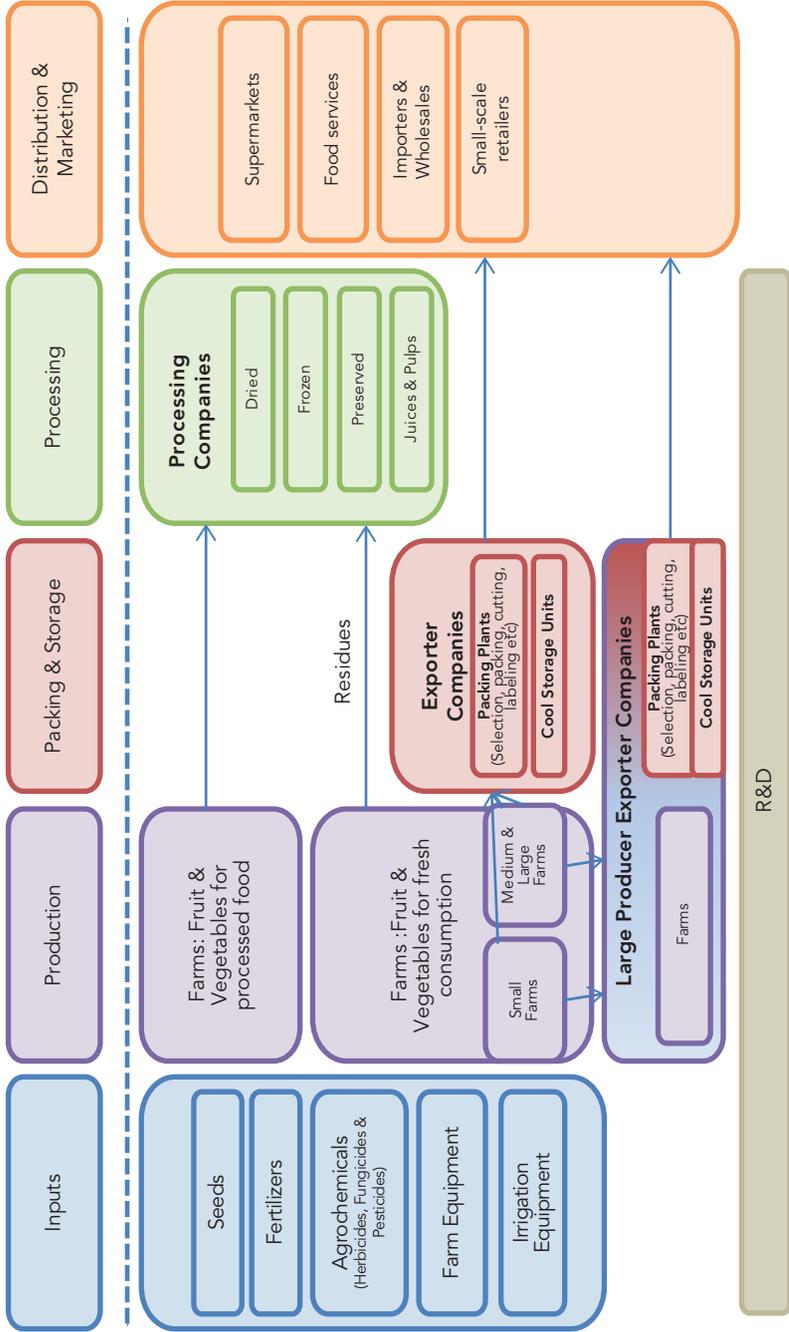
8. An interesting example of this view is the Boeing 787 Dreamliner. While it used to make most of the parts for its previous aircraft, Boeing now outsources 70% of the production throughout the world: in Japan for the wings, and in Europe and America for other parts. Each produces components that are then assembled by Boeing in Everett, Washington in the United States. This change was made possible by the development of computer tools for all suppliers anywhere in the world to work together on the same virtual three-dimensional model of an airplane. The production process is advancing at the same pace at 135 sites operated by 43 major subcontractors, located in 25 countries. Airbus has experienced a similar process, with certain components manufactured for some years now in Morocco (Directorate of Studies and Financial Forecasts, 2012b).

to merge with other companies in order to achieve sufficient critical mass to set up R&D activities, staff training and business control downstream in the chain.

A schematic representation of the value chain in the “fruits and vegetables,” “textiles and clothing,” and “offshore services” sectors is presented in Figures 7, 8 and 9. As noted in Cattaneo *et al.* (2013), global value chains driven by large buyers (*buyer-driven chains*) have become relatively complex in labor-intensive consumer goods sectors (clothes, shoes, toys, furniture, fruits and vegetables, and cut flowers).

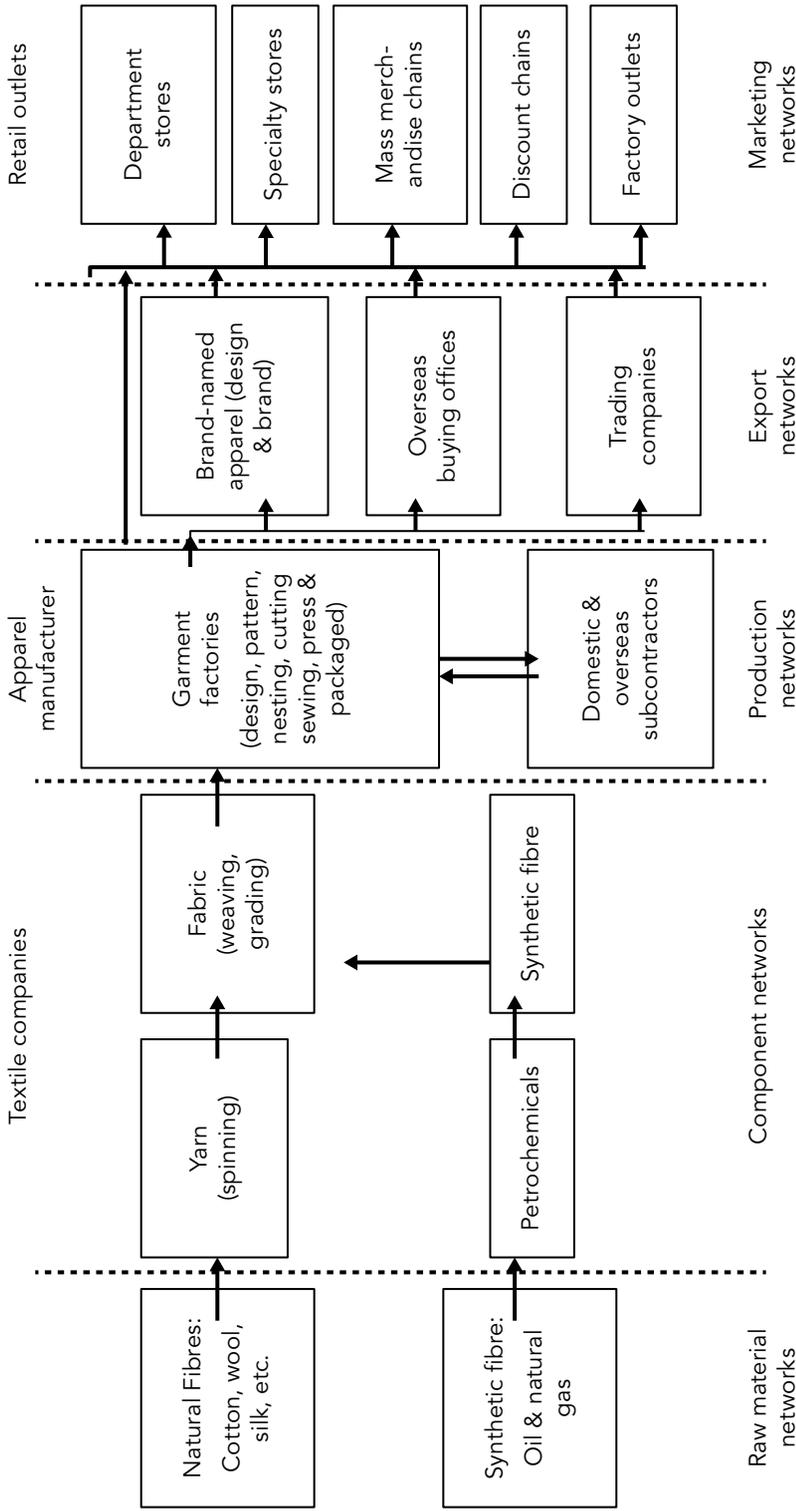
The globalization of value chains has important implications for Morocco’s growth strategy in general, and its industrial policy in particular. As part of the new strategy proposed in this report, it obliges the country to find ways to advance economic activity in the value chain in order to ensure the competitiveness and growth of its economy in the global environment. As discussed later, this is why the country must put in place a set of policies to promote innovation and growth in productivity.

Figure 7 — The global value chain in the fruit and vegetable sector



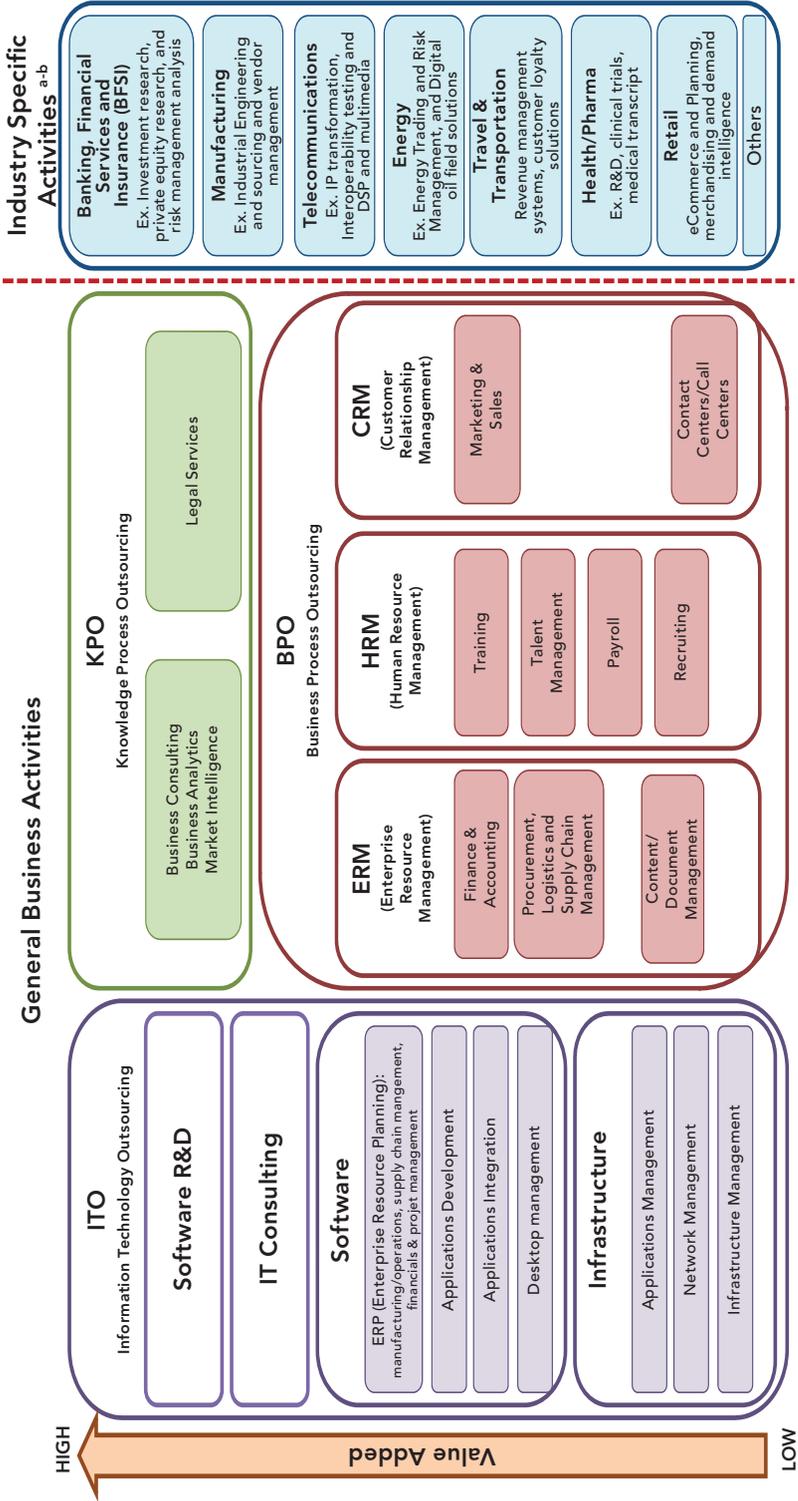
Source: Catimero et al. (2013).

Figure 8 — The global value chain in the textile and clothing sector



Source: Cattaneo and al. (2013)

Figure 9 — The global value chain in the 'offshore' services industry



Source: Cattaneo and al. (2013).

1.3 European Union's structural problems

Due to Morocco's geographical position and history, fluctuations in its economy remain strongly linked to activity fluctuations in Europe. This dependence is reflected in the geographical distribution of exports –including tourism spending– (Figure 10) and also for unrequited transfers identified by the balance of payments, which are largely comprised of remittances by Moroccan workers in Europe. The evolution of these transfers remains very linked to the European economy.

The global financial crisis has considerably affected the short-term economic activity in Europe and exacerbated regional structural problems related to states' competitiveness, size, indebtedness, long-term unemployment, low fertility, aging population, the sustainability of pension plans, etc. (World Bank, 2012c). Recent forecasts suggest economic growth prospects in the medium term –and probably beyond– that are unfavorable for the region. For the euro zone, for example, as shown in Figure 11, GDP growth in real terms will not exceed 2% per year through 2018. In the longer term, as shown in Table 3 above, the outlook is no better; according to the OECD, the real GDP growth rate in France, for example, will be 2.0% between 2011-2030 and 1.4% between 2030-2060; for Germany, the corresponding figures are 1.3% and 1.0%.

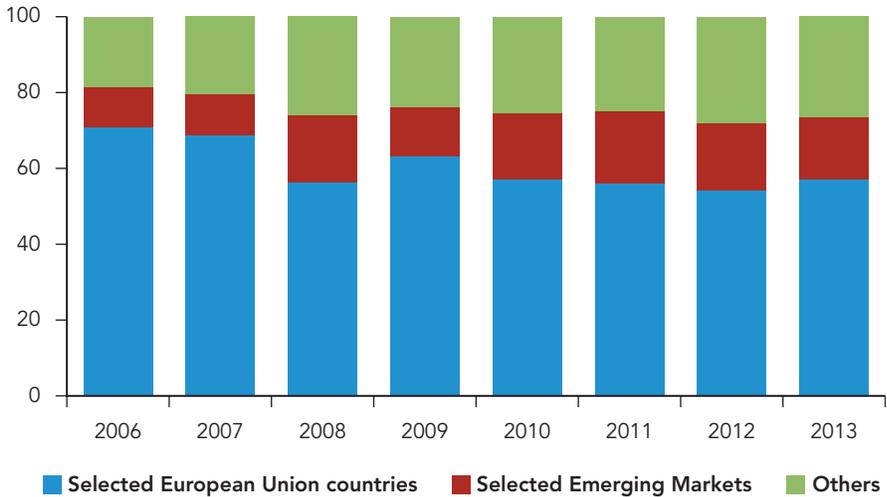
These lower growth prospects will influence Morocco's exports and the flow of transfers from migrant workers, which in turn will affect the growth of the local private demand and thus the country's economic activity. In this context, it is important for Morocco to consider other markets for its products, especially Francophone Sub-Saharan Africa –as discussed later.

1.4 The challenges of international integration

The growing interdependence of economies, combined with globalized trade and expanded productive space linked to multinational enterprises' increasing activities and delocalization –as discussed above– is also accompanied by increased financial globalization, with stronger internationalization of capital flows, both short (portfolio flows),

medium and long-term (flows of FDI).⁹ This strengthening of capital exchanges necessitates their decompartmentalization, deregulation and free circulation to finance international investment.

Figure 10 — Morocco: Geographical distribution of exports, 2006-2013 (Percent of total exports)

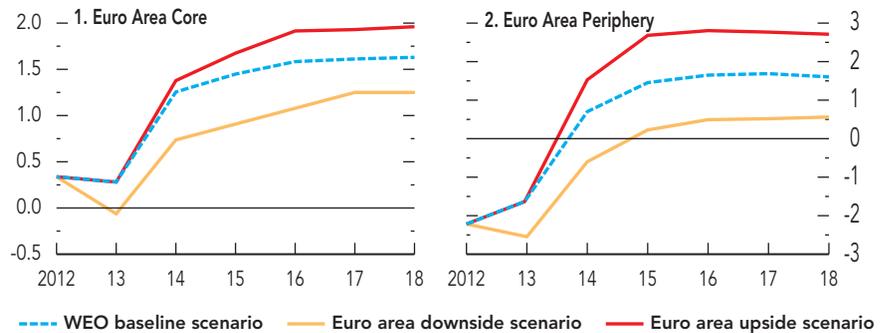


Source: International Trade Centre.

Note: European Union: France, Italy, Spain, Germany, Italy, Portugal, Netherlands, Belgium and Poland.

Emerging Markets: Brazil, Russia, India, China, Singapore, Turkey, Lithuania, Mexico and Argentina.

Figure 11 — euro zone: GDP growth rate in real terms, 2012-2018 (in percentage)



Source: IMF, Outlook for the global economy (October 2013).

9. Portfolio investments are investments such as the purchase of securities (in particular, stocks, bonds, and treasury bills) between residents and non-residents, while foreign direct investment (FDI) corresponds to foreign capital flows related to the establishment of subsidiaries abroad, participation in at least 10% of a foreign company, lending to a subsidiary, and the reinvestment of a portion of a subsidiary's proceeds abroad.

In principle, financial liberalization should promote a better allocation of global financial resources. However, it simultaneously increases systemic risk or “domino effects,” which is the possibility that a single financial crash can spread to the entire planet.¹⁰ These risks are well illustrated by the Asian crisis of 1996-1997 and more recently the subprime mortgage crisis in the United States in 2008-2009. More generally, the masses of financial capital mobilized daily by traders, able to take significant risks on the basis of higher expected returns, can generate strong financial volatility. In addition, the very high mobility of international capital limits the leeway of economic policy makers; any conflict, real or perceived, between the policies pursued may be accompanied by destabilizing foreign exchange or capital transfers. To increase their leeway, some countries have tried to regulate financial flows –with varying success depending on the case (Agénor and Pereira Da Silva, 2013). The fundamental question, however, for a country that decides to continue or accelerate its process of trade and financial openness, remains the adaptation of the macroeconomic framework to respond to new factors of instability.

The opening of the Moroccan economy has gradually increased over the past two decades, both financially and commercially, especially after concluding several international conventions and agreements. Morocco’s rate of trade openness increased from 40% on average over the period 1990-1999 to 51% from 2000 to 2008, and to about 66.4% in 2011 and to 64.7% in 2013, while the ratio of the flows of FDI to GDP was 2.1% on average during the period 2000-2009 and 4.2% over the period 2005-2012. Greater openness, combined with the acceleration of migratory flows, resulted in increased synchronization of the domestic business cycle with that of the rest of the world, including the euro zone (Bank Al-Maghrib, 2013).

However, trade openness did not only have beneficial effects. The dominance of the European Union as the main export market –as shown in Figure 10– has not allowed Morocco to benefit from economic growth experienced by other regions in the 1990s in order to promote its exports.¹¹ As noted above, the outlook for economic growth in the euro zone remains low in the coming years, which

10. See Agénor (2012a) for a more detailed discussion.

11. The lack of geographic diversification is also linked to a loss of the country’s competitiveness in recent years, as discussed later.

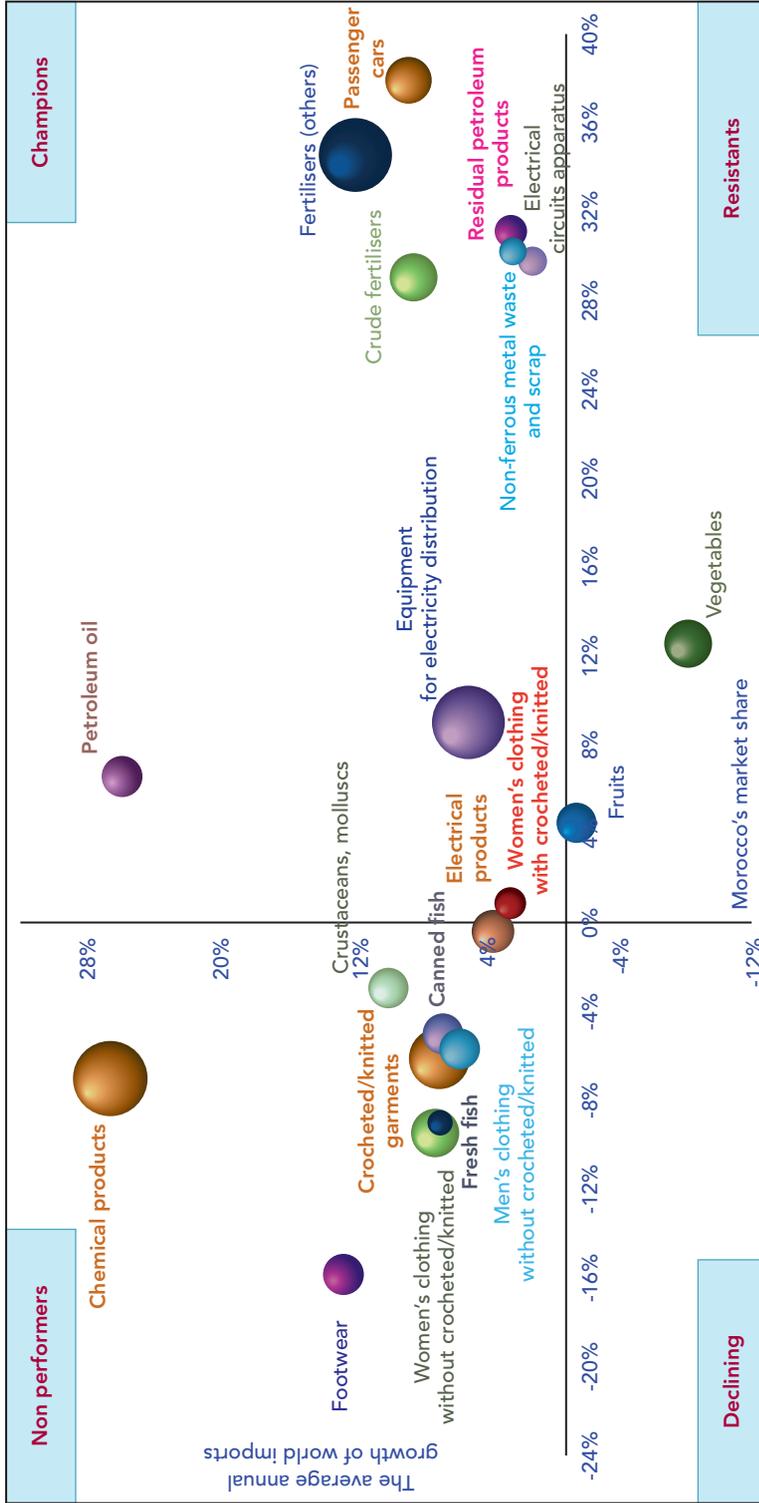
will mean moderate demand for Moroccan exports and a slowing of unrequited transfers from the region.

Similarly, the export sector remains undiversified and concentrated mainly on a limited number of low value-added products. From a recent report by the Ministry of Economy and Finance on the competitiveness of Moroccan exports, Figure 12 shows the trend of the top twenty product groups exported by Morocco, ranked according to the average value of exports during 2009-2012. This trend is compared to the growth of global exports. The bubble size is proportional to the value of exports of the corresponding product group. The distribution of bubble sizes assesses the sectoral diversification of exports from Morocco. This analysis makes it possible to distinguish between two major product categories:

- a) Dynamic products characterized by both strong growth in international trade, and by market share gains for Morocco (“champion” products). This category includes equipment for the distribution of electricity, passenger vehicles, and fertilizers which are among the medium and high-tech products according to the OECD, and for which Morocco gained significant market share in recent years.
- b) Products characterized by both strong growth in international trade, and by loss of market share for Morocco because of strong competition in the global market (“non-performing” products). In this group, Morocco lost market share for products with growing global demand. This is especially the case with chemicals, clothing, shoes, and some seafood, such as fish.¹²

12. Figure 12 also defines two other product categories: those characterized by both low growth of international trade, and by loss of market share (“declining” product); and those characterized by both low growth of international trade, and by market share gains for Morocco (“resistant” products). However, these categories are not significant over the period in question.

Figure 12 — Morocco: Export profile, average 2006-2010 (Percent of global exports for the sector)



Source: Ministry of Economy and Finance, Department of Studies and Financial Forecasts.

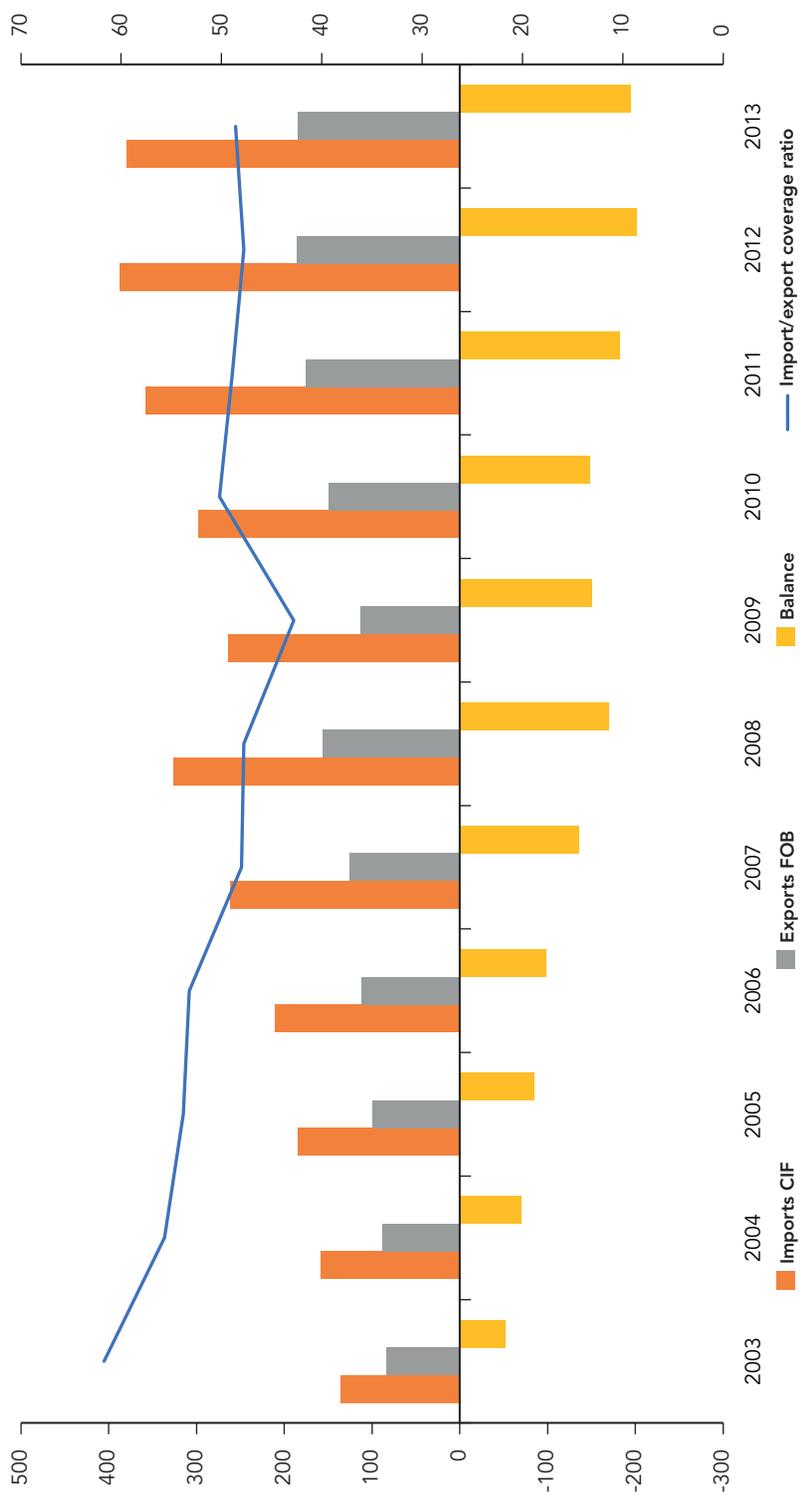
Note: The vertical axis measures the annual growth in global demand, while the horizontal axis measures Morocco's export performance.

In parallel, in recent years imports have increased at a steady pace, mainly due to rising energy costs –which accounted for 9.8% of GDP over the 2005-2013 period– and the growth in food imports, raw materials, and finished equipment goods. This growth in imports, combined with the lack of dynamism in exports, resulted in an increase in the trade deficit, which increased from 11.3% of GDP between 2000-2004 to 21.1% between 2005-2012, –including 22.8% in 2011, 24.4% in 2012, and 22.4% in 2013. Consequently, the rate of coverage of imports by exports has declined over the same period from 62.2% to 48.7%, 48.9% in 2011, 47.8% in 2012, and 48.6% 2013 (Figure 13).¹³

Under these conditions, Morocco is facing a double challenge of diversifying its exports and its opportunities. The first challenge is related to the transformation of the industrial sector. To address this challenge Morocco should improve its competitiveness and develop new exports in high tech and high value added sectors, in order to fully benefit from the various free trade agreements. To address the second challenge, the geographic reorientation of trade is indispensable; rapidly growing middle-income countries, and the Sub-Saharan Africa economies –particularly in Francophone areas– have significant growth potential despite a low level of income per capita, should become a priority. These elements of the new growth strategy will be discussed later in more detail.

13. This imbalance is also reflected in a sharp drop in foreign assets, measured in months of goods imports. This ratio has changed from approximately 11 months in 2006 to just over 4 months in 2012.

Figure 13 — Morocco: Evolution of the trade balance, 2003-2013 (in billions of Moroccan dirhams and percent)



Source: Moroccan Foreign Exchange Office (Office des Changes).

Achievements and limitations of the current growth strategy

Morocco's growth strategy over the last decade has been accompanied by growing internal and external macroeconomic imbalances. This part provides a three-part analysis of this strategy: its main features; achievements; and the growing difficulties it has encountered over the past several years.

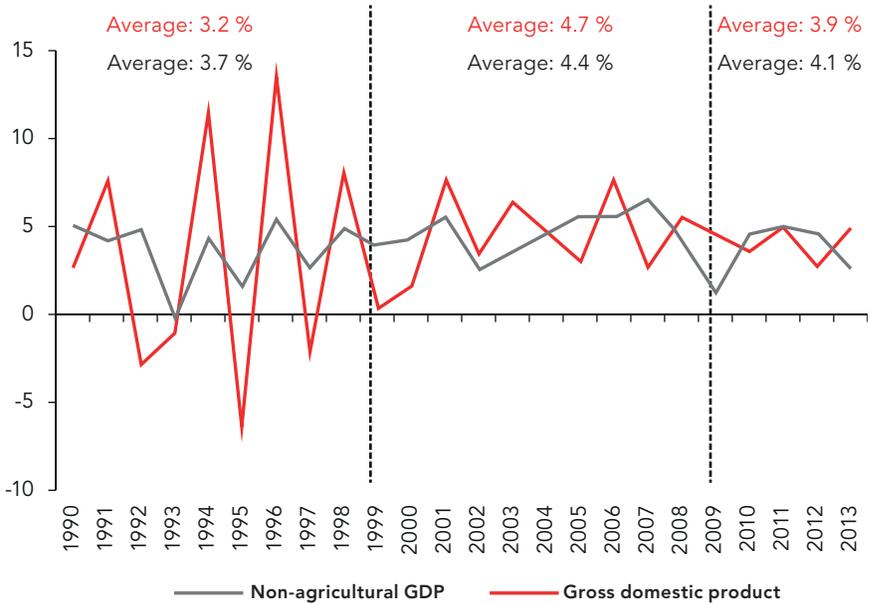
2.1 Characteristics of the strategy

Between the periods 1990-1999, 2000-2009, and 2010-2013, the annual GDP growth rate rose on average from 3.2% to 4.7 and 3.9%, respectively (Figure 14). During the same periods, the growth rate of nonfarm real GDP increased from 3.7% to 4.4% and 4.1%, respectively. Between 1990 and 2013, real GDP per capita increased from about 12,500 Moroccan dirhams (MAD) to nearly 21,300 dirhams (Figure 15). Morocco is therefore classified as part of lower-middle-income countries, according to the World Bank¹.

While preserving macroeconomic stability and significantly improving the business environment, the country has pursued a strategy fundamentally based on the expansion of domestic demand, supported in particular by a sharp increase in public investment. Indeed, the total investment ratio to GDP, with an average increase from 2.9% to 8.3% between 1990-1999 and 2000-2009, increased by five percentage points between the two periods to an average 30% of GDP during the 2000s and nearly 36% of GDP in 2009, a level around which it stabilized until

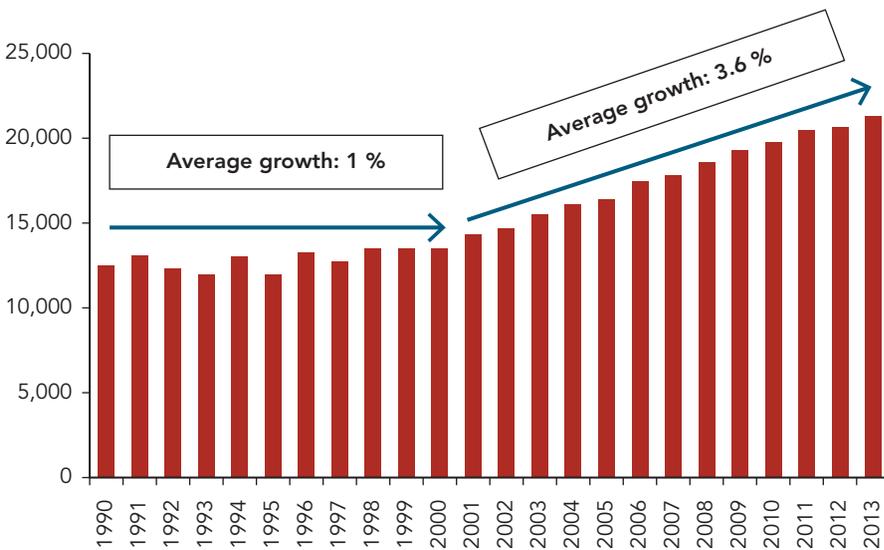
1. See <http://data.worldbank.org/about/country-classifications>.

Figure 14 – Morocco: Growth rate of real GDP and non-agricultural GDP, 1990-2013 (In annual percentages)



Source: High Commission for Planning (HCP), Statistics Division.

Figure 15 – Morocco: Real GDP per capita, 1990-2013



Source: Calculations based on World Development Indicators (WDI) World Bank data.

2013. The increase in demand was also supported by wage increases linked to the minimum wage adjustment. This strategy has had undeniably positive effects on both the economic and human development. It has allowed the country to grow at a rate close to its potential rate, improve access to basic infrastructure services, increase life expectancy at birth –which increased on average from 65 years in 1987 to 74.8 years in 2010– and reduce poverty and vulnerability –despite persistent unemployment– while keeping inflation at relatively low levels².

A stylized presentation of this strategy is shown in Figure 16. The expansion of domestic demand from 1990 to 1999 and the first decade of 2000 appears clearly in Figure 17, both in terms of consumption – driven by wage increases at the household level– and in investment.

2.2 Economic results

Performance over the last two decades has been accompanied by major changes in the sectoral structure of the Moroccan economy, including a reduction in manufacturing’s share of GDP, a sharp increase in the tertiary sector –mainly in connection with the sustained development of telecommunications and financial services– and rapid development of off-shoring activities. At the same time, the secondary sector was mainly driven by the expansion of the construction sector, as well as the chemical and para-chemical sectors, both driven by phosphate processing activities.

2. Following the launch of the *Grouped Supply of Drinking Water Program for Rural Populations* in 1994, the rural population’s share of access to safe drinking water rose from 14% in 1994 to over 40% in 2009, and then to 61% in 2011 (World Bank, *World Development Indicators*). During the same period, the *Global Rural Electrification Program* helped to increase the country’s electrification rate from 18% in 1995 to 84% in 2009, to over 98% by 2010 (*ibid.*). Similarly, following the implementation of the *National Rural Roads Program*, over 1,000 kilometers of roads were built in rural areas, increasing the access rate of 36% in 1995 to 54% in 2005. Life expectancy has also increased from an average of 65.5 years in 1988 to 72.6 years in 2008.

