

# Towards EU-MENA Shared Prosperity

**POLICY REPORT**

3<sup>rd</sup> Edition





# Towards EU-MENA Shared Prosperity

## Authors

Abdelaaziz Ait Ali

Uri Dadush

Yassine Msadfa

Yana Myachenkova

Simone Tagliapietra

## **Towards EU-MENA Shared Prosperity**

Authors: Abdelaaziz Ait Ali, Uri Dadush, Yassine Msadfa, Yana Myachenkova & Simone Tagliapietra

Copyright © 2019 by Bruegel, Policy Center for the New South. All rights reserved. No part of this work may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of the publisher.

This publication is part of a partnership between Bruegel and the Policy Center for the New South, and is made possible by the generous support of Compagnia di San Paolo.

### **Policy Center for the New South**

Complexe Suncity, Immeuble C, Angle Boulevard Addolb  
et rue Albortokal, Hay Riad, Rabat - Maroc.

Email : [contact@policycenter.ma](mailto:contact@policycenter.ma)

Phone : +212 5 37 27 08 08

Fax : +212 5 37 71 31 54

Website : [www.policycenter.ma](http://www.policycenter.ma)

Dépôt Légal : 2019M01389

ISBN : 978-9920-746-05-2

## Liste of Tables

List of contributors .....	7
About bruegel .....	8
About Policy Center for the New South .....	8
Foreword .....	9
<b>Chapter 1: Assessing the EU-North Africa trade agreements</b> .....	<b>11</b>
Uri Dadush, Yana Myachenkova	
Executive summary .....	11
I. The EU-North Africa trade agreements .....	12
II. The literature takes a dim view of the EU-North Africa agreements .....	14
1. Asymmetric liberalisation .....	17
2. Trade expansion .....	21
3. Caveats .....	23
4. Unfavourable investment climate .....	25
5. A difficult international environment .....	27
6. Slow diversification .....	32
7. Weaknesses of the present trade agreements .....	33
III. Conclusion .....	39
<b>Chapter 2: Structural Transformation of the Moroccan Economy and Global Value Chains: New Insights</b> .....	<b>45</b>
Abdelaaziz Ait Ali & Yassine Msadfa	
I. Framework of the Study .....	45
II. Theoretical Background .....	46
1. Structural transformation: A necessary condition for growth and economic development .....	46

2. Can structural transformation be considered as a universal and standard phenomenon? .....	48
III. Structural Transformation: Lacking Role of Manufacturing .....	51
IV. Integration in Global Value Chains (GVC): First Insights using TIVA Database. ....	55
1. National exports that contain more foreign value added .....	56
2. But disparities from one sector to another arise, with a tertiary sector that generates more value added to exports.....	57
3. Services exported as “manufactured goods” .....	58
V. Challenges to Overcome for the Moroccan Economy.....	60
VI. Conclusion.....	62

**Chapter 3: The EU-Southern Mediterranean Energy Relationship: A Fresh Perspective** ..... 67

Simone Tagliapietra

The issue.....	67
Policy Challenge .....	68
1. Energy: the core of the Euro-Mediterranean economic relationship	68
2. Current renewable energy developments in SMCs.....	71
3. Future prospects, in light of the Paris Agreement .....	72
4. Flows of European and international climate finance to SMCs .....	73
5. Linking climate finance to better renewable energy governance .....	76
6. The positive implications for Europe.....	79

## List of contributors

**Abdelaaziz Ait Ali**, Senior Economist, Policy Center for the New South

**Uri Dadush**, non-resident scholar at Bruegel, Senior Fellow at the Policy Center for the New South

**Yassine Msadfa**, Research Assistant, Policy Center for the New South

**Yana Myachenkova**, former Research Assistant, Bruegel

**Simone Tagliapietra**, Research Fellow, Bruegel

## About bruegel

Bruegel is the European think tank that specialises in economics. Established in 2005, it is independent and non-doctrinal. Bruegel's mission is to improve the quality of economic policy with open and fact-based research, analysis and debate. We are committed to impartiality, openness and excellence. Bruegel's membership includes EU Member State governments, international corporations and institutions.

Through publications, events, social media, and a lively blog, Bruegel has carved a unique discussion space for everyone interested in improving the quality of economic policy. Through a dual focus on analysis and impact, and dynamic relationships with policymakers at every governance level, it has also established itself as a vibrant laboratory for economic policies.

[www.bruegel.org](http://www.bruegel.org)

## About Policy Center for the New South

Policy Center for the New South, formerly OCP Policy Center, is a Moroccan policy-oriented think tank based in Rabat, Morocco, striving to promote knowledge sharing and to contribute to an enriched reflection on key economic and international relations issues. By offering a southern perspective on major regional and global strategic challenges facing developing and emerging countries, the Policy Center for the New South aims to provide a meaningful policy-making contribution through its four research programs: Agriculture, Environment and Food Security, Economic and Social Development, Commodity Economics and Finance, Geopolitics and International Relations.