Figure 16 – Morocco: Stylized diagram of the growth strategy driven by domestic demand

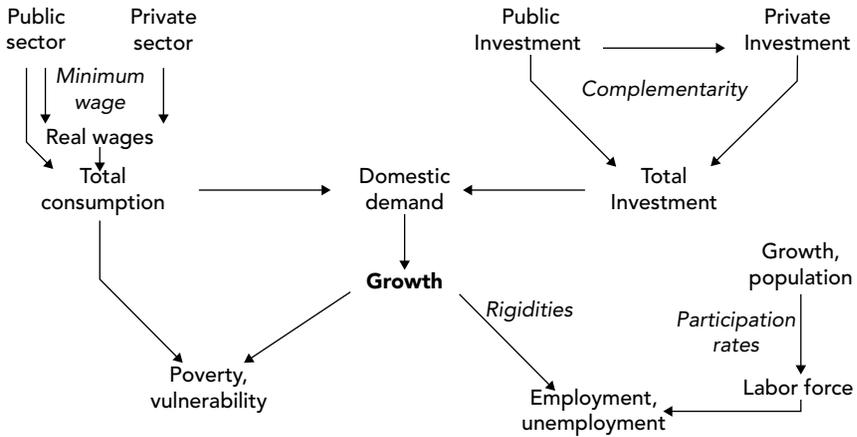
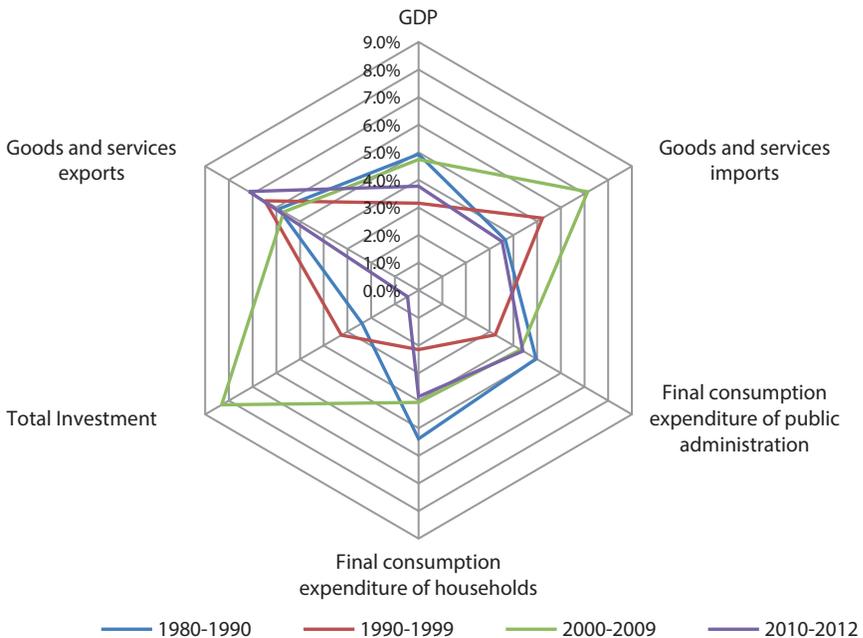
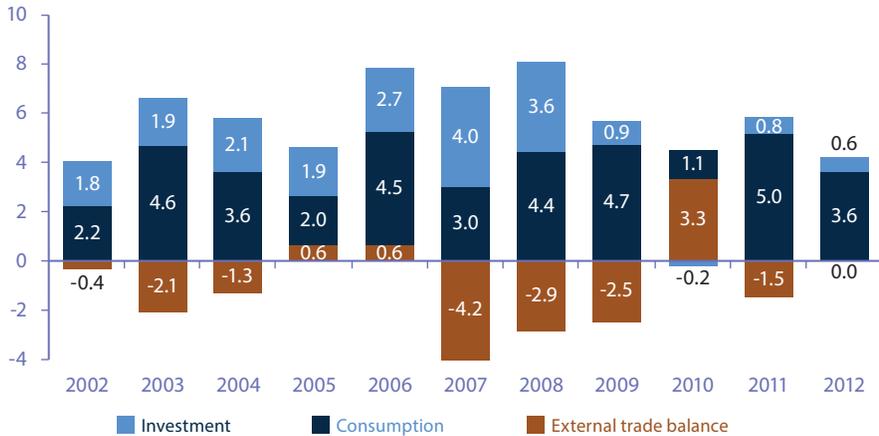


Figure 17 – Morocco: Average contributions of demand components 1990-1999, 2000-2009 and 2010-2012 (Growth rates during the period)



Source: High Commission for Planning (HCP), Statistics Division.

Figure 18 – Morocco: contribution of the various components of GDP in the real growth (in percent)



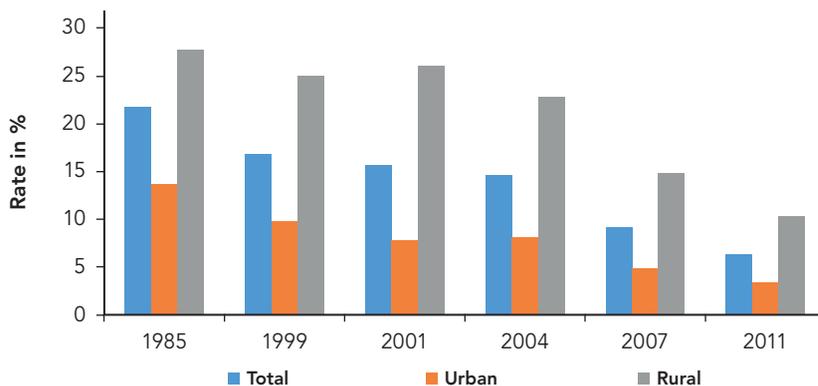
Source: Direction of Studies and Budget Forecasts (2013).

Human development also rose significantly. The relative poverty rate fell from 21.0% in 1985 to 16.3 in 1998 and 6.2% in 2011 (Figure 19). This decline has accelerated over time, from -1.8% a year between 1985 and 1998 to -7.2% per year between 1998 and 2007³. At the same time, the vulnerability rate increased from 24.1% in 1985 to 22.8% in 2001 and 13.3% in 2011 (Figure 20), while the Human Development Index (HDI) in Morocco increased from an average of 0.456 during the period 1990-1999 to 0.544 during the period 2000-2010, to 0.617 in 2013.

Overall, both in terms of economic growth and human development, Morocco has experienced two decades of favorable results. However, this performance has slowed in recent years.

3. According to estimates by Doudich (2011), between 1999 and 2007 one economic growth point led to a nearly two-point decrease in the poverty rate.

Figure 19 – Morocco: Evolution of poverty rate, 1985-2011

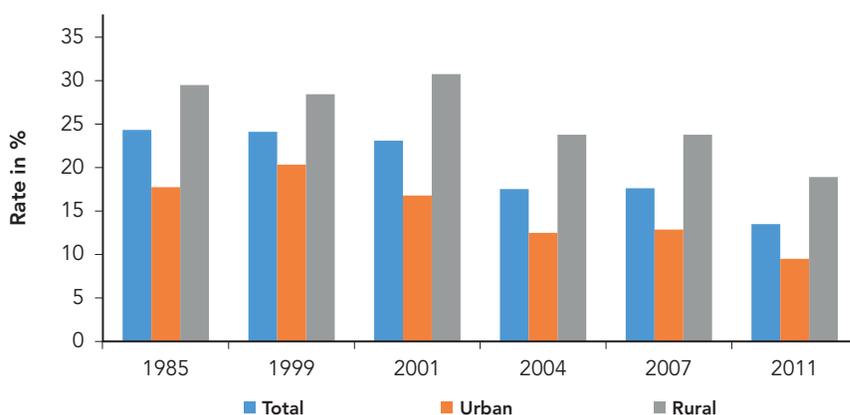


Source: High Commission for Planning (HCP), Statistics Division.

2.3 Increasing difficulties

While the Moroccan economy has overcome with relative ease the difficulties created by the global financial crisis of 2008-2009, a number of indicators suggest that the growth strategy pursued by the country has slowed down in recent years. This phenomenon is manifested in several ways: a slowdown in trend growth; persistent unemployment; insufficient labor quality; a loss of competitiveness; hesitant and uncontrolled external expansion; insufficient adaptation of productive sectors; sustained macroeconomic imbalances, both fiscal and balance of payments, which limits the country's adjustment capacity and leeway in terms of economic policy; and a business environment that continues to weigh on private activity –despite significant progress.

Figure 20 – Morocco: Evolution of vulnerability rate, 1985-2011

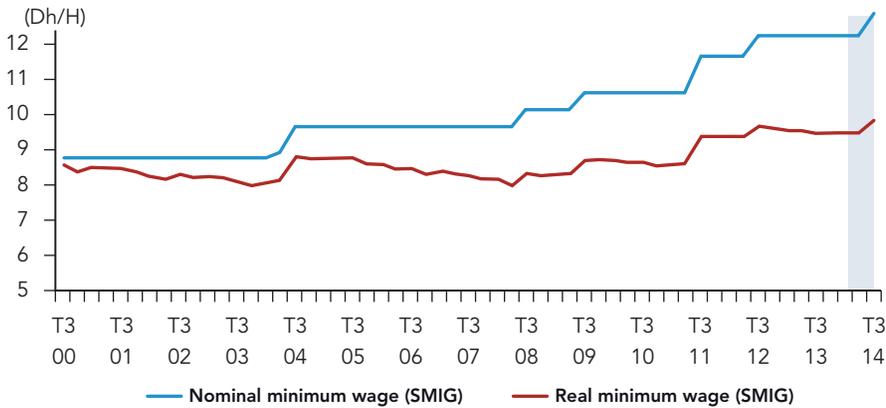


Source: High Commission for Planning (HCP), Statistics Division.

2.3.1 A slowdown in trend growth

As mentioned earlier, domestic demand has been the main source of Morocco’s growth performance over the past decade, coupled with real wage increases and higher public investment ratios relative to their historical norm. The increase in real wages was partly linked to minimum wage increases initiated by the government starting in 2007 (Figure 21)⁴. However, a growth strategy based mainly on domestic demand has risks –in a context where the exchange rate is difficult to adjust– insofar as it can lead to persistent imbalances in the current account of the balance of payments.

Figure 21 – Morocco: Quarterly minimum wage in nominal and real terms, 1998-2014 (In Moroccan dirhams (MAD) per hour)

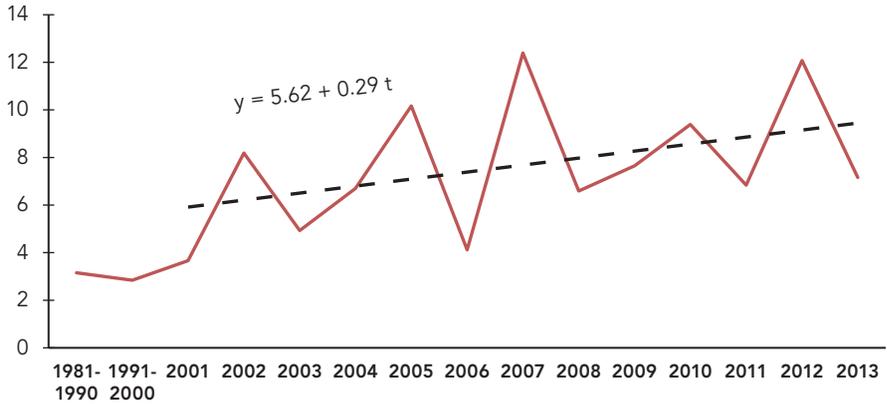


Source: Bank Al-Maghrib (BAM), Department of Studies and International Relations (Economics and International Relations Department).

In addition, although public investments have had a positive effect on production capacity, available data seem to suggest that they also suffered from problems of efficiency and have reached diminishing returns –at least in some sectors– mainly because of bias in their sector

4. In 1936, Morocco adopted a law on minimum wage that determines different wage levels for urban and rural labor markets, and for different age groups. Minimum wages are revised in accordance with a formal mechanism for price indexation, mainly when the consumer price index increases by 5%. In practice, however, the revisions are irregular and rather independent of this indexing rule. Indeed, they are usually the result of political and discretionary decisions following important union pressures. Available studies suggest that the regulation of urban minimum wage –which mainly concerns unskilled workers– is generally respected in the formal private sector through an active role by the administration and unions. They also indicate that approximately 13 to 15% of employees in the formal private sector are paid less than the required minimum. However, it is likely that a change in the minimum wage affects the entire wage structure; in this sense, it can be seen as respected by all employers in the formal sector.

Figure 22 – Morocco: Evolution of investment efficiency



Source: Ministry of Economy and Finance.

Note: The above graph shows the evolution of the overall ICOR, including both the private and public components, given the unavailability of data on public ICOR in Morocco. However, we believe that the evolution of the overall ICOR largely mirrors that of its public component due to its weight, which increased considerably over the years.

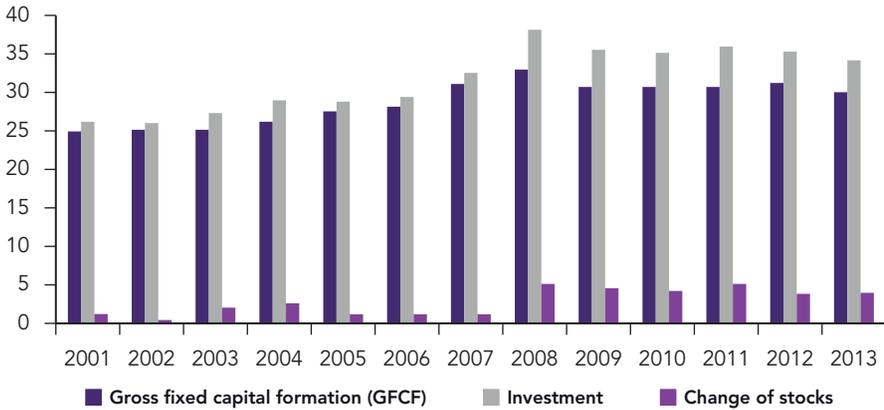
and geographic allocation. Indeed, Morocco's investment to GDP ratio variation, which is the incremental capital-output ratio (ICOR) concept, has clearly changed directions and achieved one of the highest levels in the world; with an average level of 8.1 during the 2000s, compared to an average of less than 3 in the 1990s⁵. The deterioration of the overall ICOR seems to largely reflect changes in the public component, given the substantial increase in recent years of the state investments in total investment⁶. Similarly, Benabdesselam's (2013) econometric results show that public investment in physical capital had only a small positive effect on GDP growth. These results are probably due to a decline in the quality of public investment over time and to what counts for production, and the productivity of private inputs, which is the *flow* of services produced by the stock of public assets⁷.

5. The incremental capital-output ratio (ICOR) is the ratio between investment rates and growth rates; it gives an indication of the investment level (in % of GDP) needed to increase the growth rate by 1%. Another indicator of efficiency is the quality of Morocco's infrastructure, estimated by the World Economic Forum (2012), which gives a value of $4.1/7 = 0.59$, on a scale of 0 to 1.

6. The average value observed for ICOR between 1990 and 2010 (about 5.3) is higher than the values observed internationally. In China, for example, a country where the government investment spending is widely seen as inefficient, ICOR rose from 3.8 to 4.6 between 1983 and 2010 (Lee *et al.*, 2012).

7. Recent studies have focused on the distinction between public infrastructure investment *flows*, and the flow of services produced by the *stock* of public capital in infrastructure, the latter being obtained by cumulating gross flows (Agénor, 2012b; Isaksson, 2009). If investment spending is inefficient, flows become public capital stock but only in part. There is no empirical study on the "efficiency ratio" for Morocco –the country is not included in the detailed study by Dabla, Norris

Figure 23 – Morocco’s Investment rate (in percent of GDP)



Source: Bank al-Maghrib (BAM), based on data from the High Commission for Planning (HCP).

At the same time, productive private investment –especially in manufacturing– has not increased as expected, which may have been the result of several factors: limited complementarity effect associated with public capital; significant crowding out effects; and significant but still insufficient progress at improving the business environment⁸. All these factors may have contributed to reducing the incentives to invest in activities that would enable Morocco to accelerate its transition towards the top of the world technology frontier. Finally, although the growth in total productivity factors accelerated in the period between 2000 and 2010, having been negative during the period between 1990 and 1999, it remains low compared to that of countries with similar income levels.

Low-technology activities account for about 70% of the value added of the manufacturing sector and nearly 80% of Morocco’s exports. Since the mid 1990s, export sophistication has increased somewhat, particularly related to the development of the electrical and electronics sectors. However, despite this improvement, only a limited

et al. (2012) on the subject. Their results –an index between 0 and 1– are 0.74 for Tunisia, 0.55 for Jordan, 0.43 for Mauritania, and 0.36 for Egypt. The average value for the Middle East-North Africa (MENA) region is 0.52. In other words, nearly 50% of public investment spending in the region does not turn into physical infrastructure capital stock.

8. An econometric analysis by the Bank al-Maghrib (BAM) Economics and International Relations Department, confirms that although there is a close interaction (in the same year) between investment and short-term growth in Morocco due to the demand effect, the relationship between private investment and long-term growth is characterized by relatively long delays. The results also show that the interaction between public investment and long-term growth is very low.

number of companies are active in medium and high technology activities, which still represent a small share of the manufacturing sector's value added and employment. This lack of dynamism acts as a major constraint on the Moroccan economy's ability to catch up to the more advanced emerging countries.

2.3.2 Persistent unemployment, inadequate labor quality

Despite Morocco's favorable growth performance recorded over the last decade, the unemployment rate remains stubbornly high, particularly for young and skilled workers. According to recent data from the High Commission for Planning, in 2013 the workforce aged 15 and over reached 11,706,000 people and the employment rate was at 43.8% (36.4% in urban areas and 55.2% in rural areas), which is relatively low compared to other countries at the same level of economic development. These results largely reflect women's low participation rate in the workforce. The overall unemployment rate, despite a significant drop of over five percentage points over the last decade, in 2013 was at 9.2% overall, with 14% in urban areas and 3.8% in rural areas⁹. Two of three unemployed people are youth aged 15 to 29 years (with little or no education) and one of four is a graduate of higher education (Figure 24). The highest unemployment rates are found in young people aged 15 to 24 (18.3% in 2008 and 19.3% in 2013) and higher education graduates (19.5 in 2008 and 19% in 2013). In addition, four of five unemployed are urban residents, one of two unemployed people is a first time job seeker, and nearly two out of three unemployed people have been unemployed for over a year. This long-term unemployment discourages job searches by job seekers and accelerates the loss of skills, making it more difficult to return to the workforce.

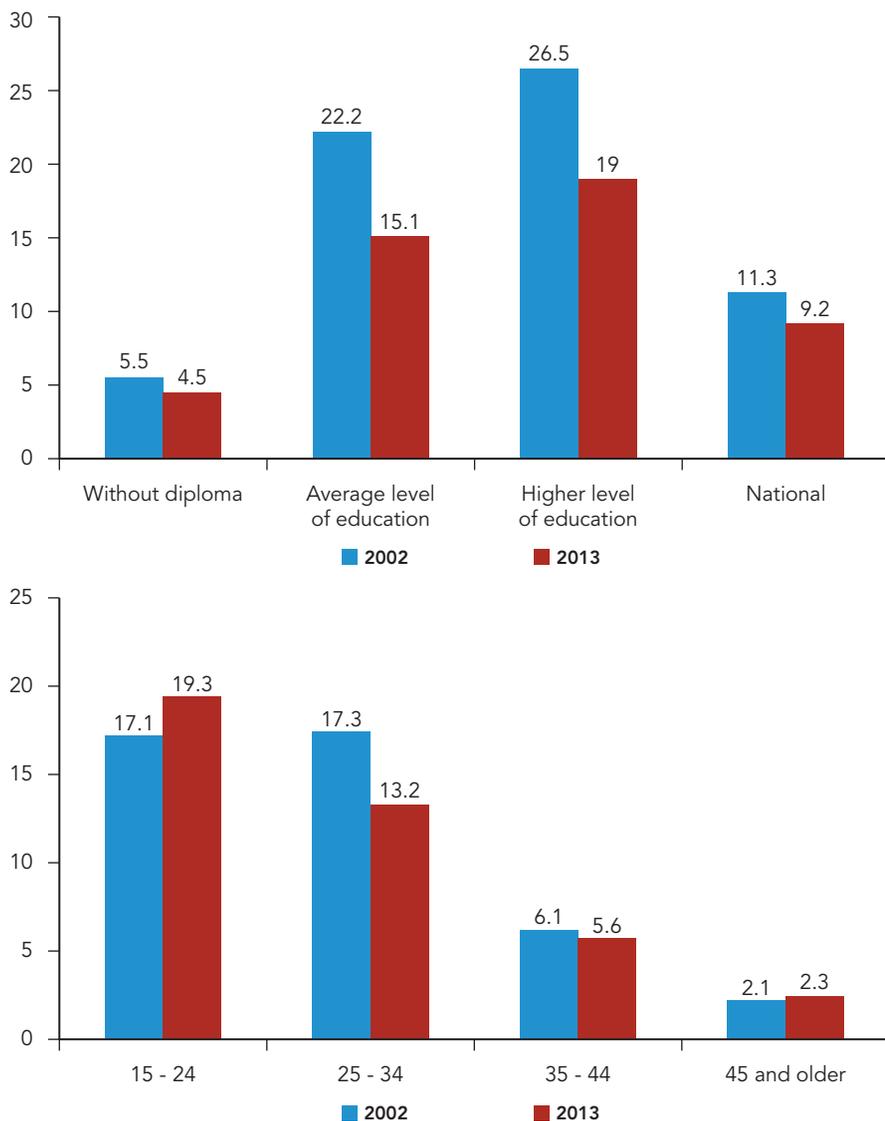
The workforce quality is also low. In 2010, the average number of years of schooling is only five. According to the World Bank the gross enrollment rate in secondary education of 62.5% in 2010 and 68.9% in 2012, is the one of the lowest in the Middle East and North Africa region (MENA) (Center for Mediterranean Integration, 2013, Table A4). The situation is not much better for higher education. The consequences are apparent in the workforce characteristics: nearly 41% of the total workforce (and 46% in urban areas) has no

9. The reduced participation rate by about four points (54.5% to 50.6%) between 1999 and 2008 contributed to the decrease in the unemployment rate over the last decade.

qualifications, compared to 17% in Tunisia, and 6% in Jordan. The low quality of labor continues to be a major constraint for business.

A multitude of reasons account for the continuing tensions in the labor market; they include: an economic growth rate that is still insufficient to fully absorb the expansion of the labor force associated

Figure 24 – Morocco: Unemployment rates by skill level and age group, 2002 and 2013 (Percentage)



Source: High Commission for Planning (HCP), Statistics Division.

with a young population; a relatively low growth of labor productivity, due to the low growth of total productivity for factors previously mentioned; a decline in the relative importance of the industrial sector, subject to increased competition over the past decade; insufficient private investment in promising sectors for growth, as previously indicated; institutional rigidities including the quality of dialogue between employers and unions, high levels of hiring and dismissal costs, and friction in the functioning of the legal framework for resolving labor disputes; and low impact of government programs such as the National Agency for the Promotion of Employment and Skills (ANAPEC) to help young people find work. These programs indeed often lack resources, are poorly coordinated and equipped, and remain little known to the public (European Training Foundation, 2011; World Bank, 2012a)¹⁰. Added to this is a considerable mismatch between the type of skills produced by the education system and those demanded by firms, and those that eventually would allow the country to move towards a system of innovation and increased competitiveness on world markets. By some estimates, to absorb new growth to the labor market and reduce unemployment significantly, the pace of urban jobs created would need to increase to about 200,000 per year (World Bank, 2008a).

Current trends in the education system suggest that the low quality of the workforce is likely to persist. Indeed, the enrollment rate in Morocco remains relatively low and well below the average of competing countries. For example, according to the World Bank the gross enrollment rate in secondary education was only 68.9% in 2012, while the average for emerging countries was 80%. A long-term projection indicates that in 2040 about 30% of the workforce will have no diploma. This enrollment problem doubles as a problem of education quality and meeting the needs of the labor market, as previously indicated. Only 4% of the graduates have completed engineering or senior technician degrees, compared to an average of 15% in emerging countries.

10. The National Agency for the Promotion of Employment and Skills (ANAPEC) is only open to graduates from general education (bachelor and above) or initial vocational education (technician or senior technician). A registration is required to benefit from ANAPEC's active policies for labor market programs. This registration is done based on statements from young job seekers. However, the employment services have no means to verify the accuracy of these statements or track changes in employment status, since a compensation scheme or social assistance for the unemployed does not yet exist, despite recent improvements. ANAPEC has therefore no way to update the employment status of unemployed people in its database. Once registered, the youth are not obliged to inform ANAPEC if they find a job. Therefore, the ANAPEC registration time period may not correspond to the actual duration of unemployment.

In addition to being scarce, skilled labor is expensive. Nominal wages for skilled workers in Morocco are among the highest in emerging countries. Given the level of productivity in Morocco, unit labor costs are about 30% higher than competing countries (World Bank, 2008a)¹¹. This lack of competitiveness is related to wage rigidities in the labor market (especially the high minimum wage), low worker productivity, and the overvaluation of the dirham.

2.3.3 Loss of competitiveness

The limitations of the current growth strategy described above are exacerbated by the nature of the exchange rate regime, which continues to hamper the appropriate adjustments in the real exchange rate –particularly in response to terms of trade shocks. This rigidity contributes to deteriorating Morocco’s competitiveness and its ability to develop the range of products exported as well as to promote imports. In turn, this increase in imports widens the current account deficit of the balance of payments in the short term, and leads to deindustrialization in the medium and long term.

Available data indeed indicate that external competitiveness has declined in recent years. An analysis of the development of unit labor costs in the manufacturing sector shows that cost competitiveness has deteriorated both in comparison to other emerging economies and to Morocco’s major trading partners. As indicated in Table 5, in 2008 the cost of labor per hour in Morocco’s clothing sector was nearly five times higher than that of the new Asian competitors such as Vietnam and Cambodia – and up to nearly nine times higher than that of Bangladesh. It is also significantly higher than that of Middle Eastern countries, such as Egypt and Jordan. Several of these countries that sell their products in the same markets as Morocco have experienced real devaluations. Therefore, Morocco’s real exchange rate appreciated considerably against these countries in recent years. According to calculations by the Moroccan central bank, Bank Al-Maghrib, the difference between the real effective exchange rate and its equilibrium value was around 19 to 20% in 2011-2012 and over 10% in 2009 and 2010 (Figure 25)¹².

11. The unit labor cost (ULC) measures the average cost of labor per unit of output, and is calculated as the ratio of the total costs of labor per unit produced. The ULC should not be interpreted as a comprehensive measure of competitiveness, but rather as an indicator reflecting cost competitiveness.
12. In general, the misalignment of the real exchange rate is difficult to detect and measure given the diversity of methods for calculating the equilibrium exchange rate (Box 2). The Bank Al-Maghrib study considers several of these methods.

The International Monetary Fund (IMF) mission report under Article IV also revealed a moderate overvaluation of the dirham in 2013, which varies, depending on the estimation procedure employed, from 1.3% to 11.3%. Certainly, the cost of labor is only one element of competitiveness, but stagnation of exports and the appreciation of the real exchange rate suggest that they are important factors.

**Table 5 – Cost of labor in the clothing sector, 2008
(In U.S. \$ dollars per hour including payroll taxes)**

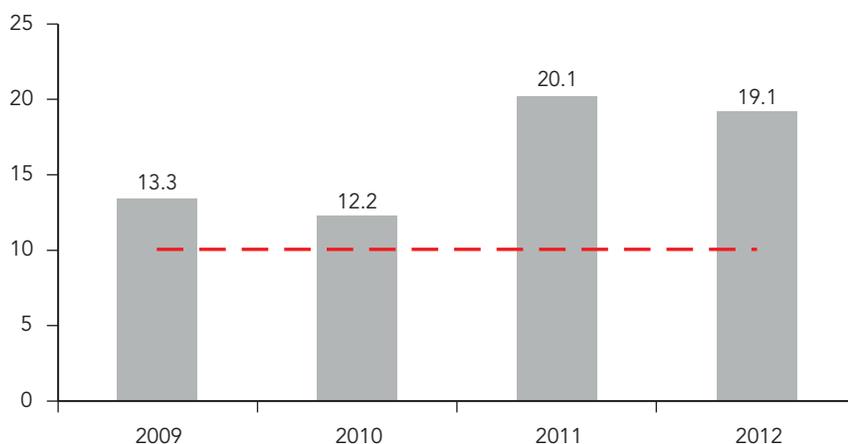
		Bangladesh (base 100)	Vietnam (base 100)	India (base 100)
Bangladesh	0.22	100	58	43
Cambodia	0.33	150	87	65
Pakistan	0.37	168	97	73
Vietnam	0.38	173	100	75
Sri Lanka	0.43	195	113	84
Indonesia	0.44	200	116	86
India	0.51	232	134	100
Haiti	0.49-0.55	236	137	102
China III (inland)*	0.55-0.80	305	176	131
Egypt	0.83	377	218	163
China II (coastal 2)	0.86-0.94	409	237	176
Nicaragua	0.97-1.03	455	263	196
Jordan	1.01	459	266	198
Russia	1.01	459	266	198
Philippines	1.07	486	282	210
China I (coastal 1)	1.08	491	284	212
Malaysia	1.18	536	311	231
Thailand	1.29-1.36	600	347	259
Colombia	1.42	645	374	278
Bulgaria	1.53	695	403	300
Guatemala	1.65	750	434	324
Tunisia	1.68	764	442	329
Dominican Republic	1.55-1.95	795	461	343
South Africa	1.75	795	461	343
Honduras	1.72-1.82	805	466	347

Table 5 – Cost of labor in the clothing sector, 2008
(In U.S. \$ dollars per hour including payroll taxes)

		Bangladesh (base 100)	Vietnam (base 100)	India (base 100)
Perou	1.78	809	468	349
El Salvador	1.79	814	471	351
Lithuania	1.97	895	518	386
Morocco	1.97	895	518	386
Turkey	2.44	1 109	642	478
Mexico	2.54	1 155	668	498
Poland	2.55	1 159	671	500
Bazil	2.57	1 168	676	504
Costa Rica	3.35	1 523	882	657
Slovakia	3.44	1 564	905	675
Slovenia	3.55	1 614	934	696
Romania	4.03	1 832	1 061	790
Latvia	4.23	1 923	1 113	829
Hungary	4.45	2 023	1 171	873

Source: Jassin – O'Rourke Group, LLC¹³.

Figure 25 – Morocco: Fluctuations of the real effective exchange rate from its equilibrium value, 2009-2012



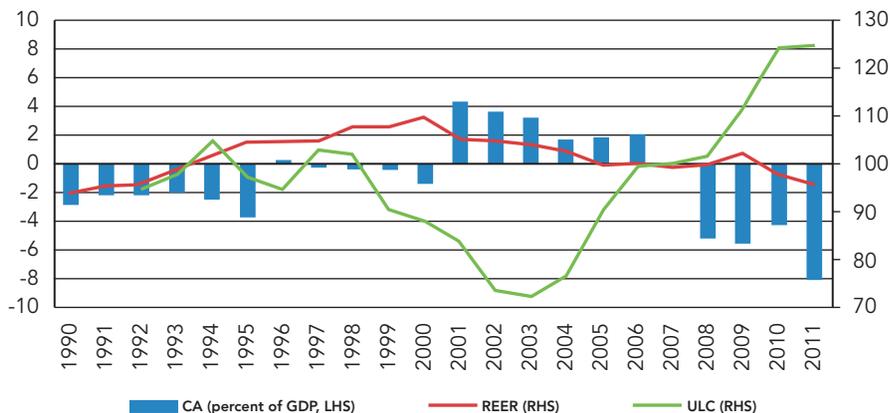
Source: Bank Al-Maghrif (BAM), Economics and International Relations Department.

Note: Dotted lines refer to the 10 percent threshold.

13. Voir <http://www.emergingtextiles.com>.

This increase in labor costs, along with an appreciation of the real effective exchange rate, has resulted in a deterioration of the current account (Figure 26), which reflects both a negative effect on exports and a positive effect on imports¹⁴.

Figure 26 – Morocco: Unit labor costs, real effective exchange rate, and current account, 1990-2011



Source: International Monetary Fund (IMF) (2012).

According to the general competitiveness indicator established by the World Economic Forum (2012) –general in that it also takes into account labor flexibility, transport and communication costs, etc.– in 2014 Morocco is ranked 72nd out of 144 countries, after falling from the 70th to the 77th place out of 148 between 2012 and 2013. In terms of labor market efficiency, Morocco’s 2014 ranking is even more worrying, since it only ranks 111th out of 144 countries.

Partly due to the evolution of competitiveness and free trade agreements entered into by the country, the geographical structure of Morocco’s foreign trade has changed significantly over the period between 2003 and 2013. In terms of exports, France and Spain remain the top destinations. However, exports to Italy, Britain and Germany decreased, while exports to the United States, and especially to India and Brazil increased (Figure 27). On the import side, the positions of France and Spain remain unchanged, while those of Italy, Britain

14. El Aynaoui and Ibourk (2002), based on estimates made during the period from 1980 to 1998, showed that for most product groups the volume of exports reacted positively to the income dynamics of Morocco main partner countries, and negatively to an unfavorable change in the relative prices of exported goods (i.e. an appreciation of the real exchange rate).

and Germany fell significantly. At the same time, the United States moved from the 7th to the 3rd place, while China rose from the 9th to the 4th place (Figure 28).

Box 2 – The real effective exchange rate: Definition and calculation methods

The analysis of a country's price competitiveness is traditionally based on the measurement of the real effective exchange rate (REER) of its currency. An appreciation (depreciation) of the REER is associated with a loss (gain) of competitiveness. The REER can be defined as the nominal effective exchange rate (NEER) of a currency adjusted by a price indicator, or costs, of major trading partners and competitors. The NEER, which is a weighted geometric mean of bilateral exchange rates vis-à-vis these partners, allows us to appreciate the evolution of the national currency in relation to all of these countries. This multilateral approach takes into account the fact that the change in a currency's exchange rate in respect to a single foreign currency (e.g. the dirham against the euro) may be of limited significance and scope, to the extent that the change compared to other currencies can create opposing trends.

Alone, the NEER does not reflect changes in the competitiveness of an economy to the extent that an increase in domestic prices, higher in comparison to partner countries and competitors, is not taken into account by the index. On the other hand, with the REER, changes in domestic prices relative to those of trade competitors or partners have the same effect as a change in the nominal exchange rate. For example, if prices rise faster in one country than abroad, its export competitiveness is weakened if the increase is not offset by a depreciation of the nominal exchange rate.

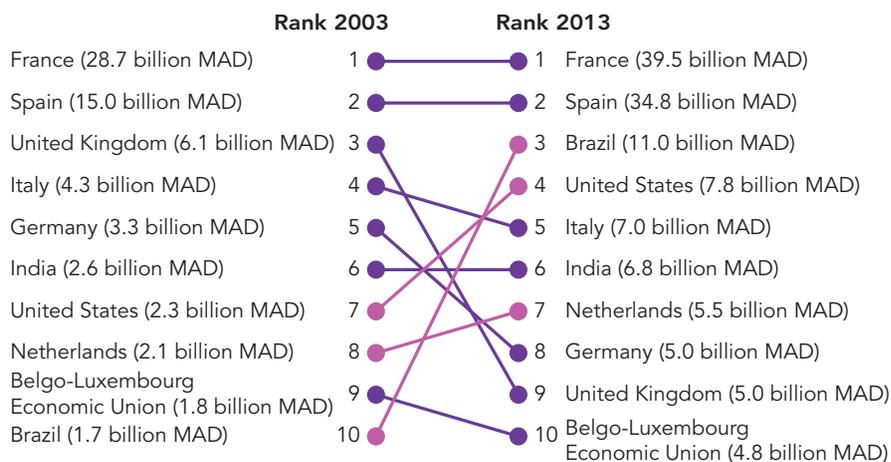
In Morocco, since 1996 the General Economic Policy Directorate (DPEG) has published the effective exchange rate indexes for the dirham in comparison to all of Morocco's main trading partners. Over time, the sample of countries was expanded to take into account the structural changes in the composition of the country's foreign trade and thus capture the competitive pressures by traditional partners (France, Spain, Italy, Japan, Germany, the United States, the United Kingdom, Belgium, the Netherlands, Switzerland, Turkey, Canada, Greece and Portugal), and by those of new competitors in Morocco's usual export markets. Currently, the scope of countries in the DPEG's calculation of nominal and real effective exchange rates to the dirham include other European Union member countries, as well as countries in Eastern Europe, Asia and Latin America, and sufficiently representative countries from each region.

As in other countries, the weighting system used to calculate these indexes take into account Morocco's competitive and trade relations with the countries in the sample. The importance of imports from each country represents its share of total Moroccan imports. Exports incur a double weighting to take into account each country's share of Moroccan exports and competition experienced by Moroccan exporters in foreign markets from local producers and exporters from third countries. However, the exchange rate of the dirham continues to rely heavily on: the euro and the US dollar levels recorded on international currency markets; with any appreciation (depreciation) of the euro against the US dollar, the dirham reacts in the same way against the US currency, that is to say an appreciation or depreciation vis-à-vis the euro.

The DPEG regularly publishes data on Morocco's NEER and REER. Another commonly used index is the REER index of the dirham established by the International Monetary Fund, published in the *International Financial Statistics*. Differences both in the sample composition used as well as the weights assigned to each country in the sample means that the two indexes do not necessarily reflect the very short term, but the basic trends remain the same.

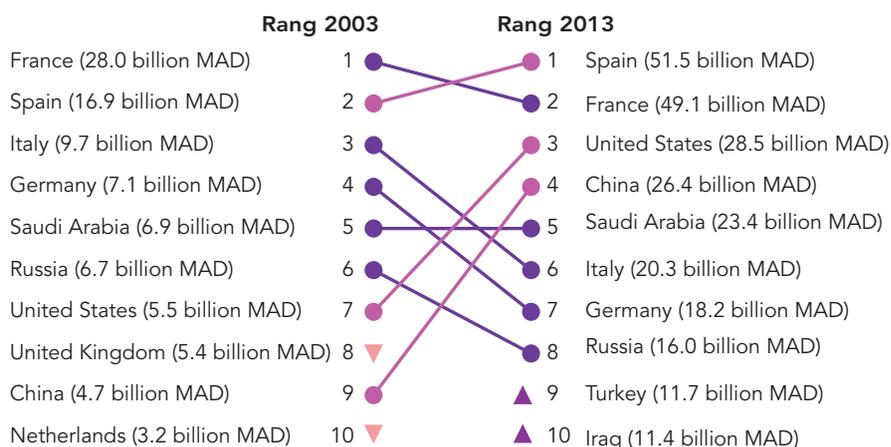
As indicated in the text, the REER fluctuations only give an indication of the price competitiveness evolution in an economy. The appreciation of the REER of a currency is not always synonymous with a loss of competitiveness in that it can be explained by other factors, some of which can reflect a good performance of economic fundamentals. Therefore, any assessment of competitiveness must necessarily include, in addition to the REER, a review of other indicators such as productivity, the structure of exports and market share. It is also important to consider the role of the exchange rate regime (the fixed nominal rates) in this context.

Figure 27 – Morocco: Geographical destinations of exports, 2003 and 2013 (in billions of dirhams)



Source: Bank Al-Magrib (BAM), 2013 Annual Report.

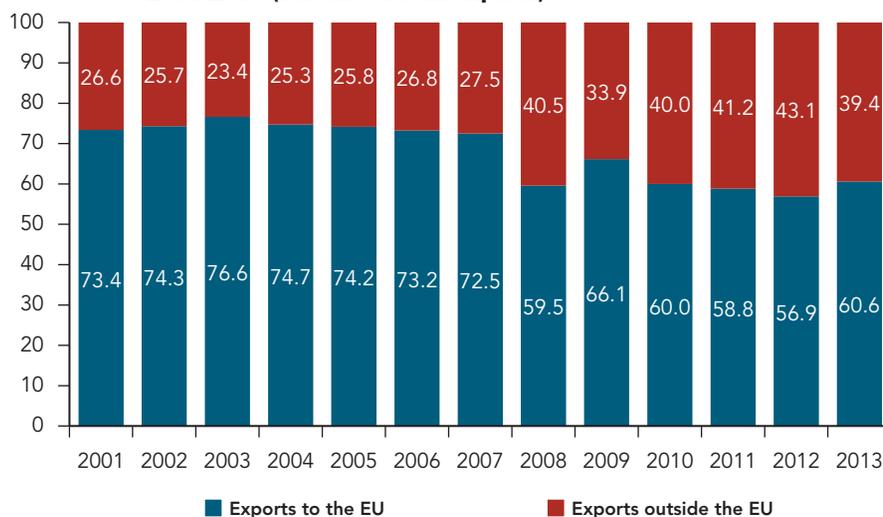
Figure 28 – Morocco: Geographical destinations of imports in 2003 and 2013 (in billion of dirhams)



Source: Foreign Exchange Office.

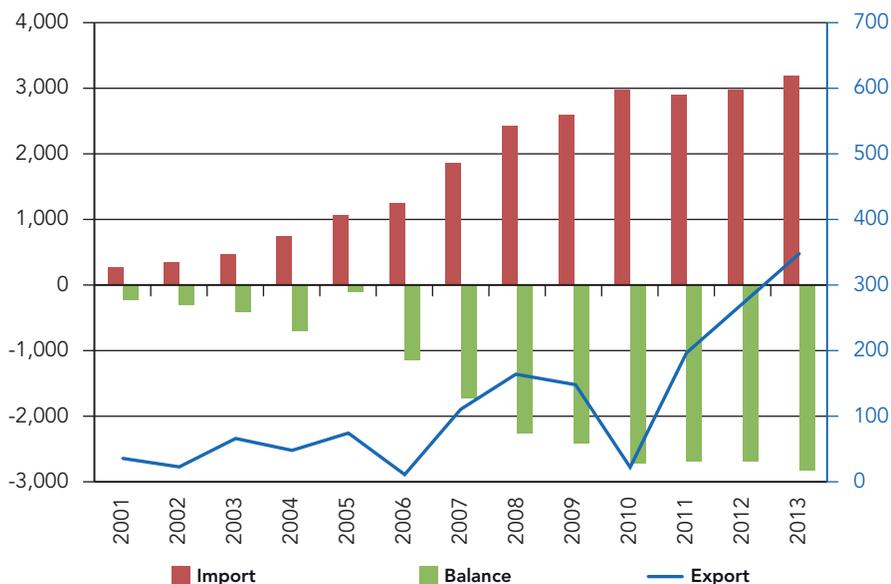
Overall, Morocco's external trade is growing less with Europe and more with the United States and large middle-income countries such as Brazil, India and China. The share of exports to the EU fell from 73.4% in 2001 to 60.6% in 2013 (Figure 29). In the case of China, a growing imbalance can be observed; Morocco exports little to China, while imports from that country have increased significantly since 2004 (Figure 30). At the same time, trade with Africa is negligible – which represents untapped opportunities, as discussed below.

Figure 29 – Morocco: Changes in exports to and from the European Union, 2001-2013 (Percent of total exports)



Source: International Trade Centre.

Figure 30 – Morocco: Trade balance with China, 2001-2013



Source: International Trade Centre.

2.3.4 Lack of diversification of the productive sectors and exports

The Moroccan economy continues to diversify, but the process is slow and uneven across sectors. Morocco exports averaged 42 products per million inhabitants, compared to 55 for Turkey and 160 for Malaysia (World Bank, 2008a). Since the mid 1990s, nonetheless, we see an acceleration of the diversification process, driven mainly by the electrical and electronics sectors. However, despite a significant increase in the number of new products exported each year that has increased substantially between the 1990s and 2000s, the pace of diversification of the productive sector and therefore exports, is insufficient.

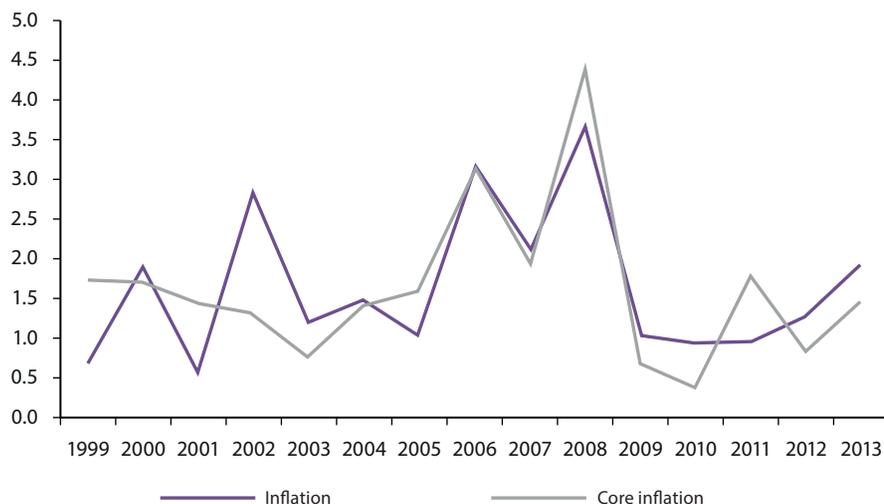
This low level of diversification of productive structures and this lack of dynamism of exports on the world market, largely explain why the size of the export sector is low. Manufacturing exports represent only about 13% of Morocco's GDP, while the average for middle income countries exceeds 25% (World Bank, 2008a). As indicated previously, exports of high technology products as a share of manufactured exports remains low; in fact, their share decreased from 9.6% to 7.7% between 2005 and 2010 (Center for Mediterranean Integration, 2013, Table A3).

In contrast, the Moroccan economy is very efficient in service exports. Since the early 2000s, there has been strong growth in tourism and services related to outsourcing (*offshoring*). Its exports are currently 17.2% of GDP. However, to accelerate growth, the performance of manufacturing exports should increase. One of the major challenges the country faces is how to foster the emergence of new export-oriented manufacturing activities.

2.3.5 A macroeconomic framework that needs to evolve

Morocco's macroeconomic policy performance over the past two decades has been significant. The inflation rate changed from 4.0% for 1991-2000 to 1.8% for 2001-2010 and 1.4% for 2011-2013. At the same time, the volatility of the inflation rate fell from 2.6% to 1.5% (Economics and International Relations Department, 2011). The annual core inflation has barely exceeded 1% per year since 2009 (Figure 31). Undoubtedly, price stability has helped to reduce the uncertainty of real returns and favor the economic calculations of operators, both domestic and foreign.

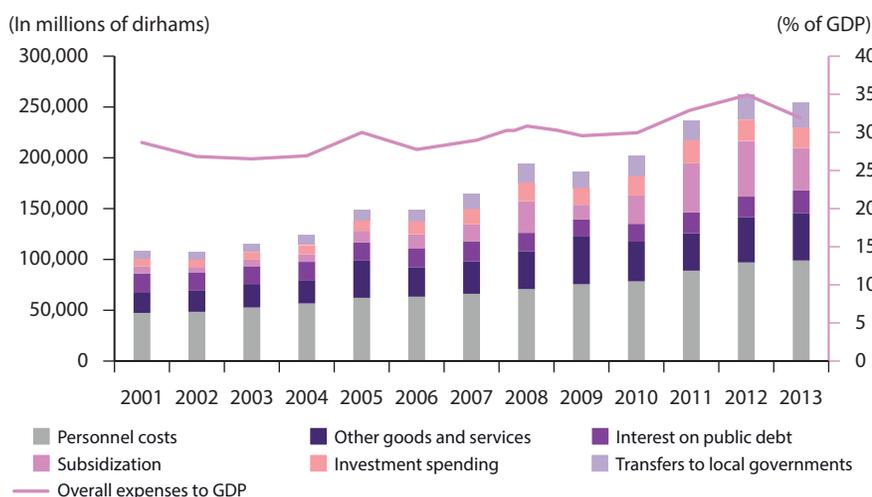
Figure 31 – Morocco: Inflation and core inflation, 1999-2013



Source: HCP and BAM calculations.

However, in recent years the Moroccan economy has displayed signs of growing macroeconomic imbalances. In terms of public finances, expenses partly for spending towards personnel and compensation (Figure 32), increased at a faster rate than revenues, resulting in a rise in budget deficits (Figure 33). Because of the relatively high rates of economic growth observed over the past

Figure 32 – Morocco: Evolution of global expenditures of the Treasury

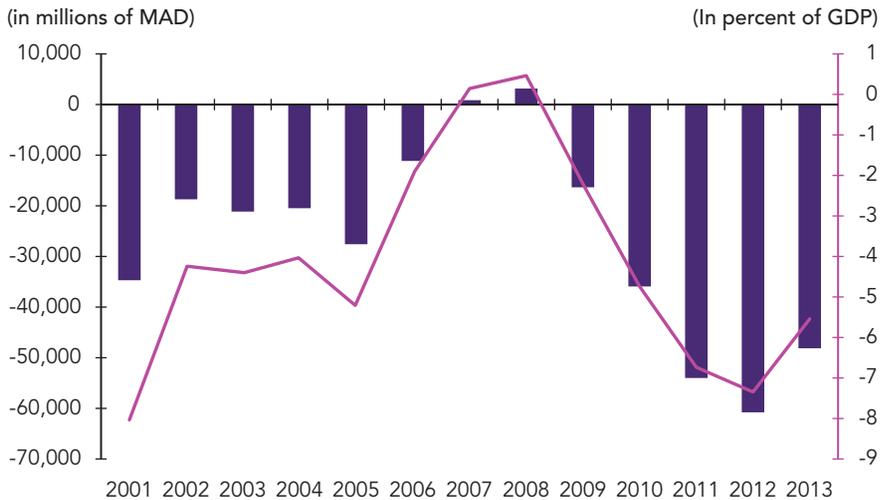


Source: Bank Al-Maghrib (2013).

Table 6 – Morocco: Public sector salaries, 2009-2011

	Public wage bill in GDP percentages	Public average wage per capita GDP
Morocco	13.0	3.9
Egypt	7.2	1.0
Hungary	5.6	0.6
Peru	3.0	0.7
South Africa	4.5	1.1
Philippines	5.2	1.6
Romania	6.0	1.0
Chile	4.1	1.0
Spain	2.5	1.0
France	9.7	1.2

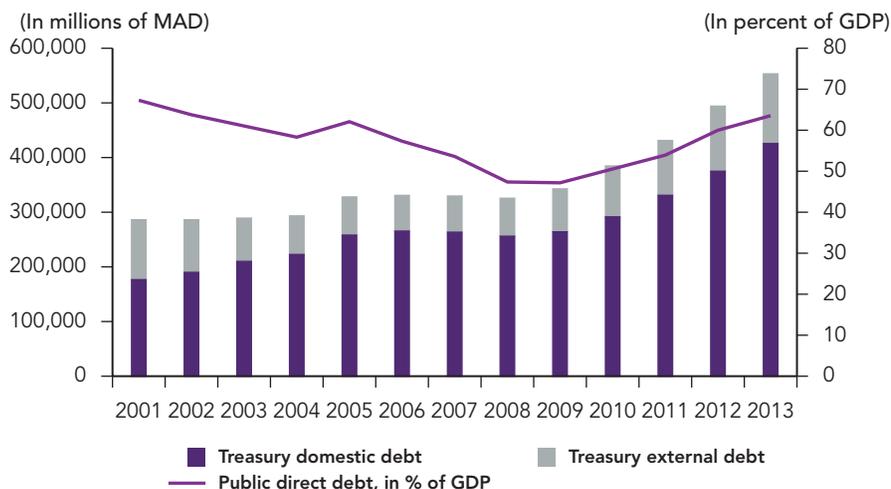
Source: Bank Al-Magrib (2013).

Figure 33 – Morocco: budget balance (non privatization)

Source: Bank Al-Magrib (2013).

decade, the Treasury's debt ratio was reduced from 66.8% in 1999 to a low of 49.4% of GDP in 2009 (Figure 34). But since then the debt ratio experienced a reversal in trends and increased again to about 63.5% in 2013. If not mitigated, the worrying trend of debt, internal debt in particular, could create genuine medium-term sustainability problems or lead to crowding out effects of the private sector

Figure 34 – Morocco: Evolution of treasury debt



Source: Bank Al-Maghrib (2013).

financing. Despite the implementation of certain measures, including the introduction of the new indexing system, prospects for future years are not favorable in the absence of reforms and a return to fiscal discipline.

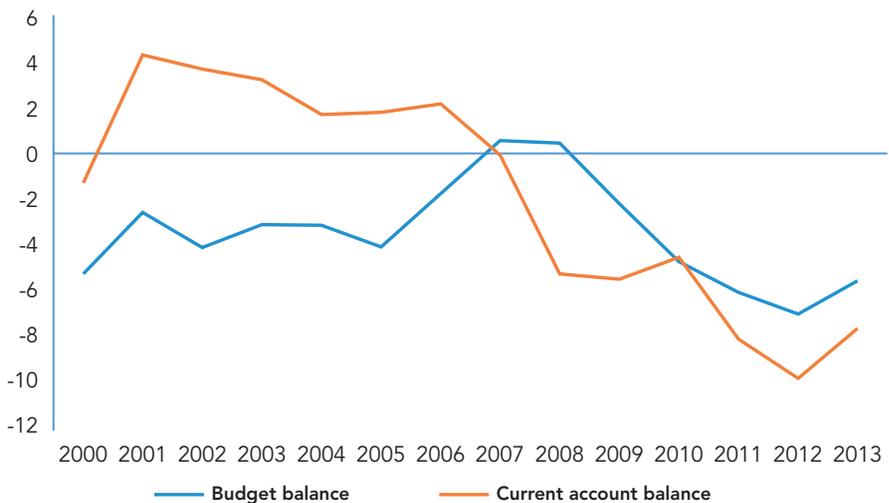
Table 7 – Morocco: Investor protection, 2006-2013

	2009		2010	2011	2012		2013	
	Volume	Structure (%)	Volume	Volume	Volume	Volume	Structure (%)	
Outstanding amount	257.9	100	277.4	314.2	356.7	412.97	100	
Short term	58.95	23	33.8	16.4	15.7	33.85	8	
Medium term	43.8	17	81.9	122.4	156.8	177.55	43	
Long term	155.1	60	161.6	175.5	184.3	201.57	49	
Subscriptions	72.9	100	101.1	103.5	120.3	175.2	100	
Short term	49.9	68	42.3	25.4	42.1	83.9	48	
Medium term	23.0	32	47.2	60.3	57	66.7	38	
Long term	0.0	0	11.7	17.8	21.2	24.7	14	
Refunds	67.7	100	81.6	67.1	77.8	118.9	100	
Short term	25.9	38	67.4	43.3	42.74	65.7	55	
Medium term	29.8	44	6.6	19.8	22.6	45.9	39	
Long term	12.0	18	7.6	3.9	12.4	7.4	6	

Source: Bank Al-Maghrib (2013).

Fiscal imbalances in Morocco have also contributed to the widening current account deficit, resulting in a situation of “twin deficits” that have persisted since 2009 (Figure 35). Indeed, the growth pattern continued during recent years has been based mainly on strong domestic demand, in a context of weaker foreign demand. This approach is supported by a generally favorable fiscal policy for consumption (high payroll expenditure and a heavy compensation fund), and in parallel to the fact that public investment remains the main component of total capital expenditure. This rhythm has thus resulted in a widening of the budget deficit, and contributed to a worsening of the current account balance since strong internal demand was met in part by an increase in imports in addition to other incompressible acquisitions, particularly energy and grains. Generally, if the accumulation of budget deficits threatens the sustainability of public debt, the widening current account deficit creates problems over the level of foreign exchange reserves and the viability of the current fixed exchange rate regime.

Figure 35 – Morocco: Overall budget balance and current account balance (in percent of GDP)

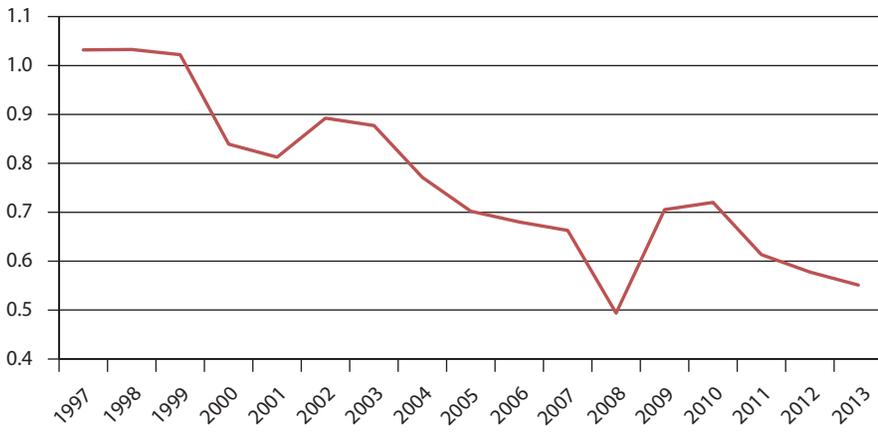


Regarding monetary policy, Morocco has experienced significant institutional changes in recent years. Since 2006, Bank Al-Maghrib has had a high degree of independence in conducting monetary policy¹⁵. Its technical capabilities have also increased

15. The entry into force of Bank Al-Maghrib's new status in February 2006 placed price stability

significantly, and its transparency has been improved. All this has helped to strengthen the credibility of the central bank. However, it now faces a series of new challenges. As discussed previously, greater financial openness requires greater flexibility in macroeconomic policies. This flexibility is important also to respond to changes in terms of trade (Figure 36). In particular, a more flexible exchange rate regime, eventually in the form of a managed float, would allow the country to better confront real and financial volatility that may accompany greater integration into the world economy. The move to a flexible exchange rate regime, however, would require the adoption of a more compatible monetary policy, possibly based on a direct inflation targeting to channel the price expectations of economic agents –(Section 3.7.2).

Figure 36 – Morocco: Foreign exchange fluctuations, 1997-2013
(Index base 100 = 1996)



Source: Bank Al-Maghrib.

2.3.6 Business environment that hinders the private sector

The issues discussed previously require a reactive government, capable of promoting private sector activity by improving the business environment. In this sense, there has been significant progress in recent years. In 2006, Morocco launched a number of reforms to facilitate the establishment of procedures for new businesses. These reforms

as the central bank's fundamental mission, and gave the central bank independence in formulating and conducting monetary policy.

have resulted in an acceleration of business creation at the national level and in Morocco's relatively strong growth in the international business climate ranking by the World Bank until 2014 (Table 8 and Figure 37). Other reforms have also aimed to facilitate foreign investment (World Bank, 2010).

Table 8 – Morocco: Ease of starting a business, 2006-2015

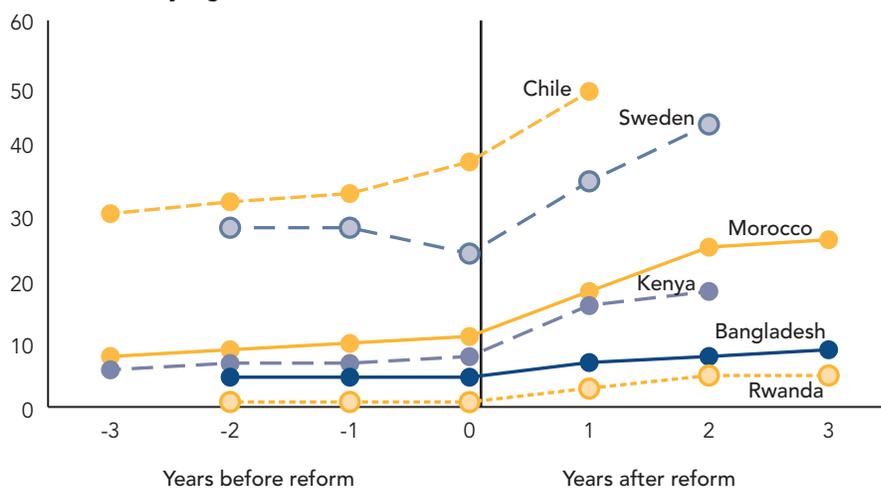
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rank							94	56	47	54
Procedures (number)	6	6	6	6	6	6	6	6	5	5
Time (days)	12	12	12	12	12	12	12	12	11	11
Cost (% of income per capita)	13.4	12.7	20.6	20	16.1	15.8	15.7	15.5	9.5	9.2
Paid-in Min. Capital (% of income per capita)	700.3	66.7	15	13.1	11.8	11.2	10.7	0	0	0

Source: World Bank (2015).

Note: 2014 rankings are adjusted: they are based on ten areas and reflect data corrections.

Figure 37 – Various countries: Reforms and creation of new businesses (In thousands of registered companies)

Number of newly registered firms (thousands)



Source: World Bank (2013).

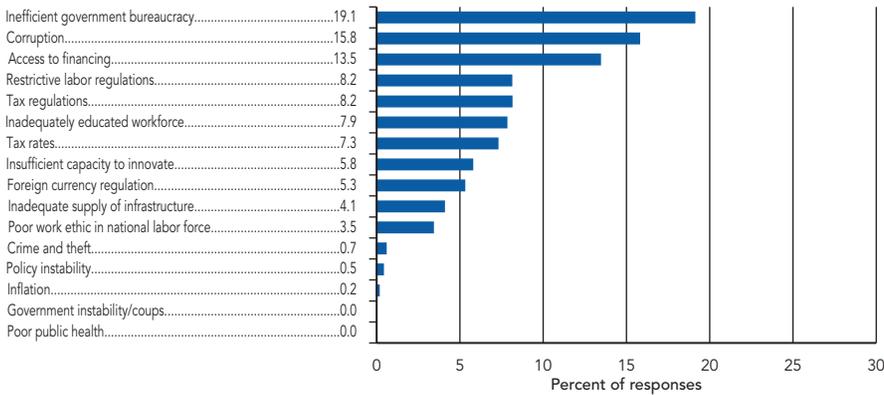
Note: All 6 economies implemented a reform making it easier to start a business as measured by Doing Business. The reform year varies by economy and is represented by the vertical line in the figure. For Bangladesh and Rwanda reforms were implemented in 2009; for Chile, 2011; Kenya 2007; for Morocco, 2006; and 2010 for Sweden.

However, significant progress remains to be achieved. The level of tax and social security remains high in Morocco; the tax burden is

around 22.4% of GDP in 2013¹⁶. This situation has a negative effect on formal sector business competitiveness, encourages the development of the informal economy, and penalizes the recruitment of skilled workers. According to estimates by the World Bank (2008a), for an unskilled worker (equivalent to 2,000 dirhams a month net) tax and benefits account for 22% of total labor costs, while for a skilled worker (5,000 dirhams net) they are 31%. This gap not only discourages the recruitment of skilled employees, but also constitutes a major obstacle to the adoption of more advanced production technologies. More generally, the taxes and charges assessed continue to act as a major constraint to the business environment, both for national and foreign companies.

Despite significant progress in the judicial system and the mitigation of corruption, companies continue to perceive certain institutional factors as important obstacles as well. In fact, according to recent data from the World Economic Forum (2014), inefficient bureaucracy appears in second place after access to financing as the main constraints impeding the business environment in Morocco, according to firms in the country (Figure 38)¹⁷.

Figure 38 – Morocco: Main constraints on the business environment (Percent of responses)



Source: World Economic Forum (2013).

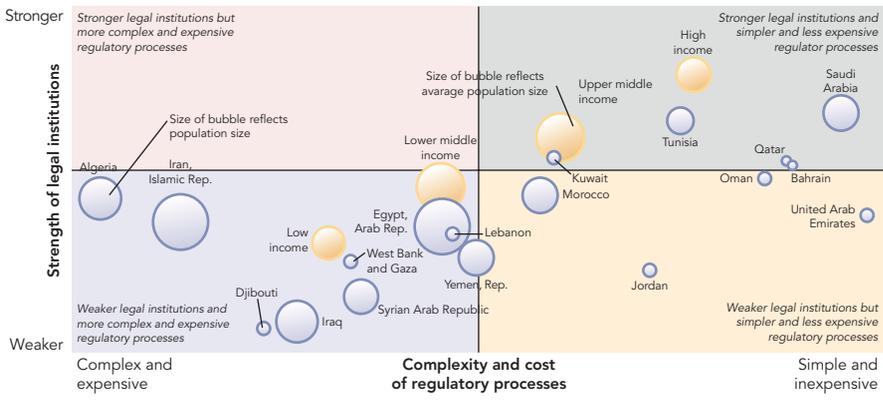
16. This excess tax burden is mainly due to particularly high tax rates. The corporate income tax rate, which has recently been reduced from 35% to 30%, is still higher than the average in competing countries. In addition, the marginal rate of income tax is 42%, while the average in competing countries is 31% (World Bank, 2008a). However, exporting firms benefit from a 50% reduction on corporate income tax.

17. In the World Bank report (2008a), the main three constraints were the tax rate, access to land, and access to electricity. Corruption appeared only in the 8th position.

Respect for property rights –which affects the earned rate of return– is an especially important consideration for foreign companies and thus affect FDI flows. As indicated in Table 9, for investor protection Morocco was only ranked in the 122nd position in the World Bank 2015 *Business Climate Index*, while it was 118th in 2014. Figure 39 shows Morocco’s position compared to other countries in the region in terms of the perception of entrepreneurs, regarding respect for property rights: on one side Morocco is in a better position than others in terms of the complexity and cost of regulatory processes, but on the other, legal institutions continue to be perceived as weak.

Figure 39 – Perceptions of entrepreneurs in the MENA region

Entrepreneurs across the Middle East and North Africa face relatively weak investor and property rights protections
Average ranking on sets of *Doing Business* indicators by economy and global income group



Source: World Bank (2013).

Note: *Strength of legal institutions* refers to the average ranking on getting credit, protecting investors, enforcing contracts and resolving insolvency. *Complexity and cost of regulatory processes* refers to the average ranking on starting a business, dealing with construction permits, getting electricity, registering property, paying taxes and trading across borders. The global income groups exclude economies in the Middle East and North Africa.

Table 9 – Morocco: Investor protection, 2006-2015 (Indicators from 0 to 10)

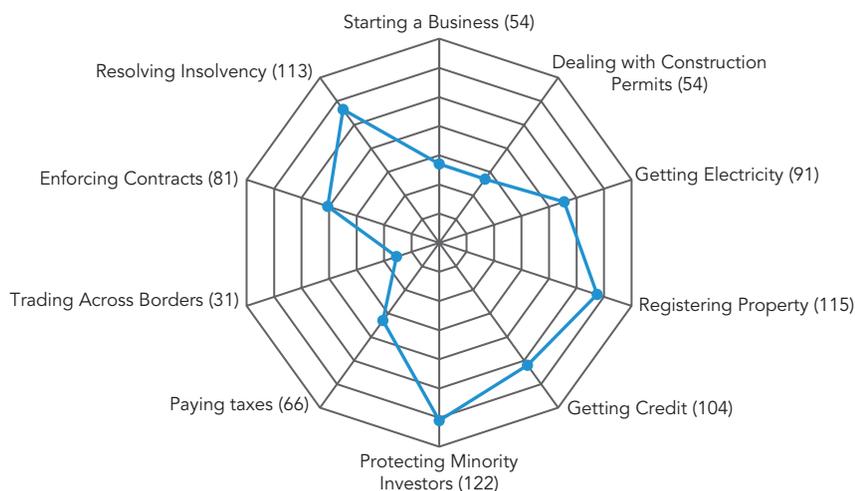
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Rank							98	100	118	122
Extent of disclosure Index (0-10)	5	5	5	5	5	6	6	6	6	6
Extent of director liability Index (0-10)	2	2	2	2	2	2	2	2	2	2
Ease of shareholder suits Index (0-10)	1	1	1	1	1	1	6	6	6	6
Strength of Investor protection index (0-10)	2.7	2.7	2.7	2.7	2.7	3	4.7	4.7	4.6	4.6

Source: World Bank (2015).

Note: 2014 rankings are adjusted: they are based on ten areas and reflect data corrections.

Overall, as shown in Figure 40, Morocco is not well ranked in the world in terms of enforcing contracts (81st place), access to electricity (91st place), and the recording and transfer of property rights (115th place), protection of minority investors (122nd place), and insolvency regulations (113th place).

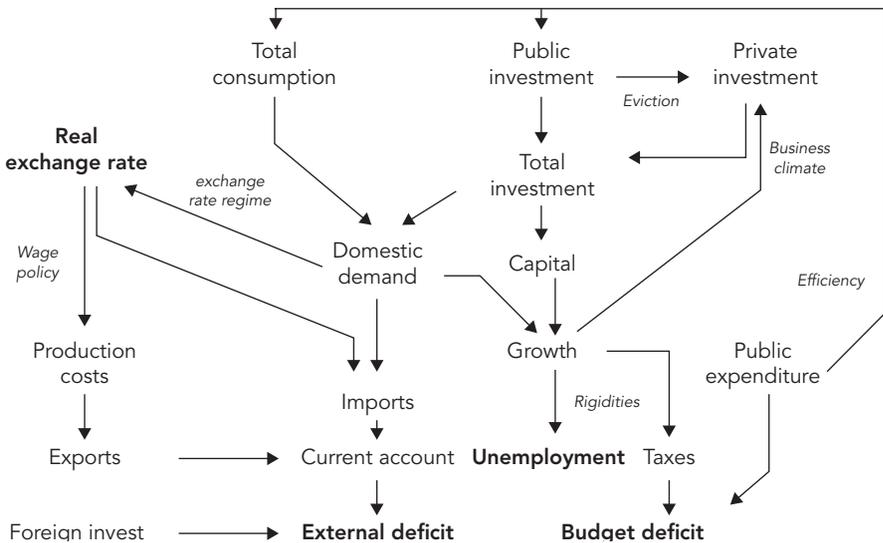
In short, over the past two decades the Moroccan economy has experienced positive growth rates close to its potential rate in a stable macroeconomic framework. This is despite the global financial crisis and the related economic slowdown. The rise in consumer prices barely

Figure 40 – Morocco: Ranking according to various business environment criteria, 2015

Source: World Bank/Doing Business (2015).

exceeded 2% annually over the last decade. However, the current growth strategy, based on strong domestic demand, has reached its limits (Figure 41). It was accompanied by growing imbalances in public finances –in spite of high taxation– and in external accounts. The impact of this strategy on the unemployment rate, although positive, was limited. The unemployment rate remains stubbornly high, particularly among the youth and skilled workers. Each year, about 160,000 people –mostly youth– enter the labor market while the economy only creates 120,000 jobs on average (114,000 in 2013, according to the High Commission for Planning). According to some estimates, the country should create 400,000 jobs per year over ten years to eliminate unemployment.

Figure 41 – Morocco: Stylized diagram of the current growth model limitations



At the same time, public investment, which was an important source of growth in domestic demand seems accompanied by a loss of efficiency. Heavy bureaucracy did not enable adjustments as rapid as necessary, considering the changes in the international environment. The business climate, despite significant progress, remains subject to many constraints, which contributed to hindering the expansion of private investment, both domestic and foreign.

The country remains heavily dependent on the business cycle in an area where growth prospects in the medium to long term remain unfavorable. Competitiveness must also be improved –which will

happen in part through labor market reforms– and new production and export sectors that are more technology-intensive and high value-added must be developed. In this perspective, the opening of the capital account should be accelerated to help countries to better cope with changes in the international environment and exogenous shocks and be better able to compete with the new fast-growing countries. The macroeconomic framework should be adapted to better anchor fiscal policy, strengthen the role of countercyclical monetary policy, and introduce new instruments to manage the risks of instability in the financial system as a whole. These elements of a new growth strategy are covered in more detail in the following part.

3

Elements of a new growth strategy

The limitations of the current economic policy, combined with the profound changes in the country's international economic environment, provide an argument in favor of adopting a new strategy to promote growth and employment in Morocco. In this report's perspective, the strategy should be based on three pillars:

- 1) Promote a renewal of short-term competitiveness by adopting a number of measures to reduce production costs in high labor intensive sectors, and continue quality improvement efforts within this workforce;
- 2) In parallel, promote private sector activity in productive sectors that will help the country to evolve towards the world technology frontier and compete in international markets for goods and services that are intensive in technology and skilled labor;
- 3) Rethink the role that the state should play in facilitating this transition, particularly in terms of investment incentives for private agents, the type of public services that would increase the productivity of private inputs in strategic areas, business climate improvement, and in terms of supporting a regional integration strategy.

To achieve these basic objectives, key elements of the new economic growth strategy should be to: promote strategic sectors; stimulate private investment; reform the education system and the labor code; promote innovation; accelerate the opening up of the capital account and adopt a more flexible exchange rate regime;

develop the regional trade dimension (in terms of partner countries); adapt the macroeconomic framework; and rethink the role of the state given the new international situation.

3.1 Developing strategic sectors

The growth strategy proposed in this report involves the establishment of policies to address the constraints to development and promote innovation in key sectors such as agriculture, manufacturing, phosphates, renewable energy, and the financial sector, which has an essential crosscutting role particularly in non-bank financial institutions.