On this basis, we are actively engaged in public policy analysis and consultation while promoting international cooperation for the development of countries in the southern hemisphere. In this regard, Policy Center for the New South aims to be an incubator of ideas and a source of forward thinking for proposed actions on public policies within emerging economies, and more broadly for all stakeholders engaged in the national and regional growth and development process. For this purpose, the Think Tank relies on independent research and a solid network of internal and external leading research fellows.

[www.policycenter.ma](http://www.policycenter.ma)



## Foreword

We are very pleased to present this joint publication, which collects the papers produced as part of the third collaboration between Bruegel and the Policy Center for the New South (PCNS). Within the theme “Towards EU-MENA Shared Prosperity”, our two organisations launched a “Platform for Advanced & Emerging Economies Policy Dialogue” in Rabat on 1 April 2016, and published two previous policy reports addressing issues of common interest in the Mediterranean and the MENA Region.

The aim is to establish an ambitious, yet timely, platform for policy dialogue between emerging MENA economies and advanced economies. The cooperation between Bruegel and PCNS constitutes the main pillar of this platform. We aim to be the driving force for a content-based dialogue that can lead to concrete analytical output.

With a strong conviction that fruitful policy dialogue should be primarily anchored in sound policy research, Bruegel and PCNS researchers have tackled issues of utmost importance to all shores of the Mediterranean basin through their papers.

In the first paper, Uri Dadush and Yana Myachenkova explain how trade agreements that the European Union has with North African countries are often seen as having delivered disappointing results, and how the agreements have been judged too harshly, as they helped generate large amounts of trade. In this regard, the paper gives relevant recommendations of policies for a greater trade performance.

The second paper highlights the role of structural economic transformation as a necessary gateway for nations wishing to move up along the development path. It focuses on the case of Morocco, shedding light on its manufacturing sector’s transformation, its integration in Global Value Chains (GVC) and its economic challenges.

In “The EU-Southern Mediterranean Energy Relationship: A Fresh Perspective”, Simone Tagliapietra analyses how regional energy

cooperation should strongly focus on fostering large-scale deployment of renewable energy, allowing southern Mediterranean countries to meet their increasing energy demand in a more sustainable way, and having positive economic and political benefits for Europe.

**Karim El Aynaoui**

Managing Director

Policy Center for the New South

**Guntram B. Wolff**

Director of Bruegel

---

# Chapter 1

## Assessing the EU-North Africa trade agreements

Uri Dadush, Yana Myachenkova

The authors would like to thank Ignacio Garcia Bercero, Monika Hencsey, Hauke Waszkewitz, Guntram Wolff and participants in a seminar held in Rome on 12 October 2018 for very helpful comments. Hamza Saoudi provided excellent research assistance.

### Executive summary

- The trade agreements that the European Union has with North African countries – with Algeria, Egypt, Morocco and Tunisia – are often seen as having delivered disappointing results since they came into force during the 2000s. The four North African countries have seen insufficient growth in their exports to the EU, and have undergone only limited diversification. In the meantime, the EU's exports to North Africa have grown quite rapidly.
- Economic growth in North Africa has been well short of what is needed to reduce chronic under-employment, especially of young people. The EU trade agreements with North Africa could generate additional, large benefits if they either directly led to or at least incentivised behind-the-border reforms to make the North African countries more competitive in international markets. Though this reform is the responsibility of the governments of North African countries, the EU could provide stronger incentives to improve the business environment. Meanwhile, in agriculture, were the North African countries able to compete with

the EU on an even playing field, agriculture's share of domestic value-added would almost certainly be significantly larger and rural poverty correspondingly lower than at present.

- Nevertheless, the agreements have been judged too harshly. They helped generate large amounts of trade, though not enough was done on the domestic front to derive the maximum benefit from them. Moreover, the domestic and international environment has been unfavourable, impeding North Africa's progress. Over much of the relevant period, the EU grew sluggishly, and North African countries faced sharply increasing competition on European markets from China and the eastern Europe countries that joined the EU in 2004 and after. Generally, countries that acceded to the EU have done much better than the countries of North Africa. While the countries of North Africa are not EU candidates, there is much that they and the EU can learn from the example of the former accession countries in terms of how a new generation of trade agreements between the EU and North Africa could be deeper and more comprehensive than currently, and could be accompanied by increased aid for trade.

## I. The EU-North Africa trade agreements

The trade agreements between the European Union and Algeria, Egypt, Morocco and Tunisia, part of a broader effort to integrate the north and south shores of the Mediterranean and the Near East, have disappointed many who believed they could transform North Africa.