3.1.1 Agricultural sector¹

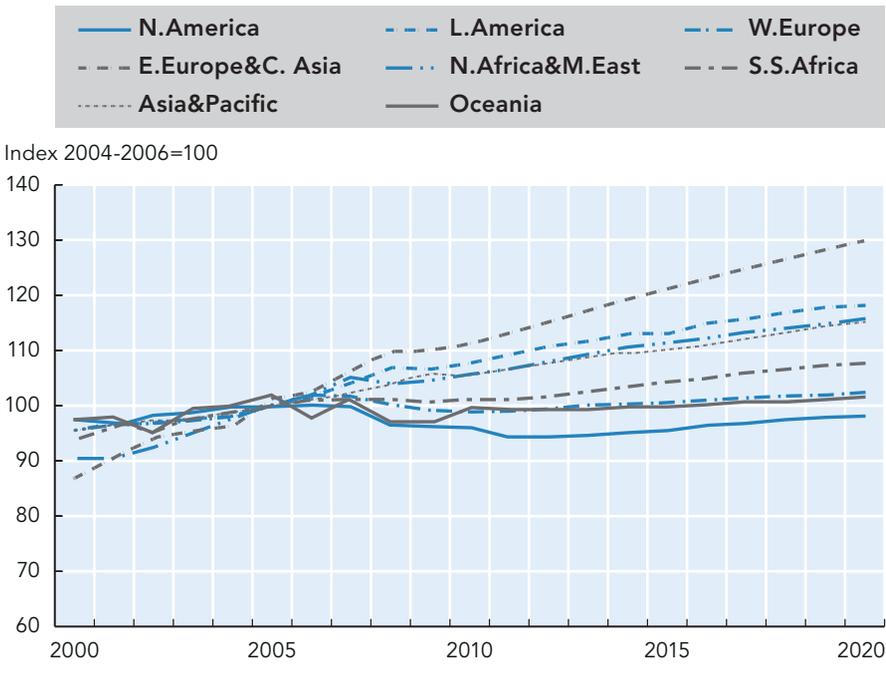
In 2008, the commodity crisis put food security back on the top of political agendas, with a renewed interest in agricultural issues in the economic debate and noted participation of large firms and associative movements concerning overall questions about the sector. This renewed interest is linked to globalization and its impact on the a) levels and mechanisms of establishing world prices; b) geography of production and world consumption; c) supply risk profile; and d) movement and composition of agricultural FDI. As shown in Figure 42, while global food demand tends to stagnate in North America, Western Europe and Oceania, it tends to grow in relation to population growth and income in countries in Eastern Europe, Latin America, Asia and Africa.

For Morocco, a country with a strong agricultural tradition, this is an opportune time to revisit the issue and define its position in this changing global landscape. Especially since the sector has entered an advanced stage of structural transformation, following the pace of private capital accumulated in agricultural production, naturally with long lasting effects on the political economy of the possible reforms. The data clearly show these profound transformations.

- Agricultural labor productivity grew faster than the rest of the economy and the migration of rural underemployed increased due to the circumstances, to urban centers or abroad, reducing the social weight of agriculture. The reduction in the share of agriculture in total employment (-9 percentage points between

1. See OCP Policy Center (2014a) for a detailed discussion on the agricultural sector.

Figure 42 – Global food demand: Evolution by region, 2000-2020



Sources : FAO and OECD.

1999 and 2012) resulted in productivity gains relative to other sectors (+0.2 percentage point compared to the national economic average).

- This acceleration is based on the capital accumulation process which, in the absence of gains in total factor productivity (TFP), draws on the stock of those more or less renewable such as land, groundwater and low salary labor. Indeed, the TFP of Moroccan agriculture increased only slightly (0.1% per year between 1980 and 2012), although a slight improvement is highlighted in the period 2000-2012 (0.9% growth per year).

These elements show that the slowdown of the growth model is a major challenge, for which its management requires an understanding of the various organizational forms of production that affect the market factors and their representation in agricultural policies.

These were marked by continuity in productive areas. They have evolved under pressure from external factors in three successive phases: 1) a period of partial nationalization of agriculture; 2) a crisis

period followed by the dismantling of most of the public monopolies; and 3) a period of a more strategic withdrawal by the State and a transition towards public-private partnerships (on public lands, irrigation management, agricultural advisory, and management of foreign trade).

The representation of agriculture underlying these policies is that of a dual sector composed of a low productivity traditional agriculture, and modern agriculture, to be promoted, which takes different forms over time. This dual approach currently seems inappropriate to describe the structural changes and the new dynamics that have emerged.

Three main forms of agricultural organization stand out: a capitalist sector, an agriculture consisting of territorial networks, and small family-type agriculture.

- Traditional agriculture is perceived as family farming, initially seen as a pool of labor for more productive sectors. Its sectoral weight has declined due to emigration, development of multiple activities, and the demographic transition in rural areas.
- Capitalist agriculture has instead developed on the basis of access to productive resources –particularly land and water– in the sectors benefiting from economies of scale (arboriculture, vegetables, industrial milk production or seeds). It accelerated with the advent of public-private partnership policy under the Green Morocco Plan.
- Lastly, an agriculture organized around regional networks emerged, as a legacy of associative forms of production. This network organization is able to confront rigidities and constraints, in particular access to production factors such as land and water, despite the transaction costs related to complex arrangements and contracts concerning these factors.

The representation of the agricultural sector should also take into account the interactions between the types of agriculture and the agricultural inputs market (competition for water, labor, or soil) or access to information and technology.

Available studies and research, especially in rural sociology, allow a certain understanding of the agricultural sector's complexity, without reaching a renewed global vision of agriculture and rural areas that can

be addressed in the political field. It is therefore important to propose, discuss and bring about a new representation of agriculture and rural development that takes into account the different logic and diversity of existing farms. The inclusion of this agricultural panel must replace the dual approach used so far, which does not account for the functioning of markets for agricultural inputs and hence the growth of the sector.

The model's limits relate to both the threats of global environment, competition from countries with better resources, and especially weaknesses related to the slowdown in the extensive type of growth. Combined with the increasing integration of the rural labor force in the national and international urban labor market, this assessment indicates a profound change in the sector's place in the economy.

The recognition of the limits of the growth model and the ongoing structural changes should lead to adapting the legacy of essential dual-use policies in favor of policies that leave more room for innovation (management of production factors, internationalization, rural development, regional networks), and overall more in line with changes in the international environment.

3.1.2 Manufacturing sector

As mentioned above, the manufacturing sector's contribution to economic growth has fallen sharply in recent years. In view of the new strategy proposed in this report, the promotion of this sector is essential and requires two components: a) strengthening competitiveness to reinvigorate production in sectors such as textiles and clothing, despite increased competition, in terms of price, from new Asian competitors; and b) develop new areas of production, combined with Morocco's "upgrading" of value chains for some technology-intensive products, while capitalizing on expanding the acceleration of national innovation and increased productivity. In both cases this expansion should result in increased exports and reduced pressures on the current account of the balance of payments.

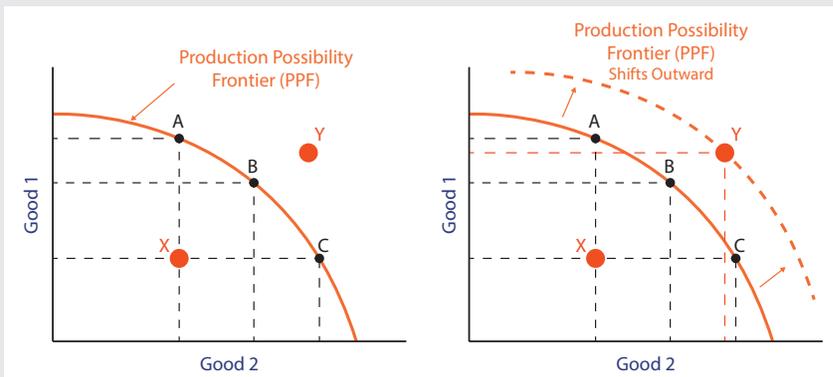
A useful concept for understanding both components of this strategy is the production possibilities frontier (PPF). As shown in Box 3, in the case of two goods (a manufactured product and non-tradable service), for given quantities of production factors, efficiency is reached when it is no longer possible to increase the production of a good

without reducing production of the other good. This efficiency can only be achieved at points on the PPF –the points inside are ineffective, with resources being wasted or misallocated. In this context, a renewed competitiveness (an adjustment of relative prices) would cause a movement *along the PPF* and would increase the production of a manufactured product and reduce production of the other good. There is therefore a *static* tradeoff in the decision to produce the two categories of goods.²

Box 3 – Production possibility frontier (PPF) and technological innovation

The production possibility frontier (PPF) concept helps to understand the tradeoff between the production of two goods, 1 and 2. This tradeoff can be represented graphically: all production pairs that satisfy the inputs resource constraint (labor, capital) form a concave curve, called PPFs. In other words, the PPF represents the combinations of goods that are possible to produce fully utilizing the available production factors, and given the technology available to convert these resources into products. Beyond the PPF these combinations are not feasible, while below the production factors are not fully utilized.

The graph below shows the PPF in the case of two goods. In the graph, points A, B, or C represent efficient combinations. Point X is inefficient (all factors are not used), while Point Y is not possible (the combination exceeds the economy’s production capacity).



The PPF is concave with respect to the origin. Gradually, as we produce more than one good, an increasing amount of the other good must be abandoned; this follows from the assumption of a full use of factors. Going from A to B, the production of good 1 (vertical axis) is somewhat reduced to increase the production of good 2 (horizontal axis). However, going from B to C, a more significant reduction of the production of good 1 is necessary to increase the production of good 2. The opportunity cost (in terms of good 1) associated with the production of good 2 therefore increases.

A policy to improve productivity (e.g. increased public capital in advanced infrastructure) increases the effective amount of the factors and results in a rightward shift of the PPF. In this case, as shown in the graph above, the economy can achieve the combination corresponding to point Y.

2. The issue of improving competitiveness through an adjustment of relative prices in Morocco will be discussed later in more detail.

More formally, the *marginal rate of transformation* (MRT or marginal opportunity cost of a good compared to another) is the rate at which a good can be converted into another. With two goods, $Q = G(X_1, X_2)$ and $MRT = -dX_1/dX_2$. Consider a reduction of X_1 for example, following an increase in the production of X_2 (positive quantity because of the sign). Along the PPF, $dQ = 0$. Therefore, $dQ = G_1dX_1 + G_2dX_2 = 0$, which implies that $MRT = -dX_1/dX_2 = G_1/G_2$. The MRT is thus equal to the negative slope of the PPF at the point considered. But the PPF is nonlinear, the MRT is not constant in general. If for example, the intensity of factors in both sectors of production was constant: the transformation function would be linear and the MRT would be the same, regardless of the production combination. However, it is a restrictive assumption.

Suppose that good 1 (horizontal axis) is a service, while good 2 is a manufactured product; the gain is at point C in the figure above. A renewed competitiveness would cause a movement *along the PPF*, either towards point A or towards point B. This movement is possible if the relative price of the two goods changes in favor of the manufactured product. Therefore, there is a static tradeoff for the production of these two categories of goods.

Now consider the *dynamic* case where the economy is growing and benefits from technological progress or structural reforms. In this case, the PPF moves upwards. For given input quantities, the economy can now produce larger quantities of the two goods. If the initial position is at point C, for example, the equilibrium point will move to point Y.

In the *dynamic* case when the economy is growing and benefits from technological progress or structural reforms that increase productivity, the PPF would move upwards. For certain quantities of production factors, the economy can now produce large quantities of both types of goods, due to greater efficiency in the use of available inputs.

If we interpret one of the produced goods as a high unskilled labor-intensive good, and the other as a high skilled labor-intensive and technology-intensive good, the PPF provides insight into the question of the transformation of the industrial sector in general and manufacturing in particular –the passage of imitative activities to innovation activities– and the role that industrial policies are likely to play in the context of a new growth strategy for Morocco. In recent years, these policies have experienced some renewed interest around the world, both in developed and developing countries (Box 4). A key point that emerges from recent debates is the fact that the industrial policy must from now on act effectively on the capacity of businesses to master new technologies for production information and communication, and to penetrate new markets. The goal is to basically promote either a movement along the PPF –and therefore a relative increase in the production of high skilled labor-intensive and technology-intensive goods– or an upward shift of the PPF, to allow the economy to produce more than the two categories of goods, without even increasing its allocation of production factors.³

3. To some extent, this industrial transformation layout also applies to the production of certain

Box 4 – From imitation to innovation: The role of industrial policy

The recent debate on industrial policy in developing countries juxtaposes two key positions: the *neo-liberal* perspective, which maintains a critical view of any intervention (selective or not) and the *neo-structuralist* perspective, which argues for a renewal of selective industrial policies, including the protection of fledgling industries.¹

Today it is widely accepted that the state's role in promoting the industrial sector is not only limited to "passive" interventions to enforce the rules that contribute to the functioning of the market. At the same time, it is recognized that traditional industrial policy interventions, consisting mainly to support the development of technological industries and given markets (energy, transport, intermediate goods) by promoting the emergence of national champions, are not always desirable or optimal. The new forms of industrial policy have the peculiarity of neither fitting into either a traditional interventionist approach, nor into an action that would fit the definition of an appropriate regulatory framework. They are a mixed attempt, implying for the public authorities to intervene in the *organizational means* of an industrial strategy, though not intervene in the objectives of the strategy. In this case, it means creating the conditions for business cooperation required to enable businesses to ensure the joint mastery of technologies and markets, without interfering with the nature of the products themselves.

The primary objective of industrial policy must be to diversify the economy and create new comparative advantages. Success or failure indicators should be used to help prevent the continuation of programs or operations that have bad results. At the same time, the support granted by a state should be limited in time. This support must be granted on activities rather than sectors themselves. These activities must be distinguished by their potential to generate technological and informational spillovers (Rodrik, 2004). The new industrial policy must avoid public activism involving the choice of products and players. It aims to create the conditions for a workable competition facing the challenges of innovation. Incentives should concern industrial organization. As such it is an important dimension of growth policy.

In the context of the new industrial policy, a key issue is the transition from manufacturing, an imitation regime mainly based on the partial reproduction or adaptation of foreign produced goods, to a regime based on innovation. This transition requires access to skilled labor and advanced information and communications technology to facilitate the transition from the production of light manufactured goods to more sophisticated manufactured goods.

In this perspective, industrial policy should not only focus on innovation, but also help to strengthen the quantity and quality of labor and the access to new communication and information technologies. In this sense, industrial policy also has an "education" dimension and an "infrastructure" dimension as shown by Agénor and Dinh (2013). The experience of the East Asian countries is instructive in this regard (World Bank, 2012*b*; Agénor *et al.*, 2013)

1. For a discussion of these different perspectives, and the overall debate on industrial policy in developing countries, see Noland and Pack (2003), Pack and Saggi (2006), Lin (2012) and Naudé and Zirmai (2013).

In Morocco, industrial policy has taken the form of establishing "industrial platforms" to welcome foreign groups.⁴ To facilitate the transfer of technology, skills and management, and thus develop sustainable diversification of the poles across the country, mechanisms and incentives have been developed to strengthen ties with local subcontractors –OEMs working either alone or in collaboration

services, such as financial services. In this case, the most appropriate forms of innovation are *process innovation*, *sales innovation* or *organizational innovation*, rather than *product innovation* (Box 6).

4. This is the case, for example, with Renault automobile factories in Tangier-Tetouan.

with foreign companies. Nevertheless, these industrial policies still lack consistency and suffer from numerous constraints, particularly in the quality of labor –due in part to the lack of interface between training institutions and the industrial sector– and technology transfer to small and medium sized enterprises (SMEs).

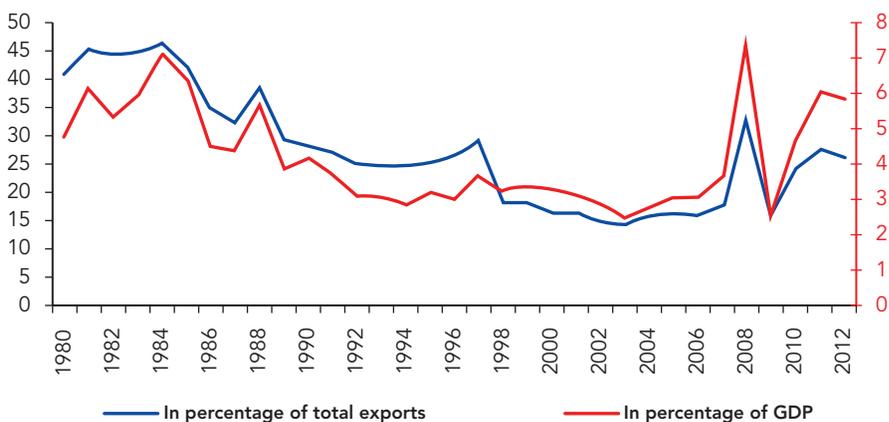
As mentioned previously, the key question for Morocco’s industrial sector –especially manufacturing– is to know how to better integrate into global value chains and compete in international markets. The development of industrial clusters requires a thorough analysis of these value chains. The role of industrial policy in this context is to identify which types of public intervention are able to facilitate insertion into these channels –a process that can be difficult. These sector-based measures could be varied; they might concern the organization of occupations –as was done with the Morocco Green Plan (*Plan Maroc Vert*) and measures to agglomerate small producers– certifications and implementation of International Organization for Standardization (ISO standards), equipment imports while ensuring conditions for local maintenance, strategic aid to export companies, R&D support, the guarantee of obtaining a public procurement contract for goods that are on the technology frontier –which would remove some of the risk for business and enable financing through advance payments through all development phases, etc. In parallel, it is important to ensure that these policies do not lead to the perpetuation of monopoly positions, which could turn into barriers to innovation, and that selection bias does not always come at the expense of SMEs.

3.1.3 Phosphate sector⁵

The phosphate sector has experienced a profound transformation in recent years. Overall, the transformation is the result of having taken into account the nature and changes in the international environment in which this sector operates and the consequent adaptation of the strategy to maximize the sector’s position. The results were conclusive: the transformation has resulted in a containment of the sector’s downward trend affecting the GDP and country exports (Figure 43), and on this basis, enabled the implementation of a comprehensive long-term strategy based on substantial investments to increase production capacity, thereby enabling the best possible use of Moroccan phosphates.

5. See OCP Policy Center (2014b) for a detailed discussion on this sector.

Figure 43 – Morocco: phosphate rock exports, phosphoric acid and fertilizers (Percentage of GDP and exports)

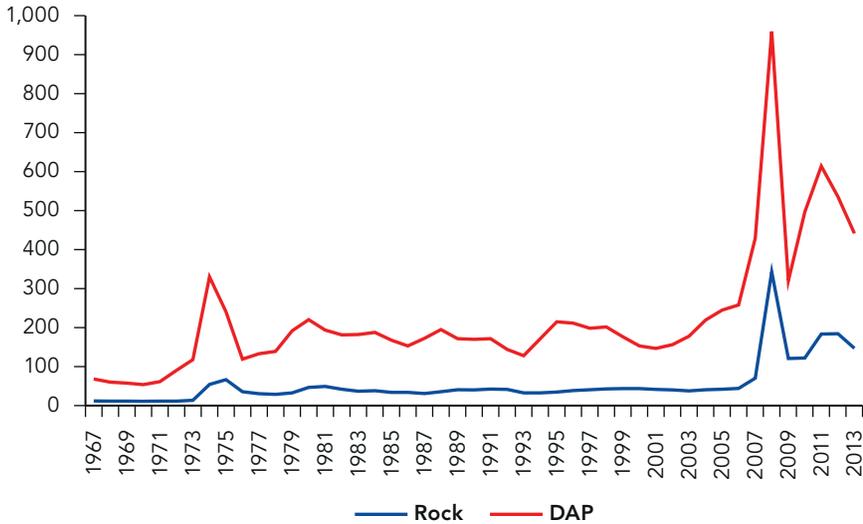


Source: Ministry of Economy and Finance, Foreign Exchange Office.

A look back at past trends shows that, from the mid 1970s to the mid 2000s, the rock market has long remained sluggish, with particularly low prices averaging less than US\$40 per ton (Figure 44). Several reasons explain this evolution that is however not quite similar to phosphate fertilizer, although it is expected to observe a co-movement between the two products, one as a significant component in the composition of the other (Figure 45). These include the challenges that OCP must confront. Financially constrained in its investment policy because of a fragile balance sheet in a global context of excess capacity, it concerns ensuring the flow of rock quantities produced at the expense of price. With this quantitative goal, the group thus acts as a main producer of phosphate rock, a sort of central bank of phosphate rock, answering de facto to phosphate fertilizer producers' requests, in particular for those that do not have mines.

The low price of rock allows fertilizer producers to capture price movements from agricultural markets, which correspond to the prices of fertilizers but not to rock prices. Certainly diammonium phosphate (DAP), the main phosphate fertilizer, suffers too: the appreciation of the US dollar in the first half of the 1980s, synonymous with lower purchasing power of importing countries, the rise in price of sulfur, declining farm incomes, and the more measured use of fertilizers in European countries, are all factors that affect demand. However, its price is more volatile and largely correlated with agricultural price dynamics (Figure 44).

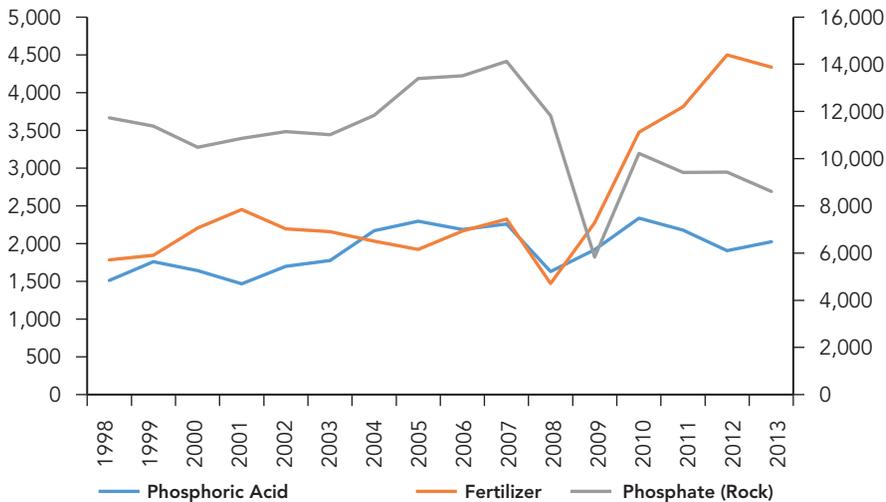
Figure 44 – Comparative dynamics of rock and DAP prices, 1967-2013
(in current US dollars / MT)



Source: World Bank.

Note: DAP: diammonium phosphate.

Figure 45 – Morocco: phosphate rock exports, phosphoric acid and fertilizers, 1998-2012 (Thousands of tons)

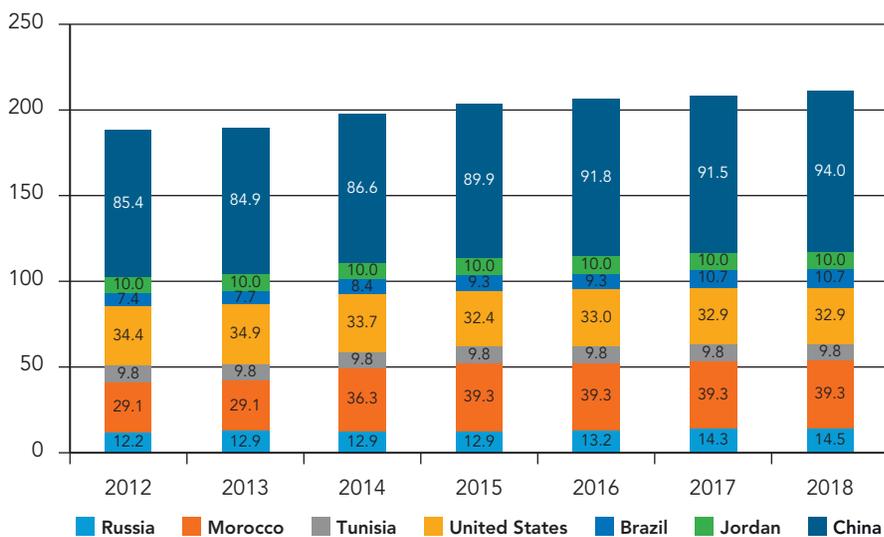


Source: Ministry of Economy and Finance. Foreign Exchange Office.

Starting in 2007, the situation changed structurally with a more suitable management of the mix and quantities of products exported,

which helped to assert a target price. To make this possible, the expiry dates of the phosphate rock contracts were shortened, allowing OCP to reconnect the dynamics of rock prices to the fertilizer prices. The consequences of this policy reform were immediate: when DAP prices increased and fertilizer production capacity increased, the group's financial situation improved significantly. While OCP's capital was negative in 2007, it reached nearly 10 billion dirhams a year later. During the same period, turnover increased by over 100%. The transformation of OCP could therefore commence. It entailed an ambitious investment policy to increase the group's downstream integration and strengthen its production capacity for rock and fertilizer. This was intended to meet the projected increase in global demand as well as an increase in the intensity of competition between producers (Figure 46), exacerbated by China's pro-cyclical exporting behavior and by the decisive weight of some consumer countries, including India, which alone accounts for half of global DAP exports.

Figure 46 – Morocco: Estimation of the evolution of rock production capacity, 2012-2018 (in millions of tons)

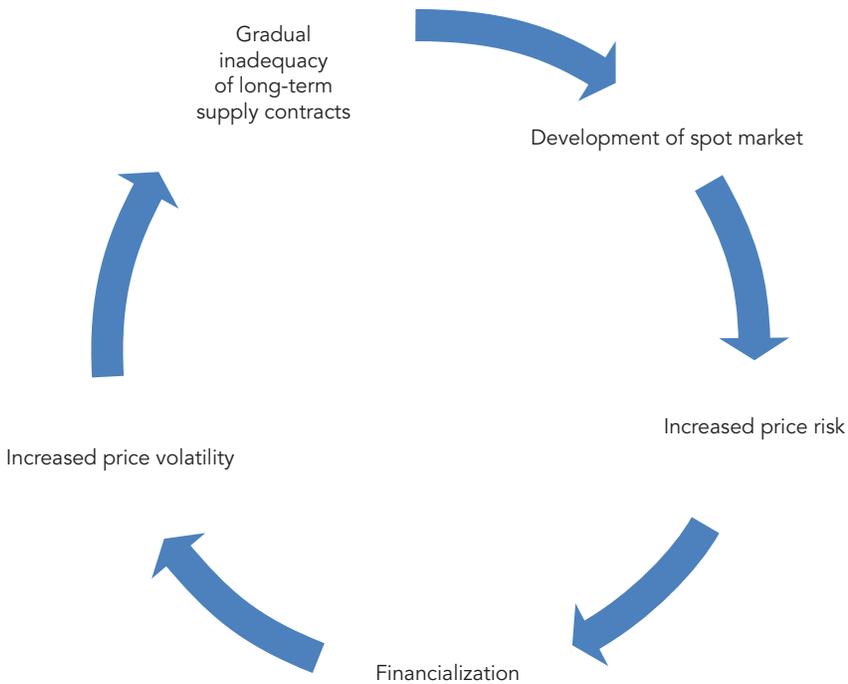


Source: CRU.

What consequences should we therefore anticipate? The rise in OCP's power as a phosphate fertilizer producer will certainly inspire a reaction by its competitors, and it is likely that both that the competition intensity and price volatility are increasing further. The financialization of the phosphate sector, seen as a strategy to meet the increased

price risk and the gradual inadequacy of long-term contracts, as well as a method for combatting dominant market positions and maximizing comparative advantages in this area (Figure 47). This would be a radical change in the organization of the sector, but would be in sync with historical trends for other commodity markets.

Figure 47 – Financialization dynamics of a commodity chain



To establish itself as a long-term player in reconciling profitability and global responsibility, OCP should then accompany this financialization, while providing the rate stability that the agricultural market demands. It would thus be interesting for the group to henceforth establish themselves as a central bank of phosphates in all its forms, not just in rock form as was the previous approach, in order to meet the demand from the agricultural markets. This is different from the approach as the primary rock producer for the industrial sector. The aim would be to pursue a target price for rock, consubstantial with DAP, while providing careful management of the phosphate supply in all its forms. This would therefore help to meet agricultural sector demand, in particular in Africa, with respect to the market environment and its long-term trend. OCP's credibility would depend on its ability

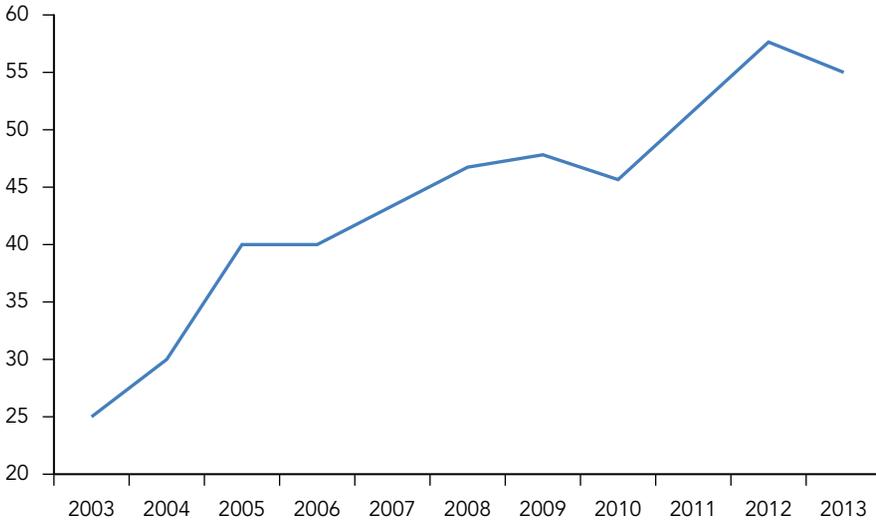
to provide to market operators with an objective of credible prices for the different forms of phosphate, as well as its ability to respect the pricing. It should specifically depend on: its ability to correctly anticipate the long-term demand for phosphate; its understanding of how market expectations are developed; its ability to sustainably establish operator expectations;

Furthermore, the group's ability to manage the complexity of the market, to continue to invest, and flexibly manage changes in the utilization rate of its production strength will be essential parameters in asserting its leadership. In parallel, the ability to innovate, control production costs, and continue international expansion, especially in the rapidly growing markets, notably Africa, are elements that are of particular importance for the strategy's success.

3.1.4 Renewable energy sector

Morocco has abundant wind and solar resources. A policy of promotion of these resources could provide significant opportunities for growth and job creation (Debbarih, 2006). According to a report by Dii (2013), the wind, photovoltaic and concentrated solar thermal power industrial sectors could represent up to 5% of GDP in 2030 if the country is investing enough –in partnership with international companies with demonstrated expertise in the renewable energy sector– in the production of electricity from renewable sources. Also, by diversifying its sources of supply, Morocco could halve its dependence on fossil fuels imports. These imports could reduce from the current rate of about 8% of GDP to 4% in 2030, significantly reducing energy costs. As a proportion of exports, these costs have increased from 25% in 2003 to over 55% in 2012 (Figure 48).

**Figure 48 – Morocco: Evolution of energy costs, 2002-2013
(Percent of total exports)**



Sources: Bank Al-Magrib and Ministry of Economy and Finance, Department of Studies and Financial Forecasts (DEPF).

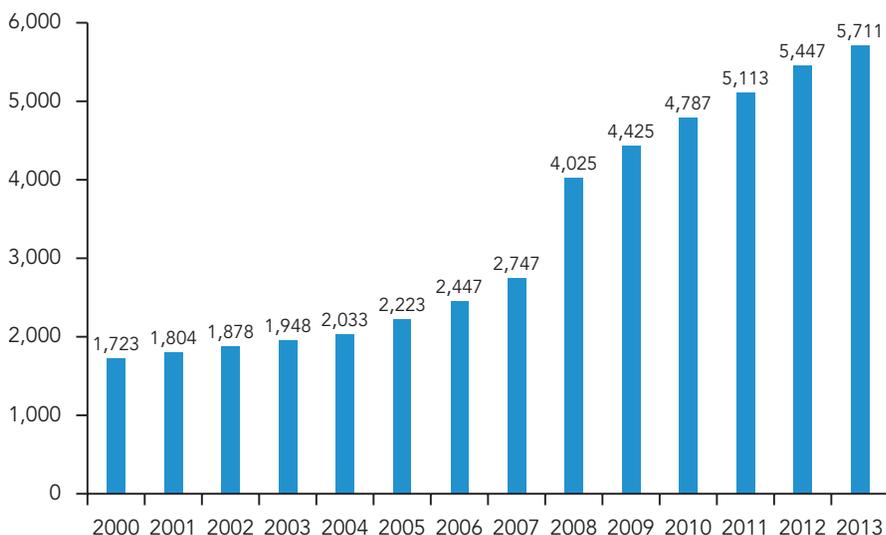
According to the report, Morocco could initially focus on making relatively simple and multi-purpose components, such as electrical cables for wind turbines or the supporting structures for photovoltaic panels, while in parallel positioning itself to manufacture more complex components. This strategy is directly aligned with the blueprint to transform the industrial sector in previously discussed countries. If a significant portion of these components is manufactured locally, tens of thousands of direct and indirect jobs could be created. At the same time, as mentioned earlier, too, the skilled labor supply must increase, both in quantity and quality. Ultimately, the success of educational reforms will determine in part the success of the renewable energy sector.

3.1.5 Financial sector

Morocco's financial system has experienced a significant advance over the past two decades. In 2012, there were 19 banks, 36 finance companies –including 18 in consumer credit– and 10 money transfer companies (Banking Supervision Department, 2012). The number of bank branches increased from 1,723 in 2000 to 5,711 in 2013 (Figure 49). The ratio of bank deposits to GDP increased from 57% in 2001 to 79% in 2013, while the ratio of credit to the private sector to GDP increased from 48% to nearly 86% during the same period

(Figure 50). These ratios are significantly higher than those seen in many competing countries. Interest rates are now freely determined, loan maturity –including housing– has increased significantly, the public debt market has developed, and the establishment of Moroccan banks abroad has accelerated since 2004 (Figure 51). En 2012, Moroccan

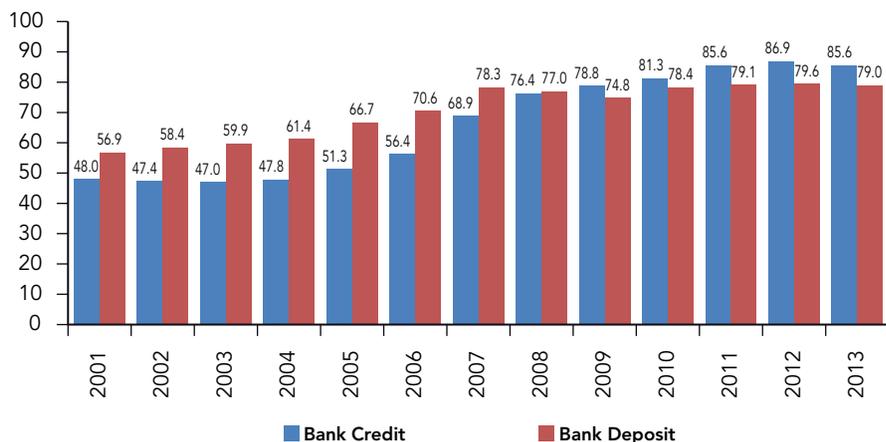
Figure 49 – Morocco: Evolution of the number of bank counters, 2000-2013 (In units)



Source: Bank Al-Magrib, Banking Supervision Department.

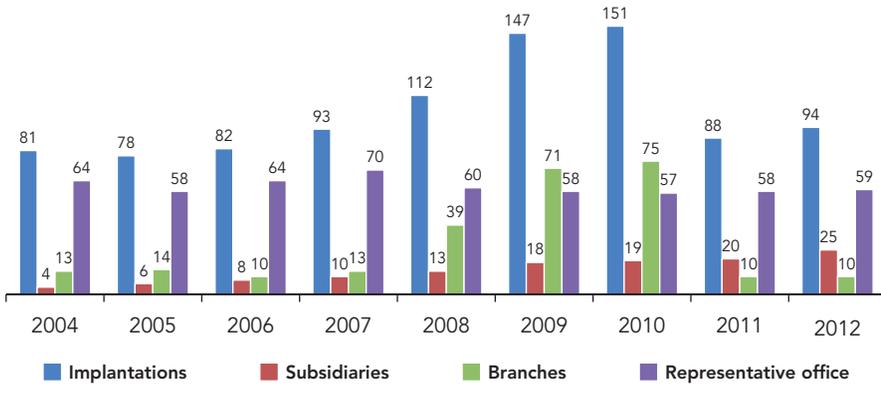
Note: Since 2008, the network includes the Al Barid Bank (ABB) agencies.

Figure 50 – Morocco: Evolution of the ratio of bank deposits and loans to the private sector 2001-2013 (In percentage of GDP)



Source: Bank Al-Magrib, Banking Supervision Department (2014).

Figure 51 – Morocco: Evolution of banking operations abroad, 2004-2012 (In units)



Source: Bank Al-Maghrib, Banking Supervision Department (2012).

banks were present in over twenty countries with approximately one hundred branches through 25 subsidiaries, 10 branches and 59 representative offices. Meanwhile, international banking groups have also strengthened their facilities in Morocco; Currently, foreign interests hold over one-fifth of the bank assets. This financial internationalization is one of the most tangible aspects of the country's integration into the global economy over the last decade.

However, reforms are still needed in the financial sector, in particular to reduce the structural constraints that persist and prevent it from fully contributing to economic growth and job creation. In the perspective of this report, there are three dimensions to be considered: the expansion of the financial sector itself as a source of growth; its cross-cutting role relative to the economy as a whole, and especially the role of venture capital in the promotion of innovation activities; and the financial sector's role as a support element for a regional expansion strategy (discussed previously) for export activities.⁶

Regarding the first dimension, a key question is access to bank financing, especially for SMEs.⁷ Although it has grown in recent years, financing remains limited, especially for long-term investments.

6. Consumer credit, despite rapid growth in recent years, is still low compared to other parts of the world (Professional Association of Financing Companies, 2012). However, its link to growth is less clear.

7. According to a study by Fafchamps and Schündeln (2013) covering the period from 1998 to 2003, access to credit has played a crucial role in the expansion of SME growth sectors in Morocco.

As shown in Figure 38 above, and according to data from the World Economic Forum (2014), access to finance remains indeed the second most important constraint that weighs on the business environment. An improved accounting framework and financial audit practices, as well as other measures to reduce the extent of the guarantees required by banks, could accelerate this access to finance.

A second issue concerns the role of the public sector in the banking business. This role is important, since almost half of bank assets are still held directly or indirectly by the state (Banking Supervision Department, 2012). A reduction of this role could improve the allocation efficiency of financial resources.

A third issue concerns the degree of competition in the banking sector. The degree of concentration in this sector's private component is still high; in 2012, the top five private banks received 80.5% of bank deposits and granted 80.6% of loans (*ibid.*). The same phenomenon is observed in non-bank financial institutions. This concentration tends to limit competition and increase the cost of credit. Increased competition, in contrast, would promote the development of savings and expansion of financing of the economy. At the same time, to prevent that an overly aggressive competition does not result in a risk of financial instability, it is important to strengthen the financial institution supervisory agencies and the macroprudential framework in general –see below.

A fourth issue concerns the financial system's role in promoting innovation, which is well documented in recent economic literature (Agénor and Canuto, 2013). In Morocco the venture capital remains underdeveloped. Currently the country has about twenty equity funds –admittedly, compared to only four funds five years ago– involved in investments in hundreds of projects. However, seed funds, which require considerable attention from potential investors for relatively small amounts, are still lacking. In addition, capital investment funds cannot use taxation to recover capital losses on projects, therefore reducing the incentive for risk-taking.

Lastly, with regard to the banking system's integration into its international environment, the important issue is promoting the expansion of Moroccan banks into Sub-Saharan Africa –in partnership with European groups or through other methods– and the support role in the development of trade between Morocco and this region that is crucial to future growth. This role therefore goes beyond the

simple internationalization of the banking sector as such, and the promotion of traditional banking services in the host country (bank deposit management, short-term loans to local businesses, etc.). Instead it means a veritable “proactive” role by financial companies. This expansion indeed has implications for the legal and regulatory framework at the national level.

3.2 Improving the business environment and promoting private investment

As stated earlier, the business environment in Morocco continues to suffer from several constraints: access to land, access to finance –especially for SMEs– and public regulation (taxation, bureaucracy, justice, the labor code). For exporting companies, access to land remains the main constraint to growth. Reforms in these areas should be accelerated.

In addition, although access to basic infrastructure is considered adequate in general, the state must also invest in advanced infrastructure –possibly in partnership with the private sector, given the short term fiscal consolidation needs– especially broadband Internet, which also plays an important role in promoting innovation, as discussed later. In terms of general Internet access, Morocco has made rapid progress in recent years (World Bank, 2012d). Between 2005 and 2010, the proportion of households with Internet access at home rose from 4.3% to 25.5% –compared to the rate of 7.5% in 2010 for the lower middle-income countries. In the same period, the number of people using the Internet increased from 15.1% to 49%, compared to 13.5% in 2010 for the lower middle-income countries. This proportion rose to 56% of the Moroccan population in 2013. According to the latest survey of the National Telecommunications Regulation Agency (2013), in 2012 the proportion of households with access to a computer at home was 43% (56% in urban areas) and those with access to the Internet was 39% (51% in urban areas). In terms of Internet access, Morocco is currently ranked 30th in the world; in combined terms of access and impact, it was ranked 54th in 2013.⁸

However, disparities between rural and urban areas remain strong. According to the National Telecommunications Regulation

8. See <http://thewebindex.org/data/>.

Agency (2013), in 2012 only 18% of rural households had a computer. Moreover, even if mobile Internet access (3G and soon 4G) has accelerated, the proportion of the population with access to Internet (landline) broadband is limited. It increased from 0.82 per 100 inhabitants to only 1.56 between 2005 and 2010, and to nearly 3 in 2013 according to World Bank data –compared to a rate of 1.04 per 100 inhabitants in 2010 for lower middle-income countries. Access to broadband Internet is important for companies that are part of global value chains as well as to promote R&D activities, to the extent that it facilitates the formation of national and international knowledge networks.

3.3 Reforming the labor market and the education system

The labor market in Morocco is subject to many distortions, largely related to the institutional and regulatory characteristics of this market (Box 5): a high minimum wage relative to per capita income and adjusted on a discretionary basis, strong dismissal restrictions, high non-wage labor costs, a job matching process with unproven efficiency, and unions with strong bargaining power. Additionally,

Box 5 – The labor market in Morocco: Institutional and regulatory characteristics

The institutional and regulatory characteristics of the labor market are important for understanding wage formation and the evolution of employment in Morocco. In the following a brief review is presented on: the formation of the minimum wage, hiring and dismissal regulations, the matching process between labor supply and demand, the structure of non-wage costs, and the role of unions.

Minimum wage

The minimum wage was established in Morocco in 1936. It is differentiated by age categories and occupation sectors (rural and urban). In principle, it is revised on the basis of a formal indexation mechanism linked to a too rapid expansion of the cost of living index (more than 5% annually). In practice, however, revisions occur irregularly and often independently of the indexing formula. Rather, they result from policies and unilateral decisions, following heavy pressure from unions. Consequently, fluctuations in the minimum wage (both in nominal and real terms) have been largely erratic.

Available studies show that regulations on minimum wages in urban areas (which primarily affect unskilled workers) are widely adhered to in the private formal sector, due to an active role of government and the unions. Changes in the minimum wage also tend to spread quickly to the entire wage structure; its impact on wage inequality is limited in time. However, it contributes to a downward rigidity of real wages in general.

In recent years, the minimum wage has risen sharply in real terms. As indicated in the text, these increases have supported the expansion of aggregate demand but at the same time negatively affected the demand for unskilled workers and unit labor costs, thus affecting the country's price competitiveness and the level of unemployment for this type of labor (Benrida and Baraka, 2006).

In 2012, the urban minimum wage was about 115% of GDP per capita, relatively high compared to other middle-income countries.

Regulations for hiring and dismissal

The regulations on the hiring and dismissal of workers in the private sector are particularly restrictive in Morocco. These regulations are widely adhered to by employers due to an active role, again, by the government and unions. For example, individual dismissals for economic reasons are prohibited. In addition, staff reductions on a large scale for economic reasons require the approval of regional authorities. The only justification that an employer may have to dismiss an employee is for disciplinary reasons. Even so, the law allows the dismissed worker to challenge the decision by appealing to the court. Court procedures are so complicated that companies often seek to avoid them, by negotiating directly with the worker. This situation is obviously a source of inefficiency, given the difficulty of predicting the outcome and financial costs. It also contributes to slower growth in demand for labor and permanent hires, reduced investments in worker training (and therefore productivity gains), and limits firms' ability to adjust to demand related price changes and exogenous shocks. In addition, by increasing job security for permanent employees, it gives employees a greater bargaining power, leaving the "outsiders" in a weaker position.

Similarly, the difficulties encountered by employers to dismiss workers, and the financial costs that may result in these decisions, partly explain why employers are often reluctant to hire new workers on a permanent basis and instead tend to use their personal relations for this purpose. These personal contacts enable a better filtering initially, which helps minimize the risks associated with the hiring decision. The regulations on the hiring and dismissal of workers also contribute to fostering temporary hires.

The institutional process of job matching

In Morocco, the job matching process remains a public monopoly. The country has in recent years adopted a series of active policies aimed at improving the integration and employment of young skilled workers. These policies consist mainly of a greater role for regional public institutions and grant tax deductions for hiring young workers. However, the real impact of these policies is difficult to assess, given the persistence of the gap between labor supply and demand.

Non-wage costs of labor

In addition to legislation on minimum wages and layoffs, many other aspects of labor market regulation affect labor demand in the formal private sector. Currently, for companies labor costs excluding salaries account for about 25% of total labor costs (e.g. contributions to the national social security fund and pension programs, employee insurance, contributions to private health plans and contributions to public funds for the vocational training system).

It should also be noted that in Morocco, as in many developing countries, there is still no unemployment insurance program. However, the country is currently considering the introduction of *unemployment benefits* (IPE). As currently envisioned, the financing of the IPE is based on employer and employee contributions (with fixed rates at 0.38% for the employer's share and 0.19% for the wage earner's share) as well as direct transfers from the government. The replacement of regulations for hiring and dismissal by a focused unemployment insurance program would significantly improve the functioning of the urban labor market.

The role of unions

Morocco has three large unions. Their power is mainly due to their close relationship with some political parties, a historical legacy linked to the struggle for independence. Unions have a strong presence in the public sector and the formal private sector; they play an active role in the implementation and respect of collective agreements that exist in some sectors (such as the banking sector and the transport sector) and more generally for applicable regulations regarding the labor law (minimum wage and regulations regarding dismissal, as previously indicated). This activism creates a divide between unionized and non-unionized workers, the former being better protected than the latter relative to market forces. At the same time, the decisions made in favor of unionized workers tend to spread to non-unionized workers.

decisions related to union actions (e.g. an increase in the minimum wage) tend to affect both unionized and non-unionized workers. These distortions and externalities contribute to a downward rigidity of real wages; empirical studies seem to suggest a high degree of indexation of nominal wages as a whole compared to inflation (Agénor and El Aynaoui, 2005). In turn, this rigidity complicates the labor market adjustment and encourages unemployment. Empirical studies have also shown that in the private industry the relationship between real wages and productivity appears to be well explained by the efficiency wage relationship (*ibid.*). This relationship applies mainly to skilled workers; it helps create a relative rigidity for lower wages, promote labor market segmentation, and generate persistent unemployment.

Another problem is the quality of the workforce. Measured in terms of education levels, the results are poor compared to those from countries with similar income levels. The illiteracy rate at the national level is currently 57.7% (70% for women and 44% for men), and 48.5% in urban areas. According to comparative figures presented in the latest report of the World Economic Forum (2014), the enrollment rate in secondary education, which is 68.9%, places Morocco in the 105th position out of 144 countries, while the enrollment rate at the higher education (tertiary) level, which is 16.2%, puts Morocco in the 100th position (Table 10). In terms of the quality of its education system, the country received a score of 3.2 out of 7 (105th of 144).

However, the low quality of education remains a major constraint on growth. A sustained effort must be made in the coming years to

Table 10 – Morocco: Education system indicators (Most recent year)

Indicator	Value (1)	Ranking (2)
Secondary education enrollment, gross %	68.9	105
Tertiary education enrollment, gross %	16.2	100
Quality of the education system	3.2	102
Quality of math and science education	4.2	68
Quality of management schools	4.5	54
Internet access in schools	3.3	112
Availability of research and training services	4.1	72
Extent of staff training	3.6	106

Source: World Economic Forum (2014).

Note: (1) Percentage (lines 1 and 2), then index from 1 to 7. (2) Ranking out of 144 countries.

adapt both the quantity and quality of labor to changes required by the upward movement along the technological frontier and the promotion of innovation activities. Empirical studies have shown that the quality of labor also plays an important role in the promotion of foreign direct investment (Agénor, 2012a). Strengthening the quality of the education system can create a virtuous circle, likely to accelerate the country's process of industrial transformation and contribute to a sustainable increase in the economic growth rate.

3.4 Promoting innovation

In any economy, an increase in production is derived from a greater use of inputs (land, physical capital and labor) and from improving the overall productivity of these inputs. In turn, the total productivity increases due to various factors. Empirical evidence suggests that the key elements are public capital (access to infrastructure), internal business reforms (such as a better organization of the production process), and the economy's ability to innovate. In this perspective, participation in a competitive global market tends to force companies to become more involved in innovation activities; in parallel, globalization is an important vector of foreign technology transfer, which therefore favor –at least initially– the growth of productivity. Morocco's increased international integration, as advocated in this report, therefore, is an important source of growth.⁹

However, technology transfer should not be limited to core processes, so that the country finds itself caught in a “trap” where essentially imitative activities are predominate.¹⁰ It is therefore essential to promote local innovation, in the broad sense (Box 6), based on both national and international talent.

9. Fagerberg and Srohlec (2008) studied 25 indicators on technology development, innovation and governance covering 115 countries between 1992 and 2004. From an analysis of main components of these 25 variables, they first sought to determine if a common factor linked them, and then test their influence on the country's level of development. The analysis leads to group these variables into four factors corresponding to: a) the performance of their innovation system; b) the governance of their economic system; c) their political system; and d) their degree of international openness. The set of factors explain 74% of the observed variance in GDP per capita in the sample. The study demonstrates that if countries are classified with respect to the first factor (reflecting the country's innovation capacity), a high correlation rate of about 0.86 is observed. This first performance factor concerning the innovation system corresponds to the notion of technological capabilities, with a strong correlation with scientific publications, patents, access to information and communications technology, higher education, and financing for innovation.

10. On the “growth trap” concept for middle-income countries, see Agénor et al. (2012), Agénor and Canuto (2013) and World Bank (2012b).

Box 6 – The categories of innovation: Definitions from the Oslo Manual

Innovation has both technological and non-technological aspects. Non-technological innovation, such as sales innovation (e.g. completely rethink a line of furniture) or organizational innovation (e.g. create new work teams), is an important dimension of innovation activities for numerous companies and is particularly important for many service companies.

The Oslo Manual¹ distinguishes four types of innovation: product innovation, process innovation, sales innovation and organizational innovation.

- *Product innovation* is the introduction of a good or a new or significantly improved service. This includes significant improvements in technical specifications, components and materials, integrated software, user friendliness or other functional characteristics.

- *Process innovation* is the implementation of a new or significantly improved production or distribution method. This includes significant changes in techniques, equipment and / or software.

- *Sales innovation* is the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing of a product.

- *Organizational innovation* is the implementation of a new organizational method for practices, workplace organization or external relations of the firm.

The first two categories are generally more closely related to technological innovation.

1. <http://www.oecd.org/innovation/inno/oslomanualguidelinesforcollectingandinterpretinginnovationdata3rdedition.htm>.

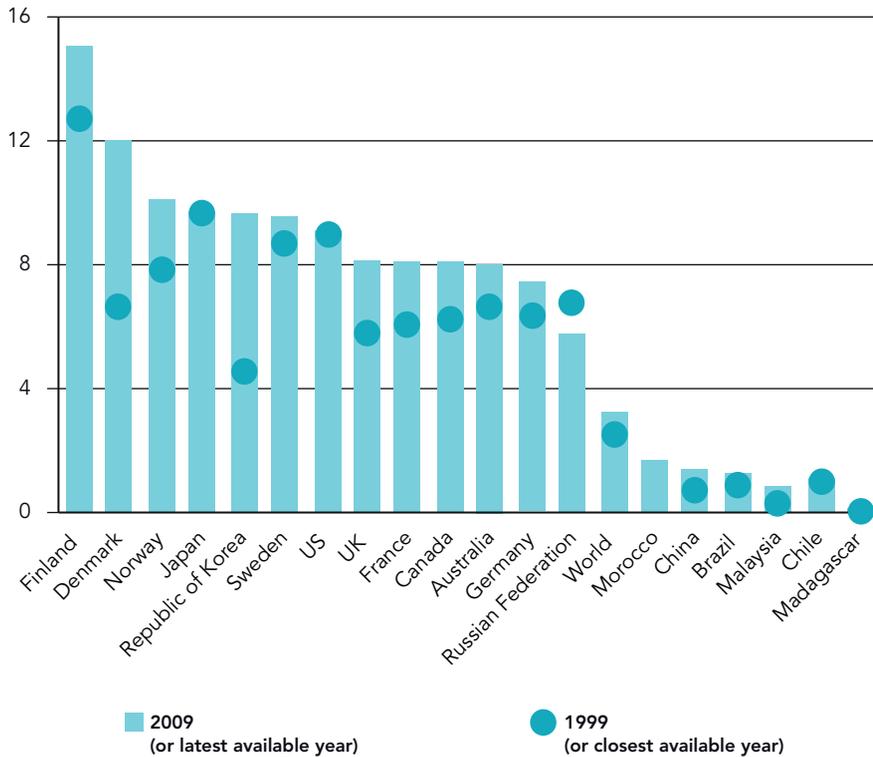
In this perspective, significant progress has been made in recent years in Morocco. New sectors related to IT (computer services, call centers, etc.) have developed. R&D efforts, measured as a proportion of GDP, are still only modest (0.7% on average in recent years), but are increasing. The number of researchers per thousand individuals in Morocco's labor force is currently higher than in countries such as China, Brazil, Malaysia and Chile (Figure 52). Equally important, businesses fund almost 30% of R&D, and employ about 10% of R&D personnel.

However, innovation activities continue to face a number of obstacles in Morocco.¹¹ In principle, the country has a policy to promote innovation that is inclusive: it includes measures to assist the different phases of the process and the various stakeholders (companies, researchers, etc.), according to proven measures at the international level (support startup of innovative enterprises, the creation of eco-industrial clusters, and research-industry collaboration on R&D projects), and through facilitation institutions, such as establishing a single administrative point for grants or financing of innovative projects via the Moroccan Center for Innovation.¹² However, this policy is still embryonic, and the means employed are relatively modest compared to the stakes.

11. See Belcadi *et al.* (2005), Kingdom of Morocco (2005*b*), Driouchi (2006), and Djeflat (2012).

12. See <http://cmi.net.ma/Accueil.html>.

Figure 52 – Number of job seekers in the active labor force, 1999 and 2009 (per thousand people)



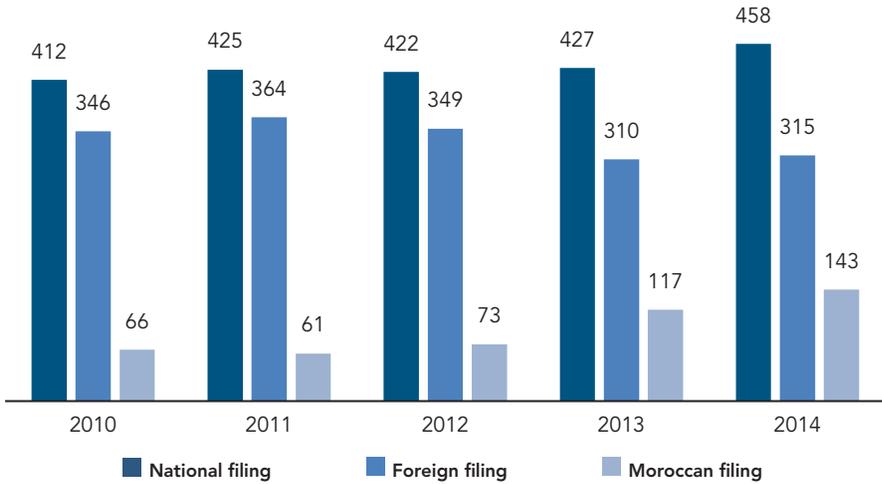
Source: World Intellectual Property Organization (WIPO) (2011).

Moreover, non-residents file the vast majority of patents in Morocco. According to data from the Moroccan Industrial and Commercial Property Office (OMPIC), this ratio was 83.9% in 2010; although it has since improved to 68.7% in 2014 (Figure 53). While this is quite common in middle-income countries (Figure 54), it raises a fundamental question about the dynamism of R&D activities by nationals.

At the same time, the regulatory framework for research and innovation incentives is insufficient, particularly for establishing researcher status, and encouraging research in companies, as well as the examination of patent applications. In terms of knowledge and researcher productivity, in 2012 no Moroccan university was ranked among the top 500 in the world.¹³ The number of engineers and doctors in natural sciences produced each year is relatively low and the quality of tertiary education

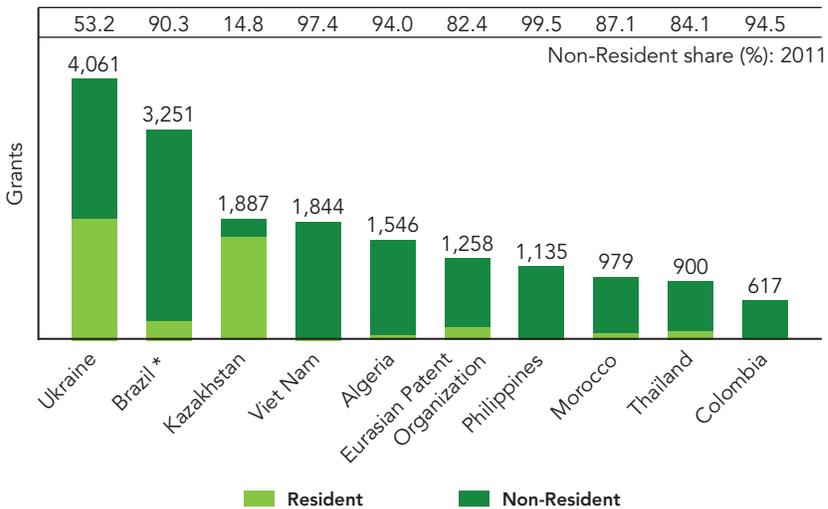
13. See the global ranking of universities: www.arwu.org.

Figure 53 – Morocco: Evolution of patent filings, 2010-2014 (In units)



Source: OMPIC, 2014 Annual Report.

Figure 54 – National patent filings, 2011 (In units and percentage)

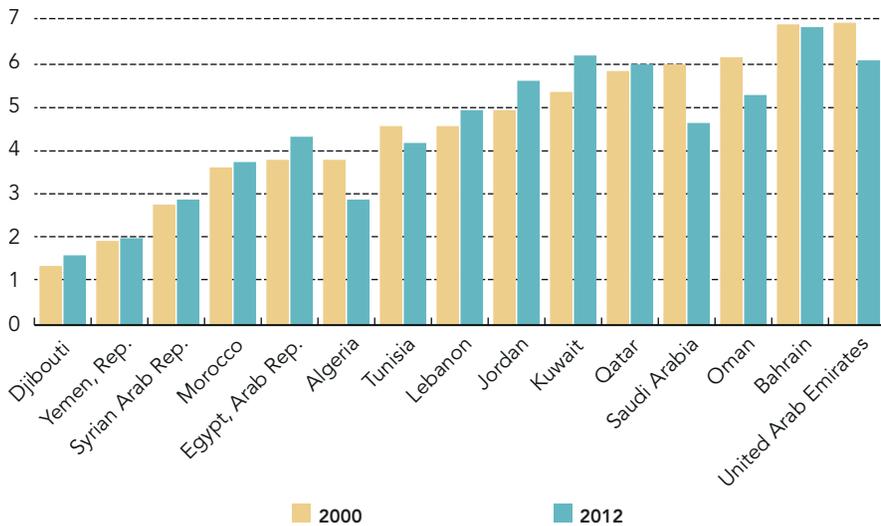


Source: WIPO (2012).

is insufficient; this partly explains the low number of patents granted to residents, despite the fact that the ratio of researchers is relatively favorable. Knowledge and understanding are not only key determinants of innovation capacity –as previously stated– but they also shape the ability of the economy to absorb and respond to shocks, cyclical and structural; in that knowledge affects the degree of flexibility of the economy as a whole.

In the global innovation and knowledge indexes, Morocco's position is still low. According to the *Global Innovation Index* calculated by INSEAD (*Institut européen d'administration des affaires*) in 2012 Morocco was ranked 88th out of 141 countries –compared to 94th out of 125 in 2011; it is ranked 64th for human capital, 66th for general infrastructure, and 100th for new information and communications technology (ICT). According to the World Bank's *Knowledge Economy Index*, Morocco was ranked 102nd out of 145 in 2012, losing 10 places compared to the 2000 ranking (out of 146 countries); the country's position has deteriorated according to this indicator.¹⁴ In the Middle East North Africa region (MENA), Morocco remains poorly ranked compared to countries such as Jordan, Lebanon, Qatar, and Bahrain (Figure 55). The World Economic Forum (2014) reported similar results; Morocco is favorably ranked 34th out of 144 countries for the availability

Figure 55 – Country scores for the Knowledge Economy Index (KEI), 2000 and 2012 (Measure between 1 and 7)



Source: Centre for Mediterranean Integration (2013).

14. See www.globalinnovationindex.org and www.worldbank.org/kam. The World Bank Knowledge Economy Index (KEI) has four components, which are the pillars of the knowledge economy: a) the system of economic incentives (composed of three sub-variables related to trade policy, protection of property rights, and regulation of commercial competition); b) innovation (measured through three sub-variables: the number of researchers in R&D, the percentage of industrial products in GDP, and the number of scientific articles published in scientific and technical journals); c) education (represented by the literacy rate and education at the secondary and university levels); and d) information technology –consisting of three sub-variables: the number of landline and mobile phones, the number of computers, and the number of Internet users.

of scientists and engineers, but only 85th for the quality of scientific research and 118th for innovation capacity (Table 11).

Table 11 – Morocco: Innovation indicators (Most recent year)

Indicator	Value (1)	Ranking (2)
Capacity for innovation	3.2	118
Quality of scientific research institutions	3.5	85
Company spending on R&D	2.6	112
University-industry collaboration in R&D	3.2	96
Gov't procurement of advanced tech products	3.4	78
Availability of scientists and engineers	4.6	34
PCT patents, applications/million pop.	0.5	78

Source: *World Economic Forum (2014)*.

Note: (1) Index from 1 to 7. (2) Raking out of 148 countries.

The picture that emerges from these indicators is one of a country that has a generally favorable environment for innovation activities; but where progress is needed, particularly in terms of financial support for innovative projects. In addition, the quality of the workforce is insufficient. The question that arises is how to accelerate the process of improving the quality of researchers, knowing that by nature this process is entirely based on the increase in the country's quality of tertiary education, which will necessarily be slow.

Among the existing proposals to improve the quality of research in Morocco is to strengthen ties between Moroccan and foreign universities. It is difficult, however, to evaluate what type of impact these measures will have in the short term. Another approach –which is a recommendation in this report– is to create a STARTUP-Chile type program to attract talent available outside the country (Box 7). Morocco, which has already launched projects in this sense, including the Casablanca Technopark, could capitalize on this experience and benefit from a number of competitive advantages. Indeed, it seems to be in a unique position to create such a program: its proximity to Europe, where job prospects in the short and medium terms are unfavorable for many young graduates; political stability in the MENA region; a relatively low cost of living; and well developed telecommunications

Box 7 – The STARTUP-Chile program

STARTUP-Chile (<http://startupchile.org/>) is an innovation promotion program inspired by Silicon Valley in the United States, and based in Santiago, Chile. The program objective is to make Chile the primary center of innovation in Latin America. Participants are also expected to organize and actively participate in training activities for entrepreneur networks locally.

The program was launched by the Chilean government, through *InnovaChile* and *CORFO*. The Ministry of Economy, the Ministry of Foreign Affairs and the Ministry of Interior funds the program, which provides interest-free and non-equity funds up to US\$ 40,000 to pre-selected start-up companies.

The program started in 2010 with 22 start-ups from 14 countries. The selected companies are invited to participate in a 24-week program in Santiago, where they have a sponsorship, access to offices, and meet with potential investors. Although national start-ups can participate in the program, most come from different parts of the world (Canada, New Zealand, Singapore, etc.).

These companies are initially invited for a period of 6 months; the government takes care of all administrative procedures. If a company decides to stay, getting a new visa is easy and inexpensive. The cost of skilled labor (engineers) is relatively low, and a two-bedroom apartment costs only US\$ 500 per month. The physical concentration of startup companies and their integration into the local environment aims to create significant synergies to stimulate innovation and the transmission of knowledge.

Between 2010 and late 2013, the program received 10,475 applications from 112 countries; 974 applications were approved, representing a 9% rate. Among the approved projects, 22% were from the United States, 19% from Chile, 7% from Argentina, 6% from India, and 4% from Brazil. Approved projects represented a total amount of US\$ 40 million.

infrastructure.¹⁵ Investments, especially in the field of broadband Internet, will of course be necessary to create this program and funding must be found; however, the potential is considerable. A neutral and meritocratic grant program and complementary measures to facilitate entry into the country for talented young entrepreneurs from around the world –especially the Middle East and low-growth countries in Europe– has the ability to produce major short term benefits for the economy as a whole, including strengthening the culture of innovation and entrepreneurship. This initiative also would align with the Morocco Innovation program (*Maroc Innovation*), which sets ambitious goals for patents and innovative start-ups, improving the image of Morocco as an R&D site, particularly in biotechnology, new ICT, materials, nanoscience and nanotechnology.¹⁶

15. At present Germany attracts many young engineers and other potential innovators trained elsewhere in Europe –including France– because of its relatively better short term economic prospects. However, the country prospects in the long-term as shown in Table 3, are not much more favorable than those of neighboring countries. In the US, a new type of visa for foreign entrepreneurs with at least US\$100,000 funding secured through US investors is pending approval by the Senate. However, the visa is temporary.

16. See <http://www.mcinet.gov.ma/TechnologiesAvancees/PromotionInnovation/Pages/Initiative%20Maroc%20Innovation.aspx>. To achieve these objectives the program proposes a series of measures, including measures strengthening university R&D capacity, creating innovation cities, working with European Union innovation programs, and an increase in the funding level for R&D to 2% of GDP in 2020, with 25% coming from private sources.

3.5 Accelerating the openness of the capital account and the liberalization of the exchange regime

Improving the competitiveness of the Moroccan economy, as previously noted, is a key element of the growth strategy proposed in this report. This improvement requires not only the structural changes discussed above, but also a more open capital account and the liberalization of the exchange rate regime.¹⁷

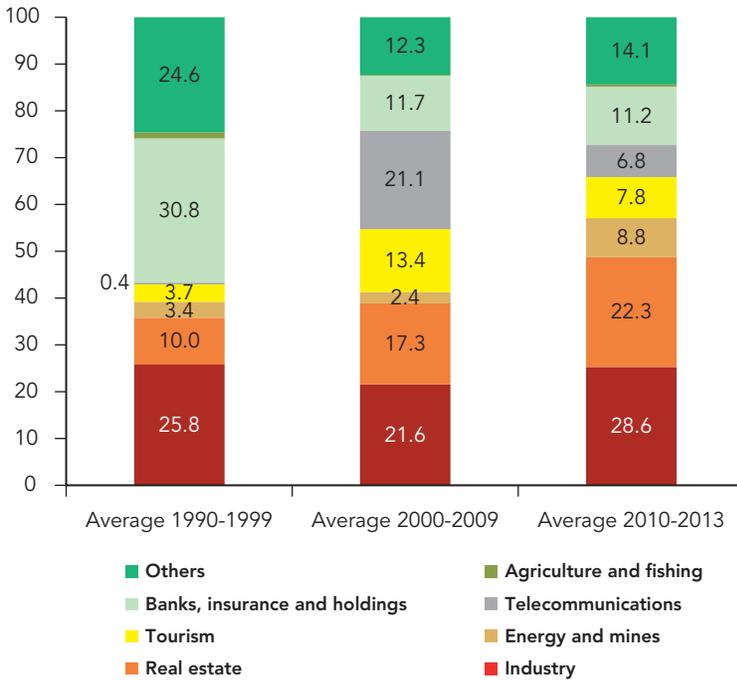
With regards to the capital account, the recent liberalization process in Morocco has been asymmetrical in the sense that the capital account was completely open to non-residents while remaining practically closed to residents. The limited range of domestic assets, in an environment where foreign capital can enter freely and/or where domestic savings is increasing –due to revenue growth– has resulted in pressure on asset prices –particularly in real estate– and contributed to a reallocation of investment flows to the detriment of productive activities. Meanwhile, a captive domestic savings has contributed to low domestic interest rates and may have facilitated an increase in debt ratios in both households and non-financial state owned companies.

Moreover, although the gradual opening of the capital account has in recent years been accompanied with favorable results regarding the total level of FDI –with a cumulative growth rate of 31% between 1990 and 1999, and 86% between 2000 and 2009– the composition of these flows has been highly concentrated in a few sectors, including real estate, telecommunications, banking and insurance, and tourism (Figure 56); relatively little FDI took place directly in the manufacturing and high technology sectors, as was the case for example in China (World Bank, 2009, chapter 2). In the case of the high-tech sector, one possible explanation is the relative weakness of the workforce quality, mentioned earlier. Under these conditions, reforms to speed up the quantity and quality of skilled labor could have a significant impact in terms of FDI and economic growth (World Bank, 2008b), and thus help to initiate or perpetuate a virtuous circle.

In parallel, the pursuit of capital account liberalization must be accompanied by greater flexibility in the exchange rate. Since 1973,

17. From a short term macroeconomic perspective, increasing the flexibility of the exchange rate is also an important reform to allow the Moroccan economy to improve its ability to absorb external shocks. This issue is discussed later.

Figure 56 – Morocco: Sectoral distribution of Foreign Direct Investment (FDI), 1990-2013 (Percentage)



Source: Ministry of Economy and Finance, Foreign Exchange Office.

Note: For 2013, available data covers Q1.

Morocco has operated a fixed exchange rate regime with respect to a currency basket of its main trading partners, weighted by their importance in foreign trade and the country’s regulations, leading to a *de facto* stabilization policy of the effective exchange rate. Modifications have been made over time, but the exchange rate regime currently in force remains a nominal anchor against a basket of currencies, consisting of the U.S. dollar at 20%, and the euro –Morocco’s main trading partner currency– at 80% with a very low effective tolerance band (0.6%). In this context, Bank Al-Maghrib intervenes daily in the foreign exchange market by setting the buying and selling rates for its operations with banks. Although in principle this currency-fixing regime reduces the effective autonomy of monetary policy, the maintenance of restrictions on the capital account has left leeway to conduct an independent monetary policy. Since the end of 2006 this policy took the form of adopting an analytical framework that is similar in some respects to that of inflation targeting (Section 3.7.2).

In the context of Morocco's further integration into the global economy, as advocated in this report, the exchange rate regime and the associated monetary policy framework need fundamental reform. As stated earlier, the data show a significant real appreciation and overvaluation in recent years (Figure 25). This excessive appreciation of the real exchange rate has led to short-term macroeconomic management problems (loss of foreign exchange reserves, sustained external imbalances, and difficulty in containing the impact of capital flows on economic stability), and has limited economic growth and employment in the productive sectors, due to its impact on Morocco's competitiveness.

Sound macroeconomic policies are a prerequisite for the transition to a flexible exchange rate regime, as well as for maintaining the credibility of a fixed rate. However, institutions and markets have an important role to play (Box 8). In concrete terms, a possible strategy for Morocco is an orderly exit via an *asymmetric band regime without central parity over a two-year period*. Such a regime is transparent and easy to implement since the depreciation rate can be programmed in advance instead of being revised monthly on the basis of the estimate of the equilibrium exchange rate, which is dynamic by definition.

Box 8 – Ordered outputs of a fixed exchange rate regime: Lessons from international experience

How should a country minimize the risks associated with a transition from a fixed exchange rate to a flexible rate, and how quickly should the transition be made? When should the capital flows be liberalized? Before or after abandoning the peg? International experience has shown that an orderly exit from a fixed exchange rate regime requires proper preparation to act at the right time and be able to build on a sound macroeconomic framework.

First, it is essential that countries should have a sound and liquid market for foreign exchange. In most developing countries and emerging markets, the forex market is narrow and does not work well, partly because of the many regulations that it is subject to. The rigidity of parities also prevents the development of the foreign exchange market because the players do not really have any reason to try to interpret trends in exchange rates, to take positions, or manage the risks. In addition, under a fixed exchange rate regime the Central Bank is usually required to actively participate in the market, limiting interbank transactions. The introduction of flexibility in the exchange rate regime encourages the development of the foreign exchange market.