The political context clearly has not helped. The vision of the 1995 Barcelona Declaration, signed by EU, North African and other Mediterranean nations was to create an “an area of shared prosperity,”<sup>1</sup> but two decades on it was acknowledged that this vision had not been realised and the Barcelona Declaration could not have predicted the destabilising impact on North Africa “of al-Qaeda... and the subsequent invasions of Afghanistan and Iraq; the political immobility and lack of reforms and improvements in governance in many Mediterranean Partner Countries...; the instability caused by the Arab Spring since 2011...; the migration

---

<sup>1</sup> The Barcelona Declaration is available at [https://ec.europa.eu/research/iscp/pdf/policy/barcelona\\_declaration.pdf](https://ec.europa.eu/research/iscp/pdf/policy/barcelona_declaration.pdf).

and refugee crises; or the emergence of Islamic State terrorism”<sup>2</sup>.

Over the last ten years, growth in the four North African countries<sup>3</sup> has been relatively slow, volatile and characterised by large current account and fiscal imbalances. Egypt, Morocco and Tunisia have seen per-capita income growth of around 3-5 percent since 2007, while in Algeria it has been a shade less than 1 percent, some 6-7 percent slower than average of the lower middle income countries. These growth rates are not per se disastrous, but they are entirely inadequate to deal with youth unemployment in the four North African countries, which is among the highest in the world. Nor are they sufficient to raise the very low participation of women in the labour force. There has been little convergence with incomes in Europe, and the absolute difference in income levels might be increasing, reflecting the sharp slowdown in the North African countries since the Arab Spring. In this context, it is natural to point to the EU’s trade agreements with these countries as one of the culprits, or at least as not having helped.

Though we recognise the importance of the region’s political turbulence in influencing these outcomes, our aim is solely to provide an economic assessment of the trade agreements between the EU and North Africa. We argue, in line with previous assessments, that the trade agreements are highly imperfect and much can be done to deepen them and improve on them in various ways. However, we also argue that the common view of the trade agreements is overly negative, for three main reasons:

- First, there tend to be excessively high expectations of trade agreements, whereas domestic conditions and policies are the main driver of economic growth and specifically of export performance. For the North African countries, domestic conditions and reforms had to play an even more significant role in stimulating exports since the countries faced very low EU tariffs even before the trade agreements were concluded.
- Second, the welfare benefits of a trade agreement are not adequately measured by the improvement in the bilateral trade balance; a much better, though imperfect, measure is the increase in total trade between the parties. In the case of the EU and North Africa, total trade has increased significantly.

<sup>2</sup> As noted by the European Institute of the Mediterranean; see <https://www.iemed.org/actualitat-en/noticies/20e-aniversari-del-proces-de-barcelona/>.

<sup>3</sup> Libya, which does not have a trade agreement with the EU, is excluded.

- Third, some international and domestic developments external to the agreements clearly contributed to the weak performance of North Africa's exports to Europe. We cannot know the counterfactual, but it is possible that without the agreements, North Africa's growth, investment and export performance would have been considerably worse.

The main policy implication of this is unsurprising: more effort should be made to improve and deepen the existing trade agreements. More importantly, the North African countries need to accelerate domestic reforms. These reforms are needed anyway to boost economic growth and employment, irrespective of trade agreements, but reform can also work to maximise the benefits from the agreements.

## II. The literature takes a dim view of the EU-North Africa agreements

Although the trade regimes of North African countries continue to be ranked among the most protective, they are more liberal than in the past. Trade liberalisation has progressed significantly as a result of numerous bilateral and regional agreements, membership of the World Trade Organisation and adoption of its disciplines, and instances of autonomous trade reforms. For example, in Morocco and Tunisia, Most Favoured Nation (MFN) applied tariffs (tariffs that are applied to all World Trade Organisation members) on non-agricultural products were cut from about 21 percent in 2006 to about 8 percent in 2017. Even against this background, the literature reaches generally negative conclusions when assessing the trade performance of North African countries. Several of the studies find that current trade volume is well below its potential given the countries' relative sizes, geographic distances from centres of demand, common language and colonial links (Cestepe et al, 2015). They also find that there is a low degree of intra-regional integration, reflecting non-complementary production structures and many non-tariff barriers<sup>4</sup>. Associated with that fact are low integration in global value chains. Studies also find that there is low product and geographic diversification of the

---

<sup>4</sup> Non-tariff barriers remain major obstacles to trade within North Africa. Most tariffs in the region have been removed under the two major preferential agreements in the region – the Pan Arab Free Trade Area (PAFTA), which came into force in 1998 and allowed duty free access to its 17 member countries' markets, and the Agadir agreement between four countries, which came into force in 2007. Nevertheless, red tape, poor logistics, lack of transparency and complicated customs clearance hamper regional trade. For example, the region's exporters occasionally have to obtain special import permits to avail themselves of preferences that should be automatic under trade agreements. North Africa also has particularly low logistics quality, while the Middle East has onerous documentation requirements.

region's exports<sup>5</sup>.