Indeed, when the exchange rate begins to fluctuate, even slightly, it encourages operators to quickly learn to position themselves, to estimate the price of currencies and manage foreign exchange risk. It is essential that the first step toward flexibility—regardless of the pace of transition—is decisive enough to, from the outset, give the participants the feeling that the risk can play in two directions, upward or downward, which will lead them to take both long and short positions. This flexibility must be accompanied by measures to ease or eliminate regulations that restrict market activity (such as the obligation to return or exchange foreign currency earnings to the central bank, taxes and surcharges on foreign exchange transactions, restrictions on interbank transactions, as well as restrictions on current account transactions and certain capital movements), harmonize and simplify the exchange

legislation, and promote the development of instruments to hedge the currency risk by gradually lifting controls on futures.

Second, countries should develop policies that allow them to define the objectives, timing and extent of official intervention in the foreign exchange market. Under a fixed exchange rate regime, central banks have virtually no freedom of choice concerning the timing or extent of their interventions. In a flexible exchange rate regime, on the contrary, their action is discretionary, and if they decide to intervene it is to correct exchange rate distortions, calm disorderly fluctuations in the market, or accumulate reserves. Evidence for middle-income countries demonstrates that many middle-income countries systematically intervene in the foreign exchange market to prevent what is often considered a too high exchange rate appreciation (Agénor and Pereira da Silva, 2013). However, several reasons should encourage selective and parsimonious interventions: the misalignment of the exchange rate is difficult to detect and measure; the volatility of short-term exchange rate does not always justify an intervention (which may result from changes in economic fundamentals); interventions are not always effective when it comes to influencing the exchange rate or reducing its volatility; interventions are most effective when they are relatively infrequent because the surprise element takes precedence, which enhances market confidence in the authorities' will to ensure the flexibility of the exchange rate.

Third, the adoption of an intermediate regime may better manage the transition to a flexible exchange rate. Several countries have opted for an intermediate adjustable peg regime for a transitional period with increasingly large variation margins, to ensure the transition to another form of a nominal anchor over a relatively long period of time (as is the case of Chile, Hungary, Israel, and Poland).

This report also proposes a gradual transition for Morocco. It provides time to put in place the required institutional and macroeconomic adjustments. In particular, it allows time for operators to examine the foreign exchange market (insofar as a flexible exchange rate regime stimulates cambial activity) and develop ways to manage foreign exchange risk. It also gives authorities the time to implement the appropriate regulatory and supervisory systems. In addition, the gradual approach limits the risk of excessive volatility in the currency and the pernicious effects that may result concerning the credibility of public action, inflationary expectations and balance sheets.

Fourth, countries will eventually need to find a new nominal anchor and redefine the monetary policy framework when they phase out the fixed exchange rate regime. Many developed and developing countries have adopted inflation targeting (Agénor, 2002; Hammond, 2012). But the global financial crisis has changed the traditional formulation of this scheme (Agénor and Pereira da Silva, 2013). The current consensus is that the scheme adopted must not only adopt a goal of price stability, it must also internalize the risks of financial instability. To this end, macroprudential tools should be developed, as discussed later.

Fifth, the liberalization of capital movements should not come before easing the exchange rate regime; historically this sequence has often contributed to macroeconomic imbalances and caused currency crises (Agénor and Montiel, 2008). However, even when the transition to a flexible regime precedes the opening of the capital account, the liberalization of capital flows, whether it relates to the direction or composition, can cause excessive growth in liquidity and credit. More generally, too asymmetrical liberalization of capital movements can lead to systematic overvaluation (or undervaluation) of exchange rates relative to its long-term equilibrium level. This corresponds fairly well to Morocco's case in recent years. To facilitate an orderly resolution of any possible misalignment of the exchange rate, it may be preferable to proceed in parallel with the flexible exchange rate regime and the gradual elimination of asymmetries, which create an imbalance in the movement of capital.

An adjusted asymmetric band also preserves the monetary policy strategy fundamentals pursued in recent years, while ensuring adaptation that is aligned with the current challenges and the medium-term outlook for Morocco's economic environment. The asymmetry of band's increase allows flexibility to be gradually phased

in and triggers a learning process for the Central Bank and market operators, while taking into account and reporting and noting the anticipated margin of depreciation, which is larger than the appreciation margin during the early stages of transition.¹⁸ At the same time, the reference to the basket of currencies, known by the public, can be maintained. But the development of the exchange market in terms of volumes traded and depth will be favored by the absence of central parity and the band's asymmetry; operators' adaptation to the flexibility and management of foreign exchange risk will thus be faster. Moreover, unlike a crawling peg exchange rate regime with symmetric band, the absence of a central parity and the expansion of the upper band as part of the asymmetric band reduce the frequency of foreign exchange intervention.¹⁹

3.6 Harnessing the regional dimension: The expansion into Sub-Saharan Africa

Many recent economic reports have focused on the economic potential of Sub-Saharan Africa, in particular related to its abundant and relatively inexpensive labor. However, this growth potential remains subject to several constraints, particularly in the financial sector, basic infrastructure services (transport, energy and telecommunications), education and human capital, and governance.²⁰ These constraints largely explain why the regional share of world trade has changed little in terms of value between 2000 and 2010. In terms of physical volumes, this share has even fallen; it decreased from 6.5% in 1980 to 5.2 in 1990 and 4.9 in 2009 (United Nations Conference on Trade and Development, 2012; Table 5).

18. In this regime, it is important that the exchange rate variation risk can occur both upwards and downwards; the fluctuation band should be wide enough. It is also important that the flexibility provided by variation margins is not quickly neutralized by a possible misalignment. If the fluctuation band is narrow and the currency is subject to persistent upward pressure, the exchange rate risks attaining its upper limit, thereby forcing the monetary authorities to either defend the existing margins (as in a regular fixed exchange rate regime) or expand them. However, frequent adjustments of the band can harm its credibility and lead to speculative pressures. These problems are even more acute with freely circulating capital.

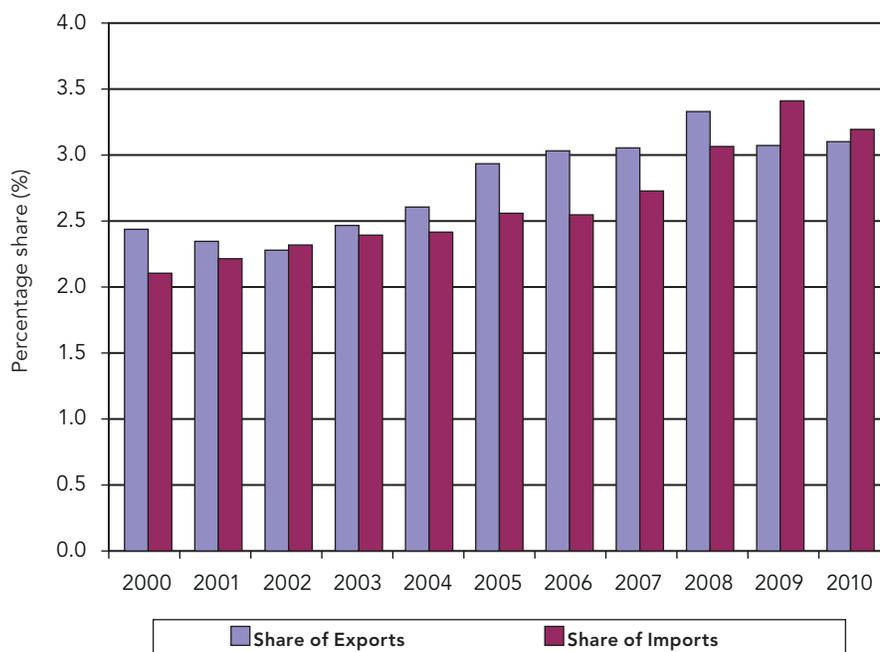
19. With parity or a crawling peg exchange rate regime, the central bank is expected to intervene frequently if the market does not systematically and sustainably orient the exchange rate towards the depreciation rate under the crawling peg. In addition, the procedure is done in the context of parity or crawling peg, according to adjustment rules that change regularly.

20. See World Bank, 2010; United Nations Industrial Development Organization, 2011 and 2012; African Development Bank, 2012; and Le Goff and Singh, 2013.

The product structure of Sub-Saharan Africa's foreign trade has also changed little. In exports, fuels, ores and metals continue to represent the bulk of sales abroad; the share of manufactured goods actually fell between 2000 and 2010, from 21% to 16%. Meanwhile, the main imports continue to be commodities, machinery and transport equipment (Figure 59).

In geographical terms, however, the region's foreign trade structure has changed significantly in recent years. In 1995, China's share of exports and imports in Sub-Saharan Africa accounted for 2.2% and 4.4%, respectively, compared to 11.4% and 16.2% for France for example (Ye, 2013). In 2005, these shares accounted for 4.2% and 16% for China, and 5.3% and 10.7% for France (*Ibid.*). While in 2012 this share accounted for 7.6% and 14.9% for China and 3.6% and 3.5% for France²¹. In the franc zone, and for the sub-periods 1985-1995, 1995-2005 and 2005-2009, the relative shares were as follows for imports

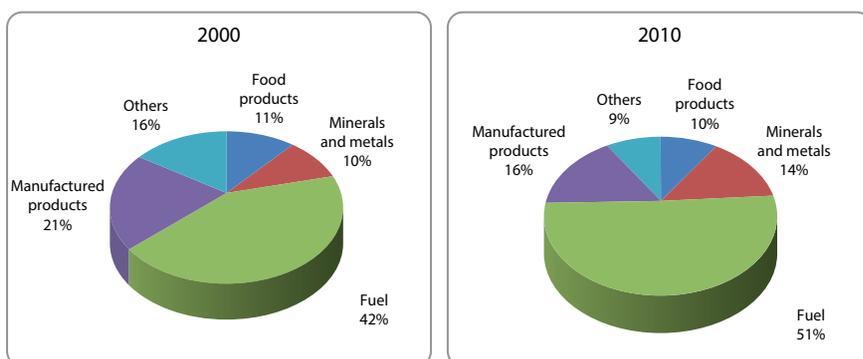
Figure 57 – Sub-Saharan Africa: Share of world trade, 2000-2010



Source: African Development Bank (2012).

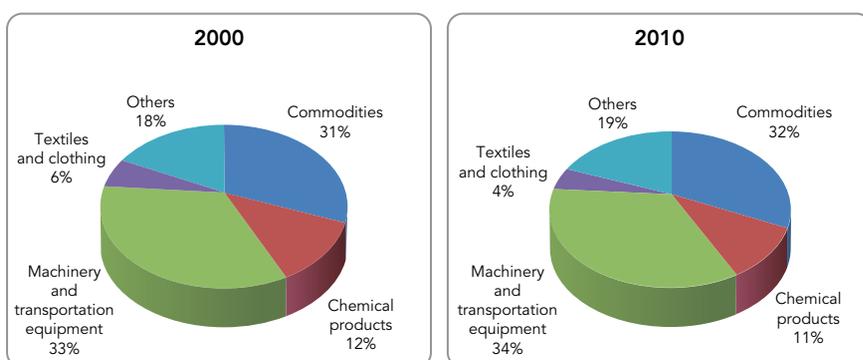
21. In parallel, Africa's share in Chinese imports increased from 0.7% in 1990 to 2.5% in 2000 and 4.8% in 2010, while for exports the corresponding figures are 2.1%, 2.0% and 3.8%, respectively (Ye, 2013).

Figure 58 – Sub-Saharan Africa: Export structure by product group, 2000 and 2010 (Percent of total exports)



Source: Direction of Studies and Budget Forecasting (2012).

Figure 59 – Sub-Saharan Africa: Import structure by product groups, 2000 and 2010 (Percent of total imports)

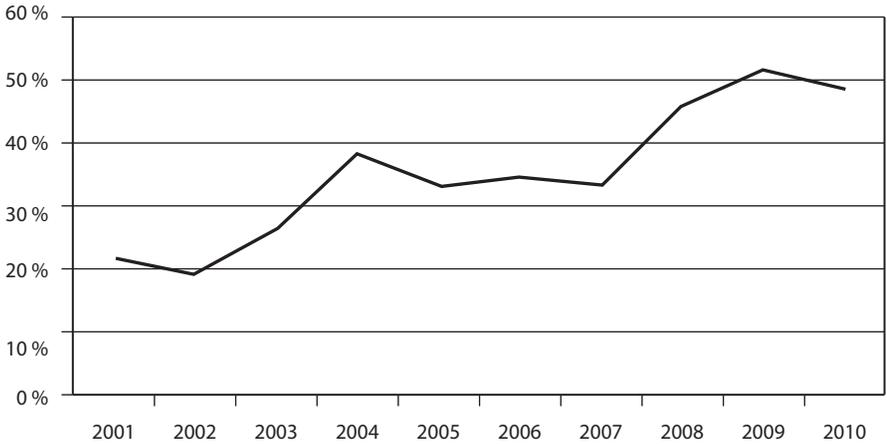


Source: Direction of Studies and Budget Forecasts (2012).

from the region: 41.4%, 27.4%, and 18% for France, compared to 2.1%, 7.1%, and 15.4% for China, respectively.

For the region's exports, figures are 24.5, 10.9, and 7.8 for France, compared to 0.9%, 6.5%, and 13.8% for China, respectively (Chaponnière et al., 2013). In 2010, about 50% of Africa's exports of metals were destined for China (Figure 60). This rapid expansion of trade between China and Sub-Saharan Africa was accompanied by a surge in Chinese direct investment in the region between 2005 and 2012, particularly in the sectors of transport, energy (including petroleum), real estate, and mining (Zafar, 2007; World Bank, 2008c; Chaponnière et al., 2013; and Box 9).

Figure 60 – China’s importance in African exports of metals, 2001-2010



Source : Chaponnière et al. (2013).

Box 9 – China's investment in Sub-Saharan Africa

With a total of over US \$ 120 billion, Chinese investments in the world have set a new record in 2012 (the previous was US \$ 111 billion in 2010). Thanks to Heritage, an American foundation, details of approximately 750 transactions of US \$ 100 million and above are publicly available.¹ These investments are classified in eight categories: energy, mining, transportation, real estate, agriculture, finance and technology. The statistics exclude loans, purchases of treasury bills, and other financial transactions.

Based on these data, we can establish a fairly accurate profile of Chinese investment in Sub-Saharan Africa. The region has raised US \$ 108 billion since 2005, out of a total of US \$ 607 billion, equal to about 18%. Over this period, most of this amount was invested in transportation (US \$ 34.3 billion, or about 32%), energy, including oil (US \$ 31 billion, or 29%) real estate (US \$ 21.6 billion, or 20%) and mining (US \$ 16.3 billion, or 15%). In comparison, the global distribution is energy (US \$ 284.5 billion, or approximately 47%), mining (US \$ 98.5 billion, or 16%), transport (US \$ 89.1 billion, or 15%) and real estate (US \$ 48.7 billion, or 8%).

Nigeria has received US \$ 15.6 billion of which 8.2 was in the energy sector, 3.8 in transportation, and 3.2 in real estate. A preferred destination by the Chinese, Nigeria attracted more capital than the UK or Russia (US \$ 13.3 billion). The main transactions concerned Total’s onshore oil assets, purchased by Sinopec in November 2012 for US \$ 2.5 billion, and also CNOOC bought South African Petroleum in June 2008 for US \$ 2.27 billion.

Algeria has received US \$ 10.5 billion, of which 8.8 billion was in transportation and 1.3 billion in real estate. The foundation does not provide details of the transactions.

South Africa received US \$ 8.6 billion of which 5.9 was in financial services and 2.7 in mining. A large part of this amount (US \$ 5.6 billion) came from ICBC’s acquisition of 20% of Standard Bank, the first financial institution on the continent. The takeover of Metorex, active in DR Congo, by Jinchuan Mining, is also a big component, valued at US \$ 1.36 billion.

Ethiopia has received US \$ 7.8 billion, including US \$ 2.9 billion in energy and US \$ 2.4 billion in transportation and technology. No details of the transactions are included in the statistics provided by the Heritage Foundation.

1. See <http://www.heritage.org/research/projects/china-global-investment-tracker-interactive-map>.

DR Congo has received US \$ 7.8 billion of which 7.2 billion in minerals and 660 million in energy. Heritage identifies four transactions higher than 1 billion dollars made by China Eximbank, China Railway Engineering, China Metallurgical, Sinohydro and Minmetals (acquisition of the Canadian mining company, Anvil, for US \$ 1.28 billion).

Chad has received US \$ 6.8 billion in total, including 6.6 billion in transportation.

Angola has received US \$ 6.5 billion, including \$ 5 billion in real estate and \$ 1 billion in energy. During the summer of 2012, photos circulated around the world of a ghost town built by the Chinese state, with an official cost of \$ 3.5 billion, in exchange for Angolan oil.

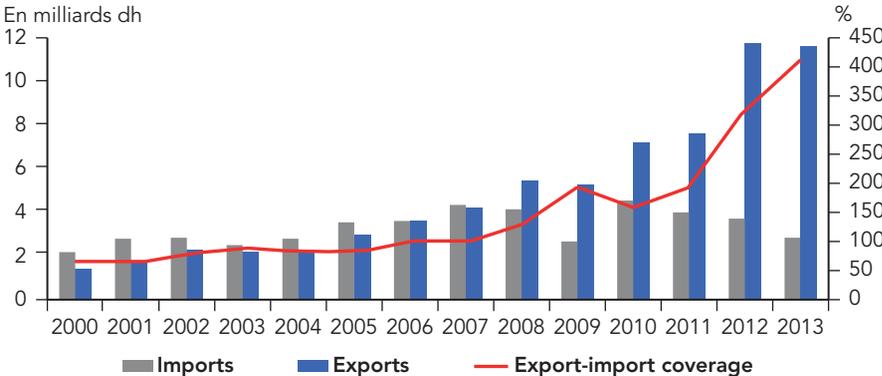
Niger has received a total of U.S. \$ 5.2 billion, which mainly includes the investment of US \$ 5 billion made by CNPC in hydrocarbons in June 2008.

Sierra Leone received US \$ 4.7 billion of which 3 billion in transportation and 1.8 billion in mining.

Lastly, *Cameroon* has received US \$ 4.6 billion of which 1.6 billion in transport, 1.5 billion in energy, and 870 million in agriculture.

What are the relations between Morocco and Sub-Saharan Africa? Historically, Rabat has always maintained trade (and secular) relations with the region, but the current situation is rather mixed. On one hand, trade has increased significantly over the past decade (Figure 61) but on the other exports remain focused on food (Figure 62). The geographical distribution also remains focused on a few countries (Figure 62 also). However, since 2008 the trade balance between Morocco and the region became positive and Morocco’s banks, insurance, and construction companies, telecommunications, and services have expanded to the region, including West Africa (Box 10).²²

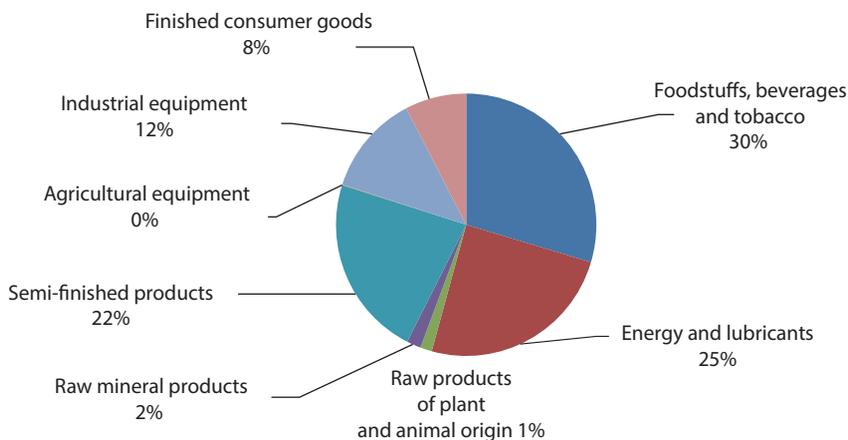
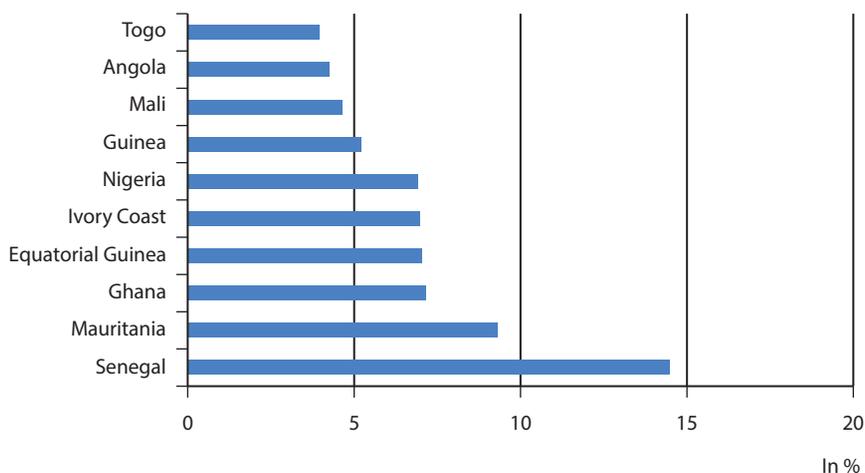
Figure 61 – Morocco: Evolution of trade with Sub-Saharan Africa, 2000-2013 (In billions of dirhams and percent)



Source: Ministry of Economy and Finance, Foreign Exchange Office.

22. In 2009, according to the magazine *Jeune Afrique*, of the “Top 500” companies on the continent, 75 were Moroccan, 26 Tunisian, and 22 Algerian; in the same year, 19 Moroccan joined the ranking.

Figure 62 – Morocco: Geographical destination and composition of exports to Africa (Percent of total exports)



Source: Ministry of Economy and Finance, Department of Studies and Financial Forecasts.

Box 10 – The presence of Moroccan companies in Sub-Saharan Africa

Moroccan private investments in Sub-Saharan Africa have grown to a significant scale in recent years. These investments are mainly in the area of banks and financial institutions, telecommunications, cement, mining, transportation and housing, via equity investments in local businesses and / or by establishing subsidiaries (Department of Studies and Financial Forecasts, 2010; 2012).

As for banking and financial investments, Attijariwafa Bank and BMCE Bank were the first Moroccan groups to have expanded into the international market, especially the African market. Attijariwafabank is present in Senegal (with acquisition of a 66.67% stake in the Senegalese-Tunisian bank BST) and Mali (acquisition of 51% of the shares of the International Bank of Mali for almost € 60 million). In 2009, the operator strengthened its presence in Sub-Saharan Africa by acquiring five branches of Credit Agricole in Ivory Coast, Senegal, Gabon and Congo. Thus, the net banking

income of Attijariwafa bank subsidiaries in West Africa stood at 1.47 billion dirhams versus 539 million dirhams in central Africa. The group plans to position itself in Cameroon and six other countries in the UEMOA zone (Economic and Monetary Union of West Africa) and CEMAC (Economic and Monetary Community of Central Africa). BMCE Bank was the first Moroccan bank to invest abroad and is currently present in ten African countries. In 2007, BMCE made an equity investment of a 35% stake in Bank of Africa, the third banking group in the WAEMU. Furthermore, BMCE, through its subsidiary, BMCE Capital Dakar, conducted a bond issue of € 50 million on behalf of the Port of Dakar. Meanwhile, in 2011, Banque Centrale Populaire has developed closer ties to the Atlantic Bank.

In May 2013, the Bank of Africa (BOA) Capital was created, a new pan-African investment bank based in Casablanca and owned by Bank of Africa, a subsidiary of the Moroccan group BMCE Bank and BMCE Capital. The purpose of BOA Capital is to implement the regional subsidiaries around three areas: equity and debt capital markets, asset management, and advice on mergers and acquisitions, project finance, and initial public offerings (IPOs). The group's goal is to develop as a pan-African leader in investment banking throughout the value chain.

Telecommunications account for 25% of the total stock of Moroccan FDI in Africa. As such, Maroc Telecom is the majority shareholder of the Mauritanian operator Mauritel, it owns 51% of the capital of the Burkinabe operator ONATEL, and 51% capital of Gabon Telecom since 2007 and the Malian operator since June 2009. Maroc Telecom now has four GSM licenses in the region, in addition to those held in the Kingdom of Morocco.

With a share of 13.8% of Moroccan FDI, the sector of holding companies comes in third place. This is the case of Ynna Holding group with many activities in the Ivory Coast. This group is slated to invest in other African countries such as Mali (cotton spinning mill, crushing and cement production), Gabon and Equatorial Guinea. For its part, the ONA Group operates through its two subsidiaries Lessieur Crystal, which holds a 36% stake in the Tunisian company, Raffinerie Africaine, and the company Optorg, which created a joint venture with the South African company, Barloworld Equipment.

In mining and energy, ONA, through its mining subsidiary Managem, holds several mineral deposits in Sub-Saharan Africa (Guinea, Mali, Burkina Faso and Niger). In the energy sector, ONE won a 25-year electrification project covering northern Senegal's rural areas. On 13 May 2010, the subsidiary signed an operating agreement with the Gabonese government for the Bakoudou gold mine, which requires an investment of US \$ 32 million.

In transportation, Royal Air Maroc (RAM) now serves almost all of West Africa and has even tried to buy domestic companies. RAM signed a Memorandum of Understanding (MoU) with CEMAC to establish a sub-regional airline called Air CEMAC.

For the infrastructure sector, the CCGT Group achieved a development project in Guinea for an agricultural sector valued at 70 million dirhams. In Senegal, the group won one of the country's major public works projects, namely the construction of a 230-kilometer road. For its part, in 2007 ONEP won the international tender for the lease management of Cameroon's national water company (SNEC).

A key aspect of the strategy proposed in this report is that Morocco should capitalize on its geographical position in the context of the new international division of labor in order to gradually relocate light manufacturing activities based on imitation and intensive unskilled labor, to French-speaking countries in Sub-Saharan Africa. This would take advantage of relatively low labor costs in the region and promote the “upgrading” of the country. As indicated earlier, China has significantly strengthened its presence in Sub-Saharan Africa in recent years and has benefited to some extent from the “first investor” advantage in some countries. However, China is still

less present in Francophone Africa than in English-speaking countries. Morocco can take advantage of a well-established presence in a number of sectors –as noted previously– and the common cultural heritage –linguistic, historical, and religious– to face competition from China and develop, in some countries of the region, a competitive production that meets international demand.

The strengthening of this regional integration dynamic in time would also allow –as the level of income increases in Africa– the creation or development of new export markets for Moroccan products with high technological content, beyond food –as is currently the case. It would also allow the creation of integrated supply chains in several activities.

To implement this strategy, Morocco must capitalize on the sectors –banking, insurance, and finance, among others– in which the country has a clear competitive advantage. In parallel, the FDI by Moroccan companies in Sub-Saharan Africa will increase significantly, especially in basic infrastructure. These investments could lead to the creation of industrial zones built between Morocco and Africa. This international deployment will also require –at least initially– increased direct and indirect state support particularly for medium-sized companies.²³ Such a policy would allow Morocco to diversify the stakeholders concerned with its regional expansion strategy and contribute to the creation of national employment.

3.7 Adapting the macroeconomic framework

As mentioned previously, the macroeconomic framework adopted by Morocco has served the country for two decades; but in the context of more advanced integration strategy in the global economy and the increased risk of destabilizing shocks, it must evolve. This development must address all components of the macroeconomic framework: the exchange rate regime; monetary and macroprudential policies; and fiscal policy.

23. The role of the state in this context is discussed later in more detail.

3.7.1 Exchange rate regime and short-term management of impacts

In a growth perspective, as noted earlier, the fundamental reason that Morocco's exchange rate regime must evolve towards greater flexibility is related to the need to improve competitiveness. In a short-term perspective, it is also to absorb currency shocks and, in a context of greater financial openness, avoid that capital volatility affects domestic liquidity and destabilizes the financial system. Worsening currency terms, for example, generally requires a depreciation of the real exchange rate to avoid a deterioration of the balance of payments current account and pressure on foreign exchange reserves. The absorption of such shocks, and the process of adjustment to external shocks in general, can be greatly facilitated by a more flexible nominal exchange rate, as a managed float, especially in the presence of a significant downward rigidity of real wages as seems to be the case in Morocco.

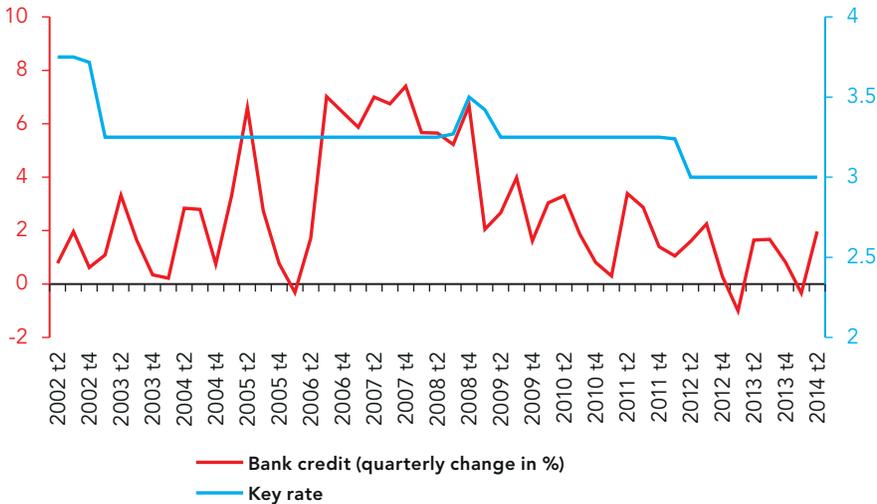
The terms of the transition towards a more flexible exchange rate regime have been previously discussed; a gradual flexibility in the context of an asymmetric band, seems to be the better choice for Morocco. At the same time, as noted earlier, the adoption of a more flexible exchange rate regime should be accompanied by a gradual easing of foreign exchange regulations for financial institutions, and possibly for non-financial institutions and households. This easing will also focus on FDI, whose role is crucial in strengthening the integration into the world economy and promoting innovation activities. As also mentioned, the adaptation of the regulatory framework governing financial transactions in foreign currency by economic agents is an essential step to help operators in the foreign exchange markets to develop their ability to manage the currency risk in a more flexible regime.

3.7.2 Monetary and macroprudential policies

The phasing out of the present fixed exchange rate regime, for example as a first step towards a managed float – by adopting an asymmetric band regime over a two year period, will require the gradual adoption of a new nominal anchor and thus a redefining of the monetary policy's role. At the same time, the adoption of a more flexible exchange rate regime will acquire a degree of autonomy in monetary policy, thus giving more consideration to domestic objectives in the conduct of this policy.

Since 2006, considerable efforts have been made at the Central Bank to change the course of monetary policy towards an inflation-targeting regime (Studies and international relations department, 2011). These efforts have covered both technical capacity as well as the statistical data necessary to conduct monetary strategy on a daily basis. However, the monetary policy pursued in recent years has been relatively passive; as shown in Figure 63, after a rapid decline between 1998 and 2002, the rate in nominal terms has changed little, despite relatively large fluctuations in credit to the economy –a key indicator of the financial cycle.²⁴ Similarly, as shown in Figure 64, the key rate in real terms, which mainly reflects changes in the inflation rate –given the rigidity of nominal rate– has not systematically had a countercyclical character in relation to the evolution of the nonfarm output gap– which should be the case in general. Instead, the data seem to suggest significant response time by the monetary authorities. In the context of the country’s greater trade and financial openness, the use of interest rates by the Central Bank should be more flexible and guided by the dynamics of economic and financial cycles, so as to better manage the many exogenous shocks that the Moroccan economy will face.

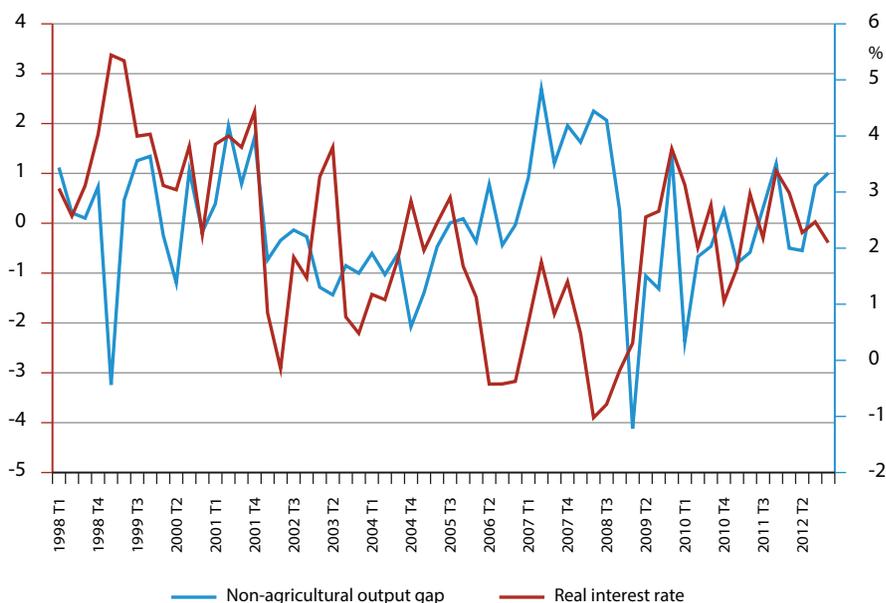
Figure 63 – Morocco: Key rate and bank credit fluctuation, 2001-2014



Source: Bank Al-Maghrib.

24. Throughout this period, the interbank rate has largely followed the movements of the key rate; the differences between the two rates did not exceed $\pm 1\%$, and the volatility of these differences decreased over time. The trend was the same for deposit rates.

Figure 64 – Morocco: Key rate and non-agricultural output gap, 1998-2012
(In billions of dirhams and percentage)



Source: Bank Al-Maghrib.

However, the abandonment of the fixed exchange rate regime does not mean that this variable will not play any role in the macroeconomic framework, even after the transitional phase of easing. In fact, almost all middle-income countries that have adopted an inflation-targeting regime continue to worry about the evolution of the nominal exchange rate and intervene in the foreign exchange market, sometimes in an aggressive and sustained manner (Agénor and Pereira da Silva, 2013). The reasons for this are usually multiple; in the case of Morocco, the overriding considerations could be the impact of the exchange rate on inflation, output –through the cost of imported goods– and the state budget – through fuel subsidies.

Regarding the first factor, it is indeed possible that given the level of Morocco's trade openness, more changes in exchange rates could have a significant impact on inflation.²⁵ This risk may be amplified by

25. In a study of quarterly data for the period 1980-2010, Abida and Sghaier (2012) find no statistically significant evidence for a “pass through” effect in Morocco. However, since the study focuses on a period in which the nominal (effective) exchange rate changed very little, we cannot infer much about the consequences of a future floating dirham on inflation. Notably on the basis of the results of Ghosh (2013), which show the importance of past inflation and the degree of openness to the extent of “pass through,” one might think that this effect remains

the explicit or implicit indexation of wages to inflation, particularly –as previously discussed– the minimum wage, for which the scattering effects on the entire wage structure can be significant. In the case of an appreciation of the exchange rate, the risk of loss of competitiveness emerges, which may well cause the problem of tradeoffs between the objective of low inflation and the value of the national currency. Targeted interventions, combined with proper management of capital movements, can significantly reduce this risk.

At the same time, interventions in the foreign exchange market should not call into question the commitment to inflation targeting. If the Central Bank is not able to convince the markets that the inflation target is the overriding objective of monetary policy, credibility might be affected and maintaining medium-term stability will be difficult. It is important to keep capital controls in the set of management instruments for short-term capital flows, like many middle-income countries have done (Agénor and Pereira da Silva, 2013); despite the fact that the long-term effectiveness of these measures is debatable, they are useful tools for the short term.

It is also important to develop new macroprudential countercyclical tools to complement the short-term mix of macroeconomic management instruments, as recommended by the Third Basel Accord (Basel III) (Box 11). Many of these instruments –such as bank reserve requirements or restrictions on the real estate sector, such as the regulation of loan to value ratios for banks or household lending to-income ratios– are already available in Morocco and have been used sporadically. However, new rules, with a more systematic character should also be tested and implemented.²⁶ All these measures would contribute to the viability and sustainability of a managed float regime in order to avoid two pitfalls associated with “pure” regimes: continued misalignment of the real exchange rate resulting in real shocks concerning macroeconomic fundamentals –the limit of fixed exchange rate regimes– and, on the other hand, the negative consequences of excessive exchange

relatively limited. On the other hand, as fuel subsidies –about 5% of GDP in 2011 according to International Monetary Fund estimates– will remain directly linked to domestic oil prices, the risks of macroeconomic instability associated with fluctuations in the exchange rate may continue and even worsen.

26. Major institutional tradeoffs will also be discussed in this context. In many countries (e.g. the UK), the legislation is connected to the idea that macroprudential policy should be conducted within the central bank, with the creation of a dedicated committee as part of the supervisory authority.

rate volatility on macroeconomic and financial stability, as well as appreciation affecting competitiveness and depreciation affecting inflation – the limit of flexible exchange rate regimes.

Box 11 – Financial stability and macroprudential regulation¹

The recent financial crisis has shown, first, that price stability is insufficient to ensure financial stability and, secondly, that a monetary policy based on a stable inflation rate is insufficient to ensure both macroeconomic stability and financial stability. Furthermore, the financial supervision that existed before the crisis, based on a microeconomic approach, was unable to prevent systemic risks, and the fact that some financial system activities have had a significant impact on both the overall system financial and the real economy.

The financial crisis has also highlighted the financial sector's potentially amplifying role in the economic activity fluctuations. During the seemingly stable periods, imbalances may be created; economic downturns can then lead to a large erosion of wealth (due to the collapse of asset prices), which in turn may have negative effects on the real economy. The phenomenon of wealth erosion may occur both in non-financial companies as well as financial institutions. During the recent financial crisis, for example, asset losses and impairments that banks suffered reduced the value of their capital and liquidity, which forced them to stop certain activities and liquidate some of their assets. This decrease in the banking sector leverage has affected access to credit and reduced investment as well as consumption, boosting the economic crisis.

In recent years, financial regulatory reform proposals have been directed towards *macroprudential* regulation, with the aim of maintaining financial stability by preventing systemic risks to the financial system. It thus contrasts with *micro-prudential* regulation (like the Basel I and Basel II agreements), which is an individual regulation to ensure the solvency of the banking institutions; it does not take into account the systemic risk from contagion effects that can appear between connected banks, with potentially adverse consequences for the financial system in case of shocks.

On the other hand, macroprudential regulation seeks to systematically take into account the systemic risks posed by interactions between financial institutions. It also aims to take into account the *crosscutting* and *dynamic* nature of these risks, including through cross-exposures between financial institutions, and the opportunity for these institutions to fail at the same time, because of their common exposure to exogenous shocks. In case of excessive credit growth, often a source of instability (Agénor and Pereira da Silva, 2013), these instruments can be enhanced by direct restrictions on the volume of bank loans, made through structuring loan to value banks ratios or household lending to-income ratios.

The macroprudential policy instruments for monitoring, control and regulation of the financial system include bank capital and liquidity. As part of Basel III for example, countercyclical capital buffers and a simple leverage ratio are considered (Basel Committee on Banking Supervision, 2011).

Indeed, this agreement strengthens micro-prudential capital requirements, liquidity and leverage, and also includes a macroprudential dimension. This broader view of banking supervision is materialized by a number of provisions, including the introduction of different capital buffers (increasing the quality and level of "basic" capital, to which is added a buffer for capital preservation, a countercyclical buffer and a specific buffer for systemic banks). It greatly enhances the management, monitoring and risk coverage required of banks, and it enriches the prudential framework through liquidity requirements and the proposed introduction of a framework for the leverage effect in the medium-term.

However, because of their impact on economic activity, the handling of macroprudential policy instruments may conflict with the monetary policy objective of price stability (Agénor and Pereira da Silva, 2013). To understand how to promote both financial and macroeconomic stability, it is necessary to understand the roles and profile of monetary and macroprudential policies, and their interactions. These interactions indeed depend on the role that financial variables have to play in the formulation of

1. This box is based on Agénor and Pereira da Silva (2013) and the Centre for Strategic Analysis (2013).

monetary policy, and conversely the role that price stability should play in handling prudential instruments. On one hand, it seems increasingly necessary that monetary policy take into account its impact on the financial cycle and financial stability. On the other, to the extent that effective macro-prudential supervision would mitigate the risk of financial instability, monetary policy would be better able to focus solely on the objective of price stability. However, in the absence of a sufficiently effective macroprudential policy, monetary policy could play a more direct role in preventing financial crises. This could take the form of the adoption of an enhanced Taylor rule, meaning, the introduction of financial indicators as determinants of interest rate movements. Agénor and Pereira da Silva (2013) proposed such a rule for middle-income countries, based on the difference between the credit growth rate and its equilibrium value.

3.7.3 Fiscal policy and tax rules

Current fiscal imbalances require quick decisions concerning both expenses and state revenues.²⁷ At the same time, it is important to ensure fiscal consolidation in an appropriate time frame to avoid the costs, in terms of medium and long-term growth, of too rapid an adjustment, which could result in impacting expenditure adjustments primarily on public investment, for example. It is also important to convince markets of the sustainability of this consolidation, in order to avoid destabilizing effects –especially in terms of expectations– associated with a lack of fiscal policy credibility.

The approach taken in this report is that the answer to this inter-temporal trade-off requires the adoption of an *explicit fiscal rule* that is legally binding, the introduction of a formal fiscal rule and improved transparency. In general, there are four types of fiscal rules:²⁸

- 2.1 those requiring a balanced budget or limits on public deficits, regardless of the cyclical position of the economy;
- 2.2 those that set limits on the level of public spending, sometimes in specific categories (for example, the level of discretionary spending) or specific programs;
- 2.3 those imposing objectives in terms of tax revenues;
- 2.4 those based on an objective of a structural budget balance, which take into account the cyclical position of the economy and

27. In this context, the reform of the subsidy system –which represented 6.6% of GDP in 2012, including 3.9% in the form of direct subsidies to households– should be accompanied by a strengthening of the social protection system. See Verme et al. (2014) for a more detailed discussion

28. See International Monetary Fund (2009) and García (2012).

allow the automatic stabilizers to play their role and to give the government some leeway in adopting discretionary measures for the different phases of the economic cycle.

Proposing a specific fiscal rule for Morocco is beyond the scope of this report, but it is likely that a rule based on a structural (primary) budget balance would probably be the best option for the country, given the nature of the shocks to which it must confront in a context of increased international openness. But whatever the rule chosen, it is important that it has the force of law, in order to be credible in the perception of private economic agents.

Finally, to better meet the demands of managing the economic cycle, closer coordination between monetary and fiscal policy is desirable. This coordination, which was deficient in many ways in the past, is also essential to ensure consistency and the overall credibility of the macroeconomic framework.

3.8 Rethinking the state's role in an evolving global economy

In a rapidly changing global economy, a key aspect of the state's role in Morocco is to promote the expansion of markets and support the national economy's capacity to compete internationally. This implies, as discussed previously, a series of reforms to increase the flexibility of the labor market, improve the quality of the workforce and the business environment, promote innovation, and support strategic sectors with an appropriate industrial policy that includes the promotion of investment expenditures in advanced infrastructure.²⁹ These reforms are essential to help private companies take advantage of new opportunities in global markets and promote the “upgrading” of the country. In particular, accelerating efforts to improve the business environment will facilitate the creation and development of SME job-creating businesses. The flow of FDI would also be positively affected.

29. In theory, targeted subsidies could also be considered with the aim to promote expenditures that would otherwise be below their optimum level –in their absence companies take into account positive externalities; However, experience suggests that such interventions can help curb market development and limit competition.

In the context of the growth strategy proposed in this report, a second aspect of the state's role –always with an objective to create new opportunities– is as a direct and indirect support for the expansion of Moroccan companies in Sub-Saharan Africa, particularly in the French speaking countries. This strategy may require “aid for trade” for the poorest countries in the region. Morocco's official development assistance to Sub-Saharan Africa is already significant, accounting for about 10% of the amount of trade between the two territories. However, this aid should be strengthened and better targeted towards countries where Moroccan firms have the highest level of potential penetration and where the potential for expansion of bilateral trade is most significant.

A third aspect of the state's role in Morocco is to increase the efficiency of public administration. As noted earlier, despite significant progress in recent years, a number of bureaucratic constraints continue to weigh on the business climate. Easing these constraints is essential to strengthening the state's role in its strategy to promote private enterprise and foreign investment.

Rethinking the state's role also requires accelerating reforms in the public service, as well as devolution and budget management. Modernizing the planning and implementation process for public policies is thus required to reduce the high rigidity of the budget structure and improve the effectiveness of public policies. A reform of the public service, meanwhile, is needed to improve the efficiency of the administration while reducing its payroll burden. The short-term priority is to control the total workforce numbers. Restrictive measures on the overall wage bill should therefore be included until the most far-reaching reforms are adopted. Thereafter, any comprehensive structural reform will require, in addition to the devolution of staff, a review of the public service status and exceptional measures to encourage retraining, redeployment and departures of public employees.

A stylized diagram of the growth strategy proposed in this report and its implications for the transformation of the industrial or manufacturing sector—mostly the transition from unskilled labor-intensive activities and based on imitation to those that are skilled labor-intensive, technology-intensive, and innovation-based—is provided in Figures 65 and 66.³⁰ In summary, this strategy should include the following:

30. As noted above, this transformation diagram for the industrial or manufacturing sector also applies to the production of certain services, such as financial services, if a broad definition of

Figure 65 – Morocco: stylized diagram of the new growth strategy

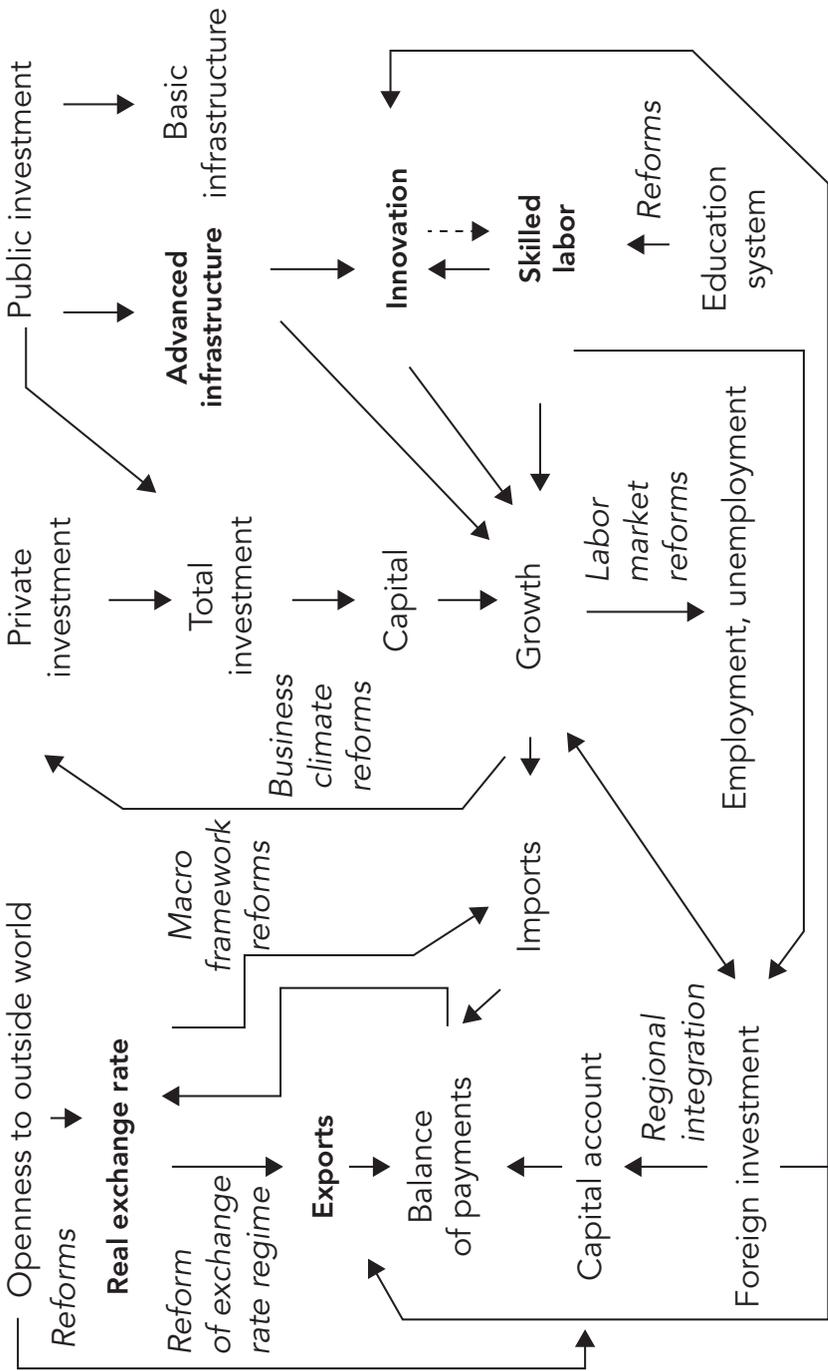
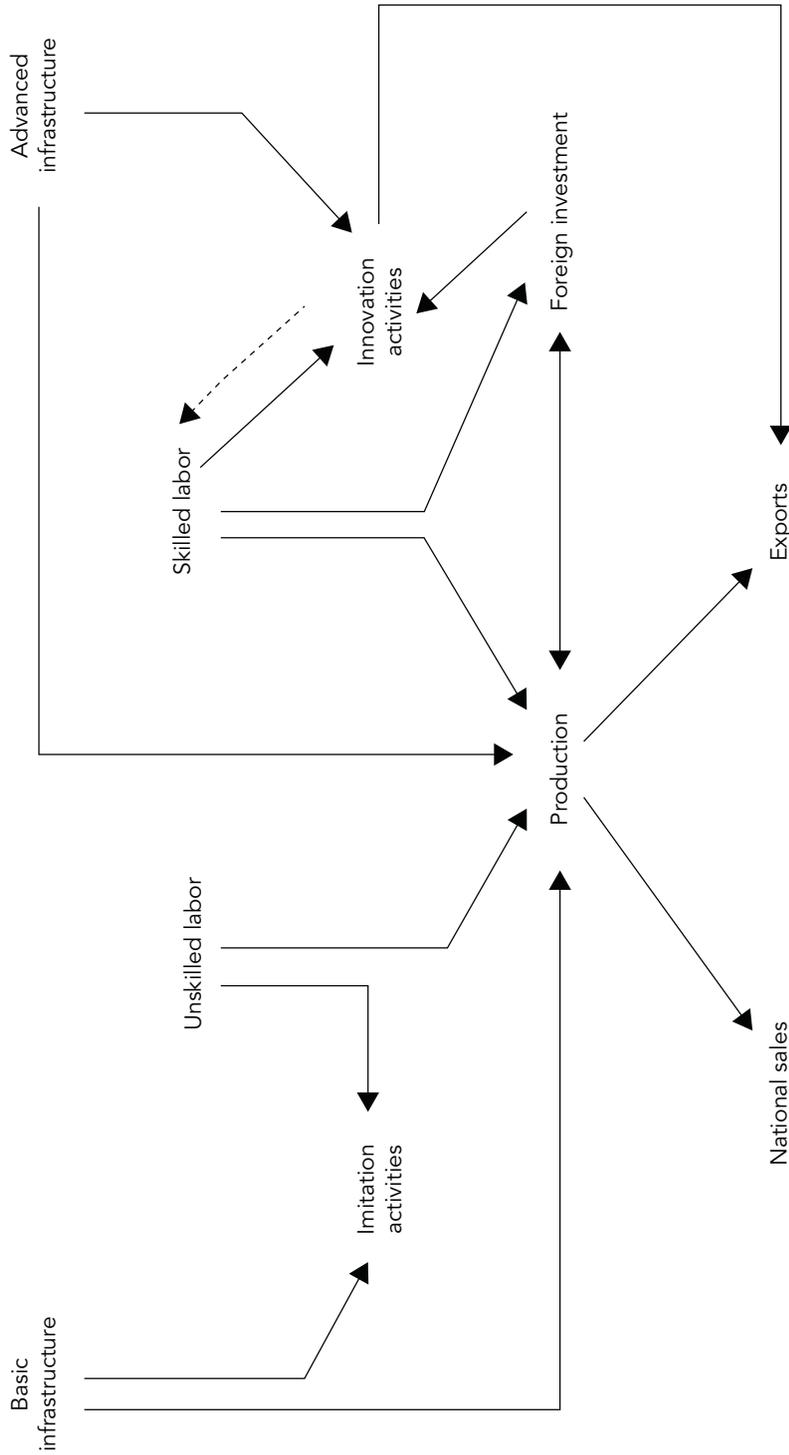


Figure 66 – Morocco: stylized diagram of the industrial sector's transformation process



- 1) A more appropriate mix of public investment spending—possibly by lowering the total level of these expenditures, imposed by fiscal consolidation—should be comprised of basic infrastructure (roads, energy, basic telecommunications systems, water and sanitation), advanced infrastructure (advanced information communications technology), and a better distribution of public capital between the regions.³¹ This reallocation of infrastructure investment spending is important to promote an adjustment of productive structures, meaning, a transition from unskilled labor-intensive activities based on imitation –or limited adaptation– of foreign products, which rely on imported technologies, towards skilled labor-intensive activities, based on national innovation. This transition requires rapid access to information, in order to benefit from the opportunities offered by new markets, and promoting the development of international knowledge networks. To promote innovation, this report proposes the creation of a public program like STARTUP-Chile (Box 7) that would aim to attract talented young entrepreneurs from around the world, particularly the Middle East and low-growth countries in Europe. Such a program, both neutral and meritocratic, would offer temporary subsidies and would include additional measures to facilitate the mobility of individuals. It would have the ability to produce major short-term benefits for the economy as a whole.
- 2) Strengthening of policies to promote the quality of education (both in the secondary and tertiary sectors) and continuing education, national innovation, and the rule of law, with a sectoral perspective based on key economic sectors.
- 3) Labor market reforms aimed at reducing the cost of labor, reducing the skills gap in order to promote the adoption of more intensive production methods in advanced technology and enable the country to better capitalize on the opportunities created by the rapid changes it faces in world markets. Improving the workforce quality is also a key objective in this context.

the concept of innovation is adopted (process innovation, sales, or organization rather than product innovation), as shown in Box 6.

31. See the Consultative Commission on Regionalization (2010) for an analysis of the regional dimension of public investments and more generally about the regional issues in Morocco.

- 4) Specific policies regarding strategic production sectors, including agriculture, manufacturing, phosphates and renewable energy. Beyond the policy characteristics specific to each sector, they have the common challenge of adapting to a radically changing international environment and the common goal of redeploying resources (investment in physical and human capital) to promote research and innovation, allowing a more favorable position on the world technology frontier, and thus best capitalizing on the growth in demand expected in these areas.
- 5) Strengthening of the domestic financial sector role in the financing of SME in terms of production and innovation activities, and increasing support for the globalization process of Moroccan non-financial companies, particularly in their regional strategy. This will also involve greater competition in the financial sector and the development of financial markets.
- 6) Further liberalization of the capital account and the adoption of a more flexible exchange rate regime, in order to reduce imports and help the recovery of the balance of payments, to regain cost competitiveness that has been largely eroded in the last years, and to facilitate the absorption of external shocks.
- 7) An emphasis on the regional strategy to capitalize on Morocco's geographical position regarding the new international division of labor, in order to gradually relocate light manufacturing activities based on imitation and intensive unskilled labor to Francophone countries in Sub-Saharan Africa, thus benefitting from low labor costs and promoting the "upgrading" of the country. As mentioned previously, China has significantly strengthened its presence in Sub-Saharan Africa in recent years and to some extent has benefited from being the "first investor" in some countries. However, in Francophone Africa, Morocco can capitalize on a well-established presence in a number of sectors –including the financial sector– and the common cultural heritage in order to face competition from China. These regional integration dynamics would in time create or develop export markets for products with higher technological content. It would also lead to the creation of integrated supply chains in several activities, favored by low labor costs. To implement the regional strategy, FDI by Moroccan companies should increase significantly, especially in

basic infrastructure. It may also require—at least initially—direct and indirect state support for example through the establishment of bilateral aid agreements and trade facilitation including a free trade area. In turn, by helping to accelerate the growth and industrial transformation process in Morocco, these measures would help to attract FDI flows from more advanced economies to Morocco and contribute to creating a virtuous circle thus speeding Morocco’s transition to an economy with high technological intensity and skilled labor.

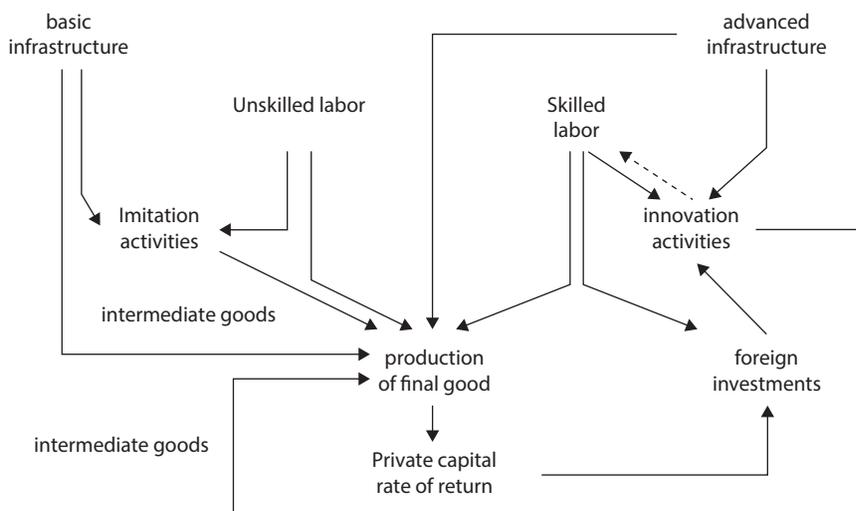
- 8) The adoption of monetary, fiscal and macroprudential policies that contribute to adapting and strengthening the macroeconomic policy framework capacity to mitigate—in association with a more flexible exchange rate regime—growth rate fluctuations around the potential growth rate, to maintain a stable rate for current and anticipated inflation—so as to not interfere with the economic calculations of private operators—and to reduce the procyclicality of the financial system and risks to financial stability. In this regard, a greater flexibility of monetary policy and the introduction of countercyclical macroprudential instruments are essential, as well as a greater coordination between monetary and fiscal policy. An explicit fiscal rule would also enhance the credibility of fiscal policy.

Quantifying the new strategy's impact on growth and jobs

The impact of this strategy on economic growth and employment has been evaluated from a quantitative macroeconomic model, calibrated for Morocco. The structure of this model is summarized in Box 12 and in more detail in a separate document (Agénor and El Aynaoui, 2014). Essentially, the model takes into account the production and education sectors; imitation and innovation activities; a distinction between skilled and unskilled labor; distortions in the labor market; the quality of public investment; the distinction between basic infrastructure and advanced infrastructure; the bidirectional relationship between foreign direct investment (FDI), economic growth and the quality of human capital; and the degree of enforcement of intellectual property rights associated with innovation. Figure 67 summarizes the model's production structure and the workforce distribution between productive sectors.¹

1. As explained in Box 12, the model represents a closed economy producing a single final good. Therefore it does not explain the evolution of the real exchange rate or the production allocation between local market sales and export sales. However, given the long-term nature of the analysis, and the focus on transforming the supply sector –at least in terms of intermediate products– these limitations are not as problematic as perhaps expected. Indeed, empirical studies suggest that in the medium and long term there is a fairly close correlation between the composition of the goods exported according to their technological content and the degree of industrial sector diversification, as reflected in the model –the relative importance of imitative activities in relation to innovation activities (Box 12). In other words, changes in the industrial processing index in response to economic policy shocks, provides a good measure of what might be expected in terms of changes in the structure of exports.

Figure 67 – Production and employment in the model



Source: Agénor and El Aynaoui (2014).

Box 12 – Industrial transformation, growth and employment in Morocco: A quantitative framework

The simulations presented in this report are based on a quantitative model of economic growth, calibrated for Morocco. The model is described in detail in Agénor and El Aynaoui (2013); its main features are described in this box.

The model is based on models with overlapping generations and takes into account the production and education sectors; imitation and innovation activities; the distinction between skilled and unskilled labor; distortions in the labor market; the quality of public investment; the distinction between basic infrastructure and advanced infrastructure; the bidirectional relationship between foreign direct investment, economic growth and the quality of human capital; and the degree of enforcement of intellectual property rights associated with innovation.

From an analytical point of view, the model assumes a closed economy populated by individuals with different innate abilities who live in two periods, adulthood and old age.¹ The population is constant.² Each individual has a unit of time as adults only. The economy has five production sectors: a sector producing a homogeneous final good (to simplify, a manufactured product), two sectors producing intermediate goods (basic inputs and advanced inputs), and two design sectors (imitation and innovation sectors). Design sectors produce patterns that are used to produce both types of intermediate inputs.

Individuals have identical preferences but are born with different cognitive abilities. Everyone may observe these capabilities, measured by an index between 0 and 1. Each individual maximizes his/her utility and decides in early adulthood to acquire qualifications, or not. An adult can enter the workforce at the beginning of the period as an unskilled worker, or allocate a fraction of the available time

1. By excluding adolescence, the model does not allow basic education (primary and secondary) to be taken into account nor the role of public policy in this regard. This choice is justified by the fact that it focuses on training at the tertiary level and its links with innovation activities and economic growth.
 2. The constancy hypothesis concerning the population (or, in an analytically equivalent manner, the constant rate of population growth) implies that the model does not deal explicitly and endogenously with demographic questions, including the rapid transition that the country experienced towards relatively low fertility rates.

for training (or advanced education), incur training costs (assumed to be proportional to skilled labor salary), and enter the labor force for the rest of the period as a skilled worker.

Any individual, skilled or unskilled, can be either employed or unemployed. An unskilled individual can work either in the manufacturing sector (final good) or in the imitation sector, while a skilled individual can operate either in manufacturing or in the innovation sector. Labor mobility is perfect between the manufacturing and design sectors; therefore, there is only one wage in the economy for each labor category.

An individual without employment is entitled to unemployment benefits or compensation for loss of employment (IPE), which for simplicity is the same for both categories of workers and is not subject to income tax.³ The instantaneous utility function of each individual depends on consumption in adulthood and consumption at the age of retirement.

The equilibrium condition between the skilled wage (adjusted for working time) and the unskilled wage (plus the cost of training) allows a threshold level a^c to be calculated so that all individuals with a capacity inferior to a^c choose to stay unskilled. The effective supply of skilled labor is thus inversely related to a^c .

The production of the *final good* requires the use of skilled labor, unskilled labor, private capital, basic public infrastructure, a combination of basic intermediate inputs, and a combination of advanced intermediate inputs. A unit standardizes the number of firms in the sector. Wage costs depend on the company contribution rate to the unemployment benefits fund, which applies uniformly to both components of the payroll. Profit maximization by firms provides labor demand functions (skilled and unskilled), capital, and intermediate goods.

The production of each *intermediate input* (basic or advanced) requires the use of a single unit of the final good. Each producer in the sector produces only one good; for this the producer must acquire a patented pattern produced by the appropriate design sector (imitation or innovation). Once the cost of using the patent is paid, each producer establishes its price to maximize profits, given the perceived demand function for its good, which determines its marginal revenue. The solution to this problem yields the optimal price, which is inversely related to the parameter characterizing the elasticity of demand. For simplicity, companies producing both types of intermediate inputs only exist for a single period, so that patents are auctioned, according to a random process, to a group of new companies in each period. Therefore, each intermediate good producer owns a patent (and generates associated profits) for a period, even if the patents themselves have an infinite life. As a tradeoff, the cost of using each patent is equal to the current profits of the intermediate firm.

As noted above, the *design sectors* produce patented patterns, sold to companies producing intermediate goods. The *imitation* sector uses only unskilled labor, while the *innovation* sector uses only skilled labor. Productivity in the imitation sector depends on the stock of imitated products and access to basic infrastructure, while productivity in the innovation sector depends on access to advanced infrastructure, to two technological knowledge stocks, and the ratio of foreign direct investment relative to final production. This specification therefore recognizes that imitation increases productivity in the innovation sector; learning tasks create a positive externality, in that they allow individuals to acquire and strengthen their cognitive abilities, facilitating subsequent innovation (Agénor and Dinh, 2013a). However, the marginal intensity of this effect tends to decrease over time. In addition, corporate profits in the innovation sector are negatively affected by the loss of income associated with an inadequate property rights protection system (patent administration, etc.). In both sectors, profit maximization gives an equilibrium condition that positively connects the wages to productivity.

The government manages two separate budgets: the general budget and the budget for an unemployment benefit fund (IPE). It cannot issue securities and must therefore, in both cases, maintain a balanced budget.⁴ To finance the general budget, the government imposes a tax on individual

3. As indicated in Box 5, Morocco is currently considering the introduction of unemployment benefits (IPE). In the model, this reform is considered operational, given its medium-term perspective and the normative character of the simulations.

4. This assumption is obviously not suitable for a country like Morocco in the short-term, given the practical importance of securities financing of government deficits. However, in the medium and long terms adopted in this report, it is reasonable. The sustainability of public debt can only be achieved by maintaining a basic balance between revenue and expenditures.

employee wages. Expenses consist of investments in basic and advanced infrastructure and other unproductive expenditure. Expenditure shares are constant fractions of public revenue, and public infrastructure services are free. The budget balance for the unemployment benefit fund determines the employer contribution rate, while the IPE (to ensure a steady state) depends linearly on the average income per worker. Assuming complete depreciation for one period, public capital stocks evolve only in relation to infrastructure spending flows adjusted for a parameter of efficiency, which measures how investment flows result in the accumulation of real capital instead of wasteful spending.

The labor market is characterized by two distortions: a minimum wage for unskilled workers and a wage for skilled workers set by a union monopoly. The government sets the minimum wage; it depends positively on income per worker and negatively on the unskilled unemployment rate. The inverse relationship between unemployment and wages indicates that the government internalizes (at least partially) the fact that a high salary tends to reduce the demand for unskilled labor and thus increases the number of unemployed. For its part, the skilled wage is set by a single union, with the aim of maximizing an objective function that depends on the differences between employment in the final good sector and the salary, and their reference values, under the labor demand constraint. The solution to this problem implies that the skilled wage imposed by the union is proportional to the reference value. In turn, the reference wage is positively related to the average income per worker and negatively related to unemployment; when rates are high, the union tends to moderate its demands in terms of wages, so as to induce firms to increase hiring.

The equilibrium condition of the unskilled labor market equalizes the supply and demand for labor (in the sector of the final good and the imitation sector), adjusted for the proportion of the unskilled labor force that emigrates abroad, and the number of unemployed. Similarly, the equilibrium condition of the skilled labor market equalizes the supply and demand for labor (in the sector of the final good and the imitation sector), adjusted for the proportion of the skilled labor force that emigrates abroad, and the number of unemployed.

Foreign direct investment as a proportion of the final production is assumed to depend on the ratio of the rate of return on domestic private capital and the rate of return abroad, assumed exogenous, and the proportion of skilled workers in the active population. The latter effect is consistent with the empirical studies that suggest that the quality of human capital plays a significant role in the attractiveness of a country for foreign direct investment (Agénor, 2012a).

Equating private investment to the total savings of each category of individuals (skilled or unskilled, employed or unemployed) completes the model.

In the model, an *equilibrium with imperfect competition* is a sequence of consumption allowances and savings, private capital stock, basic and advanced public capital stocks, input prices (skilled and unskilled wages, rate of return on capital), the prices and quantities of intermediate inputs, and existing stocks of various inputs such as for initial inventory values, *a*) all individuals, skilled or unskilled, employed or unemployed, maximize their utility by choosing their consumption within their intertemporal budget constraint, by taking the factor prices, the tax rate, and unemployment benefits as given; *b*) companies in the sector of the final good maximize profits by choosing the quantities of labor, capital, and intermediate inputs, by taking the factor prices as given; *c*) intermediate goods producers set prices to maximize their profits, while internalizing the effect of their decisions on the perceived aggregate demand curve for their product; *d*) producers in the design sectors maximize profits by choosing the amount of labor to hire, by taking wages, patent prices, productivity, and the total population as given; *e*) the equilibrium price of each patent is such that it can extract all the profits made by the producer of the corresponding intermediate good; and *f*) all markets are in equilibrium, except the labor market, where unemployment may appear positive in equilibrium.

An *equilibrium with constant growth rate* is an equilibrium with imperfect competition in which *a*) the consumption of each group, savings, public and private capital stocks, production of the final good, input stocks, wages, and unemployment (IPE) grow at a constant rate, which implies that private knowledge-capital ratios, as well as public-private equity capital ratios are constant; *b*) the private capital rate of return is constant; *c*) the price of intermediate goods and prices of patents are constant; *d*) the capacity threshold level a^c is constant, thus the proportion of the skilled and unskilled labor force is constant; *e*) the proportion of skilled and unskilled employed workers in the production of the final good, and the proportion of employees in the design sectors are constant; *f*) the unemployment rate

of skilled and unskilled labor is constant; g) the employer contribution rate on wages is constant; and h) the ratio of foreign direct investments to the final production is constant.

The long-term growth rate is derived from the stationary solution of the dynamic model in reduced form (Agénor and El Aynaoui, 2013). Based on this solution, four additional indicators are calculated: a) *industrial processing index*, defined as the ratio of input stock based on imitative activities, divided by the sum of the input stocks based on imitation and innovation; b) the *composition of public capital*, defined as the ratio of core capital stock divided by the sum of the capital base stocks and advanced capital; c) the *composition of unskilled labor*, defined by the ratio of unskilled labor employment in the imitation sector and employment in the final good sector; and d) the *composition of skilled labor*, defined as the ratio of skilled labor employment in the innovation sector and employment in the final good sector.

4.1 Calibration

To quantify the overall growth strategy proposed in this report, the model described in Box 12 is calibrated to Morocco. The calibration procedure is explained in detail in a separate document (Agénor and El Aynaoui, 2014). The main sources of information are the online database of the Ministry of Economy and Finance's Department of Studies and Financial Forecasts, and the High Commission for Planning (HCP).²

In particular, the personal savings rate in the model is approximated by the household savings rate estimated by the High Commission for Planning (HCP) in 2011, equal to 15.7% (compared to 16.5% in 2010). In terms of the labor market, the proportion of the unskilled workforce emigrating abroad is set at 0.04%, while the corresponding percentage for skilled labor is set at 0.02. According to data from the High Commission for Planning (2013, Table 2) on the structure of the labor force per educational degree for the first quarter of 2012, the proportion of unskilled workers (sum of workers without a degree, middle-level workers, and undeclared workers) was 87.6%, and thus 12.4% for workers with a higher level of education. In the first case, the figure calculated by the model is close to the observed value; the second value differs in the model because it is the *effective* proportion skilled labor that matters, which is equal to 11.6%.

The proportion of researchers in the total labor force is equal to 1.9%, which is consistent with recent data from OMPIC.³ According to data from the High Commission for Planning (2013, Table 3)

2. See <http://www.finances.gov.ma/depf/depf.htm> and <http://www.hcp.ma/>.

3. See <http://www.ompic.org.ma/>.

the unemployment rate for workers with a higher degree, in proportion to the total number of this category of individuals, is 18.7%. However, the analysis is conducted here in terms of proportions of the workforce; the estimate thus obtained is 2.3%. Calculated as a residual, the share of skilled labor working in the final good sector (in proportion to the total active workforce) is 7.2%. Similarly, according to data from the High Commission for Planning (2013, Table 3) the unemployment rate of mid-level workers without a diploma, as a proportion of the total number of this category of individuals, is 10.9% in early 2012. In contrast, the unemployment rate as a proportion of the labor force is equal to 9.6%. The share of unskilled labor operating in the imitation sector is 4.2%. Calculated as a residual, the proportion of the unskilled workforce operating in the final good sector is 70.3%. The aggregate unemployment rate, as estimated by the High Commission for Planning (2013, Table 3) for the beginning of 2012, is estimated at 9.4% of the workforce. The minimum wage (for unskilled workers, set by the government) and the reference wage for skilled workers—which is set by the unions—are proportional to income per capita, with a coefficient equal in both cases to 0.6. Unemployment benefits are also proportional to per capita income, with a coefficient of 0.7. Moreover, the minimum wage and the reference wage of skilled workers vary inversely with the unemployment rate for the corresponding category of workers, with elasticity of 0.9 and 0.1 respectively. Thus, the minimum wage is considered in the model's medium and long-term perspective as relatively more sensitive to changes in the unemployment rate.

At the government level, the share of investment in basic infrastructure in total government expenditure is initially set at 9.5%, and the share of spending on advanced infrastructure investment is 2.0%. As mentioned previously, these figures capture the fact that the Moroccan state's investment in infrastructure has mainly focused in recent years on basic infrastructure. The employer contribution rate to the unemployment benefit fund (IPE) has a starting value of 0.6%. As currently envisioned, the financing of IPE in Morocco is based on an employer contribution rate of 0.38% and an employee contribution rate of 0.19% (Box 5). The initial value is close to the sum of these rates, which is reasonable since employees' direct contribution to the unemployment benefit fund is not explicitly introduced. The initial ratio of FDI to GDP in the innovation sector is 2.1%. This value is

substantially less than the 4.2% between 2005-2012, and the 3.4% during the 2000-2004 period, according to data from the Ministry of Economy and Finance. However, the calibrated value in the model recognizes that all FDI does not directly contribute to promoting innovation activities in the economy.

The long-term growth rate is derived from the stationary solution of the dynamic model in reduced form (Agénor and El Aynaoui, 2014). The initial growth rate is calibrated to 4% per year, which is less than the average annual growth rate of 4.5% per year in real GDP observed during the period 2002-2012—at the same time it is probably close to the current trend growth rate of the Moroccan economy, given the recent structural changes in the global economy, changes in the environment that the country is facing, and the slowing down of the growth model previously discussed. Based on the model solution, four additional indicators are calculated, the: *a) industrial processing index*, defined as the ratio of input stocks for imitative activities divided by the sum of input stocks based on imitation and innovation; *b) composition of public capital*, defined as the ratio of core capital stock divided by the sum of the capital base stocks and advanced capital; *c) composition of the unskilled labor pool*, defined as the ratio of unskilled jobs in the imitation sector and jobs in the final good sector; and *d) composition of the skilled labor pool*, defined as the ratio of skilled jobs in the innovation sector and jobs in the final good sector.

The industrial processing index is calibrated to 0.78. This value corresponds to $1-X:X$ being the proportion of Morocco's exports in terms of "products intensive in skill and technology" as estimated by the Ministry of Economy and Finance (Direction of Studies and Financial Forecasts, 2005, Table 3) for 2003, equal to 22%.⁴ As previously indicated, the composition of exports in terms of technological content

4. The study shows that only three types of goods account for 90% of national exports of high-skill and technology based products. These are electronic lamps, valves and tubes; inorganic chemicals and halogenated salts; and fertilizers. However, due to the nature of these three groups of goods, their ranking among the high-tech products is not indicative of the importance of high-tech industries in Moroccan exports. For example in the first category, the components are mainly transistors, electrical conductors, and electrical cables that are mostly intermediate products. In fact, the study suggests that the growth of high-tech exports in Morocco does not necessarily mean an intensification of the technology content of export industries. The country's participation in the export of these products is generally limited to production operations with high labor intensity, often unskilled, such as mounting or assembly-type operations, which require few skills and the value added is low. Much of the technology is actually incorporated into the components, which are themselves produced in more developed countries.

has changed relatively little over the past decade. The ratios for basic public capital-private equity and advanced public capital-private equity are 0.258 and 0.103, respectively. This implies a ratio of advanced public capital to total public capital of 0.286. Therefore, advanced public capital is a relatively scarce production factor in the initial situation. The unskilled workforce composition indicator is initially equal to 0.048, while the skilled workforce composition indicator is initially equal to 15.9. Thus, the bulk of labor (both skilled and unskilled) is initially used in the final good sector.

To study the adjustment dynamic of the economy and the effects of long-term public policy, it is useful to distinguish between individual policies and integrated growth strategies that are based on a set of reforms.⁵

4.2 Individual policies

In the context of this report, it is useful to consider the following individual policies: an investment increase in basic infrastructure; an investment increase in advanced infrastructure, financed either by reducing unproductive expenditures or by reducing basic infrastructure investments; education system reform through a subsidy to tertiary education and strengthening the curriculum –and therefore learning time; a reduction in the degree of indexation of the minimum wage; a reduction in the degree of indexation of the skilled wages levels; a policy of promoting the migration of skilled workers aligned with the development of a STARTUP-Morocco program, as discussed earlier; increased FDI; and a policy to improve the business climate, which results in greater FDI flows in response to movements in Morocco's capital rate of return.

- *Increase the share of basic infrastructure investment spending, from an initial value of 9.5% to 10.5%, funded by a decrease in unproductive expenditures.* This measure results in an increase in the basic stock of public capital, which in turn directly increases the productivity of private inputs in the final good sector (physical capital, skilled and unskilled labor) and the imitation sector where jobs only consist of unskilled labor. The increase in labor productivity thus increases the demand for unskilled labor relatively more than the demand for

5. See Agénor and El Aynaoui (2014) for the technical details concerning the simulations.

skilled labor, which results in a relative increase in unskilled wages. At the initial level of skilled wages, the unskilled-skilled wage ratio increases, which tends to reduce the proportion of individuals who seek to acquire an advanced education. Therefore, the proportion of skilled workers in the economy declines (which tends to reduce some of the initial wage ratio increase in favor of unskilled workers) and the proportion of unskilled workers increases. At the same time, unskilled labor increases faster in the imitation sector than in the final good sector; consequently the unskilled labor supply is reallocated to the imitation sector. Although activity increases in the imitation sector and productivity increases in the final good sector help to accelerate growth, the decline in the number of skilled workers reduces activity in the innovation and in the final good sectors –or they are more productive than unskilled workers. Despite a slight decline in the unskilled unemployment rate –of 0.1 percentage point–, the net effect on growth is actually negative; the long-term growth rate decreases 0.2 percentage point per year. This negative effect is mainly due to the inclusion of individuals’ decisions regarding education and the decline in the supply of skilled labor; with a given composition of the labor force (i.e. constant distribution between skilled and unskilled labor) only the traditional effect of public capital on the productivity of private factors would be effective, and the effect on long-term economic growth would be positive.

- *Increase the share of advanced infrastructure investment spending, from an initial value of 2.0% of state spending to 4.0%, financed by a reduction of unproductive expenditures.* This measure increases the stock of advanced public capital, which directly increases the productivity of skilled labor in the innovation sector only. The initial increase in demand for this labor category has a double effect: it leads to a relative increase in skilled wages, which in turn tends to increase the proportion of individuals who seek to acquire further education. Therefore, the proportion of skilled workers increases while the proportion of unskilled workers falls. However, the skilled labor supply is reallocated from the final good sector to the innovation sector where the labor factor is more productive. The activity increase in this sector contributes to accelerating growth by a 0.26 percentage point, although the impact on unemployment is negligible.

- *Increase the share of advanced infrastructure investment spending, from an initial value of 2.0% of state spending to 4.0%,*

financed by a reduction in investments in basic infrastructure. The transmission mechanism for this measurement is the same as that described previously. At the same time, since spending for basic infrastructure goes down, effects opposite to those analyzed in the case of an increase in this expenditure category are now at stake: mainly because productivity and demand for unskilled labor decreases, the relative wage of skilled workers increases more sharply, which implies a stronger rise in skilled labor supply. In turn, this increase amplifies the direct effect of increasing investment in advanced infrastructure; the growth rate increases by 0.7% and the industrial processing index decreases by 1%. However, even if the activity increase in the final good sector accelerates the demand for unskilled labor, it is accompanied by a decline in demand for this category of workers in the imitation sector, so that unskilled unemployment increases by a 0.3 percentage point.

- *Reform of the education system, consisting of a subsidy from the state for advanced training (lower proportionate cost of education, from its initial value 0.08 to 0.075) and a strengthening of the curriculum, which results in an increase in the time allocated by each individual for training.* The state subsidy is supposed to come from a reallocation of unproductive public spending, so that the subsidy has no direct effect on the overall composition of spending. The subsidy involves an increase in the supply of skilled labor, which, however, reduces the relative wage of skilled workers. The increase in the relative wage of unskilled workers tends to mitigate the effect of the subsidy on the incentive to acquire advanced training; but the net effect on the proportion of the population of skilled workers remains positive and represents 5.6 percentage points. At the same time, the decline in the number of unskilled workers has an adverse effect on activity in the imitation sector and may slow activity in the final good sector –through a production decrease in the corresponding sector of intermediate goods. In addition, the increased time required for advanced training reduces the time each individual has to allocate to the market; this also tends to dampen activity in the final good sector. Nevertheless, the increase in activity in the innovation sector, associated with a rise in employment of skilled workers by about 0.2 point, is such that the net effect on long-term growth is positive (representing 0.1), while the skilled unemployment rate fell slightly.

- *Reduce the degree of indexation of the minimum wage relative to per capita income, from an initial value of 0.6 to 0.5.* The decreasing

cost of unskilled labor results in a significant increase in demand for this labor category in the imitation sector where the marginal productivity of labor is constant. This increase in demand is met in two ways: by movement of unskilled labor from the final good sector to the imitation sector, and an increase of the total supply of unskilled labor. Therefore, regarding the initial level of per capita income, there are two opposite effects on the minimum wage: the declining degree of indexation tends to reduce the minimum wage, but the increase in the demand for labor, which reduces the unemployment rate of unskilled labor, tends to increase it. Initially, the relative wage of skilled workers must decrease for the unskilled labor supply to increase. However, the effect of general equilibrium is different; the net effect of reducing the minimum wage indexation degree yields a *rise* in the relative wage of skilled workers, while in parallel the effective proportion of this labor category declines. In turn, reducing the effective supply of skilled labor slows activity in both the final good sector and in the innovation sector, and long-term growth rate decreases by approximately 0.15 percentage point. For its part, the unskilled unemployment rate drops sharply, by about 1.9 point. This measure therefore leads to opposite effects on employment and growth; on one side it increases employment, and on the other it slows down long-term growth. In the debate on the effects of minimum wage, this result highlights the importance of considering the impacts of this policy on the workplace as well as on supply and economic growth.

- *Reduce the degree of indexation of the skilled reference wage –set by the unions– in relation to per capita income, from an initial value of 0.6 to 0.5.* This measure will initially led to a relative increase in the unskilled wage, which slightly reduces the proportion of skilled workers in the economy. However, the reduction of skilled worker jobs occurs only in the final good sector; this labor category is actually reallocated to the innovation sector. At the same time, activity in the imitation sector tends to increase, again with a reallocation of unskilled labor from the final good sector. In total, the growth rate increases by about 0.25 percentage point, while the unemployment rate of the population declines by about 0.1 point, primarily due to the increase in unskilled employment in the imitation sector. Therefore, unlike the previous case (the reduction of the degree of the minimum wage indexation), there is no conflict between the objectives of growth and employment with this measure.

- *Promote skilled worker migration (Startup Morocco scenario), which reduces the net migration flow from an initial value of 0.02 to 0.01, with a concomitant increase in employment in the innovation sector.*⁶ This measure has a direct and immediate impact on activity in the innovation sector. In turn, this has a positive effect on the long-term economic growth rate, increasing by a 0.025 percentage point, and on the industrial production structure. The effects on the composition of employment, unemployment, and other macroeconomic variables are however negligible.

- *Autonomous increase of FDI from an initial value of 1.8% to 2.0 of GDP%.* The increase in FDI raises the productivity of skilled labor in the innovation sector, which increases the demand for this category of workers and contributes to an increase in their relative wage. In turn, the increase in the relative wage encourages a greater number of individuals to invest in training. The increase in labor demand in the innovation sector is met by increasing the total supply of skilled workers and a reallocation of this category of workers to the final good sector. The net effect on the unemployment rate is negligible—since supply and demand increase in a similar proportion— but the impact on the long-term growth rate is positive, at 0.2%. In addition, the decline in the output-private capital ratio contributes to an increase in the domestic interest rate (the rate of return on capital), resulting in a further increase in the FDI to GDP ratio; in the end, this ratio actually increases by 2.2 percentage points.

- *Improve the business climate, resulting in an increase in FDI elasticity relative to the ratio of the domestic capital of return on the global rate, from an initial value of 0.1 to 0.3.* Again, the initial effect of this policy is an increase in skilled labor productivity in the innovation sector and demand for this labor category, which contributes to a decrease in the relative wage of unskilled workers. This decrease causes a rise in the supply of skilled labor, which somewhat mitigates the initial decline in the relative wages of unskilled workers. Again, the increase in labor demand in the innovation sector is satisfied by a combination of increasing the total supply of skilled workers and a reallocation of this category of workers from the final good sector.

6. Again, insofar as this policy involves costs, they are assumed to originate from an internal reallocation of unproductive expenditures.

The net effect on the unemployment rate is negligible, but the impact on the long-term growth rate is about a 0.4 percentage point.

4.3 Integrated growth strategies

4.3.1 Presentation of three composite scenarios

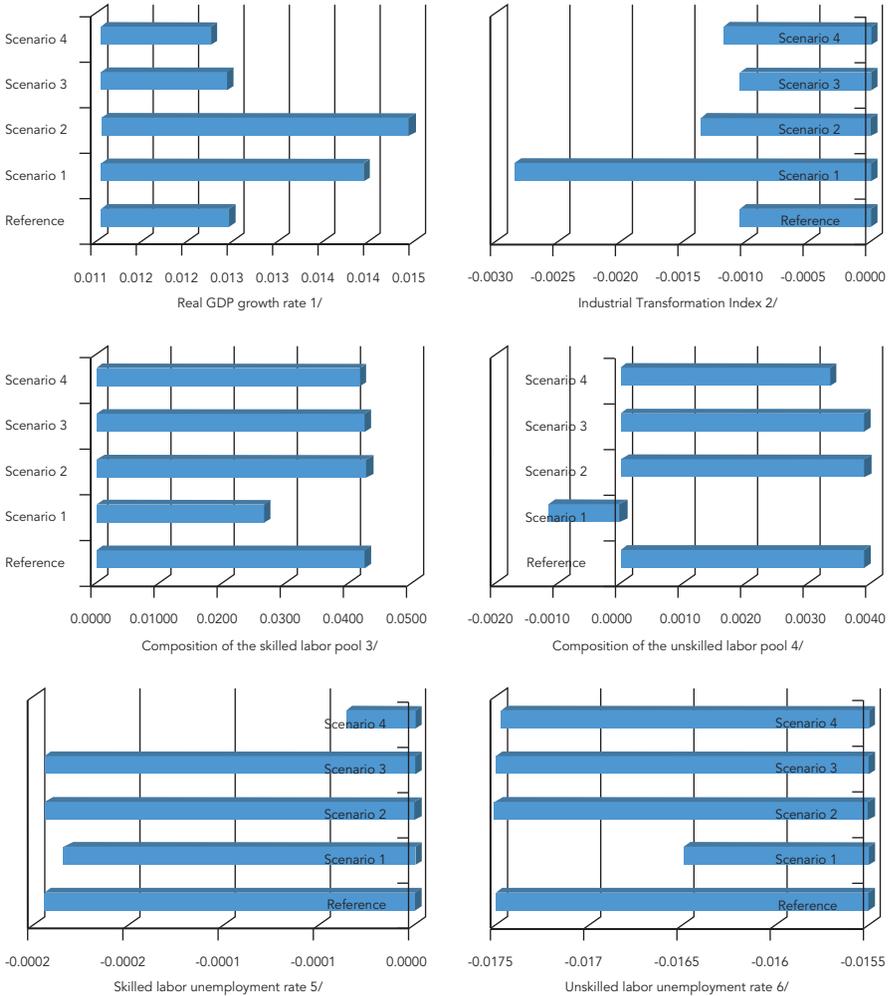
To illustrate the impact of integrated growth strategies for Morocco, and the importance of complementarity between the economic policies in the formulation of these strategies, three composite (or integrated) scenarios are also analyzed. They are based on the individual policies discussed above.

Scenario 1 combines the following measures:

- 1) An increase in the share of advanced infrastructure investment costs from an initial value of 2.0% to 4.0%, half funded by reducing basic infrastructure investments and half by reducing unproductive expenditures;
- 2) A reform of the education system, which consists of a state subsidy for advanced training that results in a proportional decrease in the cost of education from 0.08 to 0.074 of the skilled salary and a substantial increase in the time allocated to training, from 0.15 to 0.2. The training is assumed to take place in the education system itself as well as within the business entity, in the form of continuing education –without a direct increase in the cost of skilled labor;
- 3) A reduction in the minimum wage degree of indexation relative to per capita income, from 0.6 to 0.5.

The long-term results of this strategy are presented in Figure 68 for six indicators defined above, the: real GDP growth rate, index of industrial processing, composition of unskilled labor, composition of skilled labor, unemployment rate of skilled labor, and unemployment rate for unskilled labor (in both cases as a proportion of the total workforce). This composite scenario combines the benefits of all the individual shocks previously considered: a relative improvement in the supply of skilled labor, by about 1.1 percentage points; a decline in the unemployment rate for the two categories of workers –by nearly 1.75 percentage points for the unskilled workforce,

Figure 68 – Effects of a new growth strategy: Scenario 1



Notes:

“Reference” indicates that the simulation is based on the reference parameters.

“Scenario 1”: A lower price elasticity of demand for intermediate products, at 1.7 instead of 2.6.

“Scenario 2”: A stronger externality associated with the knowledge stock related to imitation, captured by a parameter set to 0.4 instead of 0.2.

“Scenario 3”: Greater preference by unions for skilled jobs, relative to wages, captured by a parameter set to 0.1 instead of 0.7.

“Scenario 4”: Higher sensitivity of skilled wages compared to the unemployment rate, captured by an elasticity equal to 0.5 instead of 0.1.

1 / Production growth rate of the final good.

2 / Ratio of imitation-based inputs stock divided by the sum of imitation and innovation based input stocks.

3 / Ratio of skilled labor in the innovation sector and employment in the final good sector.

4 / Ratio of unskilled labor in the imitation sector and employment in the final good sector.

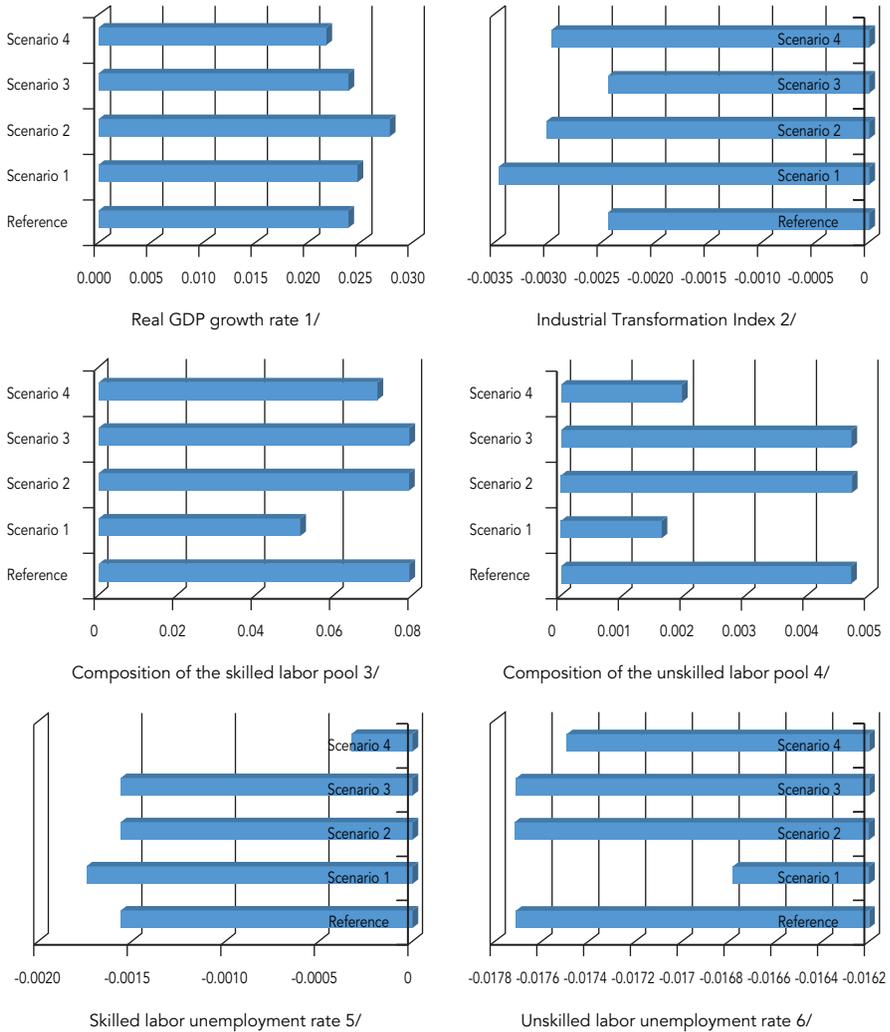
5 / In proportion to the total workforce.

and by 1.5 percentage points for the aggregate unemployment rate; and an increase in the long-term growth rate of around 1.2 percentage points annually.

Scenario 2 adds to the first one a) a net inflow of skilled workers, resulting in a decrease in the flow of migrants (as a percentage of the labor force) from 0.02 to 0.01, b) an autonomous increase in FDI from an initial value of 1.8% to 2.0% of GDP; and c) an improved business climate, resulting in an increase in the FDI elasticity with respect to the ratio of the relative rate of return on equity from 0.1 to 0.3. The results of this scenario are shown in Figure 69. The decline in the unemployment rate remains the same size, but the effect on growth is stronger, mainly due to a greater impact of additional policies on productivity in the innovation sector. The trend increase in the long-term growth rate is now about 2.1 percentage points.

Scenario 3 adds to scenario 2 a reduced minimum wage indexation coefficient compared to the per capita income from 0.6 to 0.5. This scenario thus adds a second component, “reform of the labor market,” to the previous scenarios. The results of this integrated reform program are presented in Figure 70. The decline in unemployment rates for both categories of workers is now more pronounced than in the previous scenarios, while the effect on growth is stronger because of a more significant increase in the supply of skilled labor (of about 1.3 percentage points) and more sustained activity in the innovation sector. The increase in the long-term growth rate is now 2.4 percentage points.

Figure 69 – Effects of a new growth strategy: Scenario 2



Notes:

“Reference” indicates that the simulation is based on the reference parameters.

“Scenario 1”: A lower price elasticity of demand for intermediate products, at 1.7 instead of 2.6.

“Scenario 2”: A stronger externality associated with the knowledge stock related to imitation, captured by a parameter set to 0.4 instead of 0.2.

“Scenario 3”: Greater preference by unions for skilled jobs, relative to wages, captured by a parameter set to 0.1 instead of 0.7.

“Scenario 4”: Higher sensitivity of skilled wages compared to the unemployment rate, captured by an elasticity equal to 0.5 instead of 0.1.

1 / Production growth rate of the final good.

2 / Ratio of imitation-based inputs stock divided by the sum of imitation and innovation based input stocks.

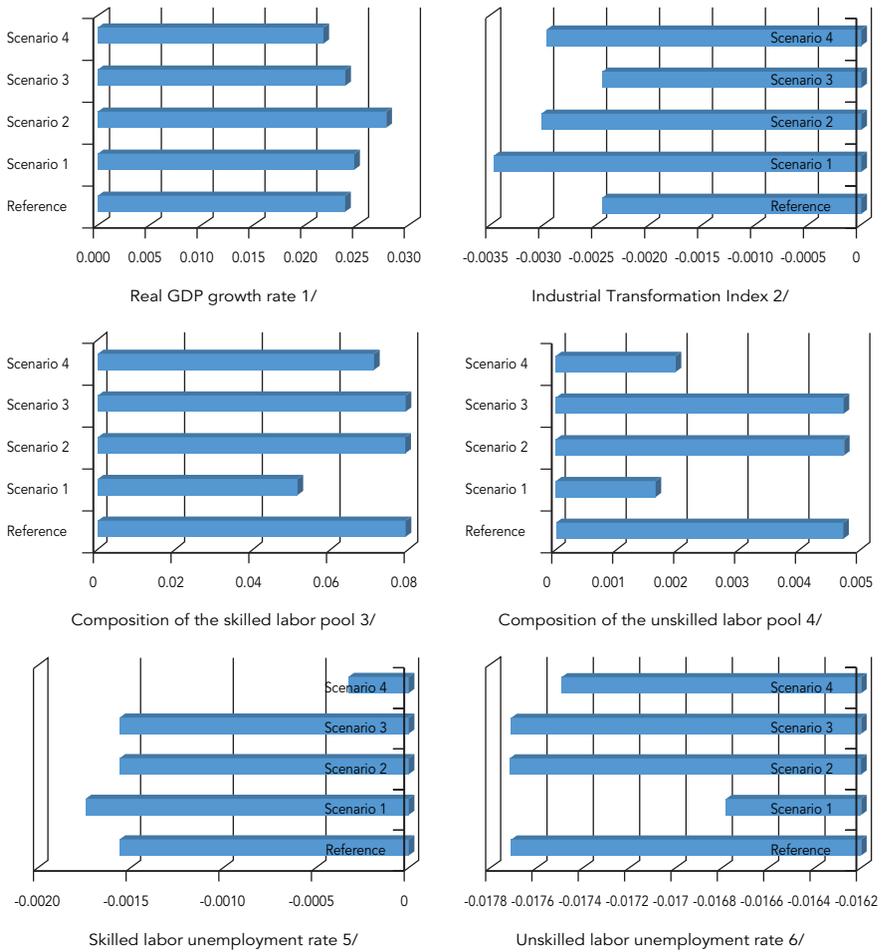
4.3.2 Sensitivity analysis

To assess the robustness of the above results, a sensitivity analysis is performed with respect to the following parameters: a) lower price elasticity of demand for intermediate products, at 1.7 instead of 2.6, captured by a parameter set at 0.41 instead of 0.61; b) greater externality associated with the knowledge stock related to imitation, captured by a parameter set to 0.4 instead of 0.2; c) larger preference by unions for skilled employment, in relation to wages, captured by a parameter set to 0.1 instead of 0.7; and d) greater sensitivity of skilled worker wages to movements in the unemployment rate in the corresponding category of labor, captured by an elasticity of 0.5 instead of 0.1. Variants 1 to 4 represent the simulation results associated with these alternative values of the parameters, which also appear in Figures 68, 69 and 70.

As shown in these figures, in general these alternative values do not fundamentally change the results previously discussed. In particular, in the presence of a stronger externality associated with the knowledge stock related to imitation, the effects on the labor market are virtually the same for all the shocks, but the effect on economic growth is stronger. With scenario 3 for example, the long-term growth rate would rise to 2.8 percentage points instead of 2.4 points. The growth rate is slightly higher (2.5 percentage points) with a lower price elasticity of demand for intermediate products. The most important difference occurs with a higher sensitivity of skilled wages to movements of the corresponding unemployment; the growth rate would increase by 2.2 percentage points instead of 2.4 points in the reference simulation, while the effect on lowering the unskilled unemployment rate would be much smaller.

In sum, the examination of these integrated reform programs –particularly scenario 3– suggests that the strategy proposed in this report would accelerate Morocco’s annual trend growth rate beyond its current rate of 4% to about 6.2-6.4%. In parallel, employment levels would also increase, and with a population growth rate of about 1.1% annually, there would be a substantial increase (almost double) in per capita income over a 10-year horizon.

Figure 70 – Effects of a new growth strategy: Scenario 3



Notes:

“Reference” indicates that the simulation is based on the reference parameters.

“Scenario 1”: A lower price elasticity of demand for intermediate products, at 1.7 instead of 2.6.

“Scenario 2”: A stronger externality associated with the knowledge stock related to imitation, captured by a parameter set to 0.4 instead of 0.2.

“Scenario 3”: Greater preference by unions for skilled jobs, relative to wages, captured by a parameter set to 0.1 instead of 0.7.

“Scenario 4”: Higher sensitivity of skilled wages compared to the unemployment rate, captured by an elasticity equal to 0.5 instead of 0.1.

1 / Production growth rate of the final good.

2 / Ratio of imitation-based inputs stock divided by the sum of imitation and innovation based input stocks.

3 / Ratio of skilled labor in the innovation sector and employment in the final good sector.

4 / Ratio of unskilled labor in the imitation sector and employment in the final good sector.

5 / In proportion to the total workforce.

4.3.3 Impact on the net creation of employment

The above model does not include a detailed demographic structure, and therefore, changes in labor supply are not explicitly analyzed; but an approximate calculation can be performed as follows. According to the results presented by Agénor and El Aynaoui (2014, Table 14), the average decline in the economy's unemployment rate between the reference solution and the most sensitive variant is $-(0.0152 + 0.0308) / 2 = -0.023$ percentage point. In other words, on the basis of the High Commission for Planning's statistics, with an initial unemployment rate of 9.4% and an estimated workforce in 2013 at 11,706,000 individuals, this decline is a reduction in unemployment of about 269,000 individuals. This figure represents the total long-term effect of the reforms program on the inactive *stock*.

To calculate the effect on the *flow* of jobs and *change* in unemployment on an annual basis, we can use implicit elasticity to link job creation and economic growth. Based on estimates by the High Commission for Planning, during the last decade, the economy created about 120,000 jobs per year (114,000 jobs in 2013, as previously indicated). At the same time, the average growth rate between 2000 and 2013 was 4.3%. Each point of GDP growth has created about 26,700 jobs. The reforms scenario 3, which implies an average growth rate increase of 4.0% to 6.2%, would therefore result in an increase of about 165,500 jobs a year. Based on the dashboard of the Studies and Financial Forecasts Department (2013, p. 7), the mean value of the change in the number of the Moroccan working population between 2006 and 2008, and 2013 –excluding and the years corresponding to the global financial crisis– is 160,000 people a year.

The proposed strategy would thus fully absorb the annual increase in the labor force, that is to say, the *flow* of new people to the working population. However, with the number of unemployed estimated at about 1,100,000 people in 2013, the strategy described in scenario 3 would only enable the long-term reduction of the economically inactive population (*stock*) to 831,000 people; to eliminate unemployment entirely, even more ambitious labor market reforms – especially concerning the factors affecting the demand for unskilled labor– would be required. Specifically, to eliminate unemployment over a ten-year period, and on the basis of an average annual growth rate of 6.2% of GDP, these reforms should lead to the creation of

nearly 39,500 jobs per point of growth. On the other hand, if the goal is to reduce unemployment by half, that figure would be 32,500 jobs per point of growth. The net flow of job creation is expected to rise to about 201,000 per year.

Finally, in the most favorable scenario studied by Agénor and El Aynaoui (2014, Table 14), the decline in long-term unemployment rate is -0.0308 percentage points, a decrease of about 360,000 unemployed people; in this case, the economically inactive population would fall to about 740,000 people. To reduce this number by half in ten years, while absorbing the new entries into the labor market, the net flow of jobs for the economy should be at 197,000 annually, equal to a rate of 31,800 per point of growth.

5

Implementation of the new growth strategy

As discussed in Part 3 above, the new integrated strategy to promote growth and employment in Morocco should be based on three pillars: a) support a boost in short-term competitiveness; b) at the same time, promote private activity in productive sectors that will help the country to accelerate its transition to the top of the world technology frontier and compete in international markets for goods and services that are technology and skilled-labor intensive; c) rethink the role the state should play in facilitating this transition, particularly in terms of incentives for private agents to invest, the type of public services that would increase the productivity of private inputs, and in terms of support for a regional integration strategy.

To achieve these basic objectives, a number of reforms and public policies have been proposed –see also Part 3. Now a more detailed action plan must be developed to guide the public sector’s commitment, with indicators and quantitative targets. In the following sub-section, to initiate this process, a list of reforms to be implemented in the short-term –within the next two years– and medium term – in the next three to four years– is described. Several considerations are important in the development of this list: a) the constraints related to the available administrative capacity; b) the political feasibility of reforms; and c) the sequence of reforms, in order to capitalize on the complementarities and synergies between them.

5.1. Short-term reforms

Reallocate public investment expenditure. Reallocate public investments between basic infrastructure (roads, energy, basic telecommunications systems, water and sanitation) and advanced infrastructure (advanced information communication technologies). In a context of fiscal consolidation, consider public-private partnership schemes.

Promote innovation. Create a public program of temporary subsidies like STARTUP-Chile to attract talented young entrepreneurs from around the world. Implement additional measures to facilitate the mobility of individuals. Establish a single administrative point for financial assistance for innovative projects.

Labor market reforms. Improve the process of negotiations between unions and employers on wages and employment.

Improve the quality of education. Reduce illiteracy, strengthen and consolidate policies to promote quality education in the secondary and tertiary levels, as well as continuing education.

Support strategic sectors. Adjust strategies and state interventions to the new international environment. Identify the types of public intervention that can facilitate integration into global value chains, including the establishment of eco-industrial clusters (agglomeration of small producers), certifications and ISO standards, equipment imports, export assistance for strategic companies –including small and medium sized enterprises (SMEs)– and the guarantee of obtaining a public procurement order for goods that are situated on the technological frontier.

Promote the financial sector's role. Strengthen the role of the financial sector in the financing of SMEs, both in terms of production activities and innovation activities (venture capital), and its ability to support the globalization process of nonfinancial Moroccan companies, especially in their regional strategy. In the first case, the process could be accelerated by an improvement of the accounting framework and financial practice audits, as well as other measures to reduce the extent of the guarantees required by banks. Foster greater competition to accelerate the development of market financing, expand savings and expand financing of the economy.

Improve the business environment. Improve access to land and financing –especially for SMEs– and simplify administrative formalities (taxation, justice, labor code). Promote foreign direct investment (FDI) in strategic sectors.

Regional expansion strategy to Sub-Saharan Africa. Articulate a strategy to capitalize on Morocco’s geographical position, to gradually relocate light manufacturing activities based on imitation and intensive unskilled labor to Sub-Saharan Francophone countries in Africa and to take advantage of low labor costs and promote Morocco’s “upgrading.”¹ Put in place mechanisms for the creation of integrated supply chains. Encourage FDI by Moroccan companies in the region, especially in basic infrastructure. Consider temporary mechanisms of state support, including through bilateral aid agreements.

Liberalize the capital account and adopt a more flexible exchange rate regime. Liberalize the capital account for residents and adopt a more flexible exchange rate regime –possibly an asymmetric band regime to transition towards a managed float– in order to reduce imports and help redress the balance of payments, regain a competitive cost, and facilitate the absorption of external shocks. Promote the development of the exchange market in terms of volumes traded and depth.

Reform the macroeconomic framework. Adjust monetary and fiscal policies so that they contribute to strengthening the capacity of macroeconomic policy framework to mitigate –in association with a more flexible exchange rate regime– fluctuations in the growth rate observed around the potential growth rate and maintain the stability of current and anticipated inflation. Have greater flexibility in monetary policy and strengthen coordination between monetary and fiscal policies. Adopt an explicit fiscal rule, after considering alternative choices (balanced budget; limits on government deficits; public spending limits; tax revenue objectives; structural budget balance objective). Redefine the parameters of an inflation-targeting regime for Morocco, in a context where financial stability is an objective for monetary policy.

1. According to a recent study by the Direction of Studies and Budget Forecasting (2014) entitled “Morocco and African Relations” Morocco’s FDI to Sub-Saharan Africa remain dominated by the banking and telecommunications sectors totaling 88% between 2008 and 2012, while the industrial sector does not exceed 1%.

5.2 Medium term reforms

Public investment expenditures. Promote a better allocation of public capital between the regions. Reduce disparities between rural and urban areas, which remain strong in terms of access to new telecommunication technologies.

Promote innovation. Strengthen the regulatory framework for research and innovation incentives, particularly concerning the establishment of a researcher status, and encourage research in companies. Strengthen links between Moroccan and foreign universities.

Labor market reforms. Improve the institutional process of job matching. Review the application procedures and the minimum wage adjustment procedures, reduce dismissal restrictions, and ensure that the unemployment insurance system has no negative effect on job searches.

Improve the quality of education. Strengthen and consolidate policies to promote quality education in the secondary and tertiary levels, as well as continuing education.

Support strategic sectors. Promote the renewable energy sector, encouraging private companies to focus initially on the manufacture of relatively simple and multi-purpose components (electrical cables for wind turbines, supporting structures for photovoltaic panels, etc.). Facilitate the dissemination of innovations and encourage research in agriculture, including rainfed agriculture.

Reform the macroeconomic framework. After a study of alternative choices, adopt macroprudential countercyclical policies that reduce the procyclicality of the financial system and risks to financial stability.

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MOROCCO: GROWTH STRATEGY FOR 2025 IN AN EVOLVING INTERNATIONAL ENVIRONMENT

The Moroccan economy is currently facing the risk of becoming caught between the rapid-growing low-income countries with abundant and cheap labor, and middle-income countries that are able to innovate quickly. In addition, China's massive investments in Sub-Saharan Africa have accelerated the participation of some countries in the region in a new international division of labor, especially in low-skill-intensive light manufacturing.

In parallel, through the structure of its trade and financial relations with Europe, Morocco remains bound to a region that is facing structural difficulties and whose growth prospects remain unfavorable. At the same time, the Maghreb region has not been a source of expansion, and therefore has not become a new driving force for growth, despite Morocco's expectations and wishes.

These dynamics could lead to a «moderate growth trap,» characterized by job creation that is insufficient to absorb the expansion of the workforce, which will remain strong in Morocco for the coming years. The evolving international environment imposes a rethinking and reformulation of the growth strategy in order for Morocco to better position itself in the global value chains and prepare to compete in international markets for goods and services with high-skill-intensive labor and more sophisticated technological inputs. It is also essential in the short and medium term to recover competitive margins in low-skill-intensive activities, to continue reforming the macroeconomic management framework, and to strengthen ties with dynamic Sub-Saharan countries.

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