The EU plays a very prominent role in North Africa's trade, representing by far the largest trading partner of countries in the region, on account of its size, geographic proximity, linguistic and colonial ties, and the existence of large North African diasporas in Europe. North African countries have long enjoyed access to European markets under the Generalised System of Preferences, and the formal effort to promote closer market integration between the EU and North Africa dates as far back as 1969 (Parra et al, 2016), culminating in trade agreements which came into force at different times (Table 1) and which were part of a broader effort to integrate Europe with the 'South'.

**Table 1: Trade agreements between the EU and Mediterranean countries**

Country	Agreement signed	Official entry into force <sup>6</sup>
Tunisia	July 1995	Dec 1997
Israel	Nov 1995	June 2000
Morocco	Feb 1996	Mar 2000
Jordan	Nov 1997	May 2002
Egypt	June 2001	June 2004
Algeria	Apr 2002	Sep 2005
Lebanon	June 2002	Apr 2006
Palestine (interim agreement)	2005	2007

Source: Bruegel.

<sup>5</sup> Using gravity models, which predict countries' trade flows as a function of their economic size and distance, Ferragina et al (2005) concluded that the volume of trade between the EU and Middle East and North Africa countries could be 3.5 to 4 times greater if the two regions were to reach the EU's level of integration. Other stylised facts gleaned from the literature include: Mashreq countries exhibit greater levels of integration both within the area and with the rest of the world compared to Maghreb and Gulf countries; EU, Gulf Cooperation Council and Arab Maghreb Union (AMU) trading arrangements have not promoted greater integration among member countries (Al-Atrash and Yousef, 2000); the trade potential of the Middle East and North Africa region is found to exhibit the greatest degree of under-trading, after South-East Asian countries (IMF, 2002); the region is an "underachiever", especially where trade with the EU and with Eastern Europe is concerned (Miniesy, 2004); intra-regional trade within the Middle East and North Africa is low relative to that predicted by gravity models and worse than in sub-Saharan Africa.

<sup>6</sup> Some of these agreements entered into force provisionally earlier.

However, while North Africa's imports from the EU have risen significantly since the signatures of the respective free trade agreements (FTAs), studies employing the gravity model find that the effect of the FTAs on North Africa's exports to the EU has been modest at best (Parra et al, 2016).

Studies attribute the unequal benefits of the bilateral trade agreements to three main factors:

- First, as mentioned, the fact that North African countries already faced low EU tariffs even prior to the agreements.
- Second, limited liberalisation of agriculture in the EU, while agriculture is seen as a sector that is part of North Africa's comparative advantage. Studies suggest that regional trade agreements that have included agriculture tend to be more advantageous to developing countries, and so Middle East and North African countries could have benefited significantly from inclusion of agriculture in their trade agreements with the EU (Parra et al, 2016). This shortcoming has been partly corrected with new agreements on agriculture with some countries.
- Third, the trade agreements between the EU and North Africa are generally considered 'shallow', ie weak on liberalisation of services, investment and on dealing with non-tariff barriers and various 'behind the border' impediments to trade.

Most of these studies, which compare the effect of FTAs on trade with that of arms-length relationships, are subject to the critique that FTAs are between parties that trade a lot anyway, so attempts to estimate the effects of trade agreements on the volumes of trade are biased downward (Baier and Bergstrand, 2007). Freund and Portugal-Perez (2013) aimed to correct for this. They used panel data covering 1994-2009 and controlled for country-pair, importer and exporter fixed effects. Their results indicated that trade agreements signed between the EU and North African countries during that period did not lead to better outcomes according to



various measures. They concluded that the agreements need to be deeper<sup>7</sup>.

## 1. Asymmetric liberalisation

The EU undertook comprehensive trade liberalisation under General Agreement on Tariffs and Trade (GATT)/World Trade Organisation (WTO) rounds from their outset, while liberalisation in North Africa was slower. In fact, Algeria is still not a member of the WTO. Egypt joined the GATT in 1970, Morocco in 1987 and Tunisia in 1990. Moreover, the EU has granted preferential access to North African countries since 1973 under the Generalised System of Preferences or other special arrangements.

For example, in 1993, Morocco's MFN tariffs were two to ten times higher than the EU's, and Morocco's effectively-applied tariffs were the same as MFN since there were no bilateral trade agreements of note (Table 2). In 1993, the EU tariffs that Morocco faced were near zero for manufactured products and around 12 percent for agriculture. By 2016, both the EU and Morocco had granted each other tariff-free access for nearly all manufactured products (Table 3). Notable exceptions include Moroccan imports of food and live animals, for which tariffs remain near 12 percent. Morocco has also reduced its MFN applied tariffs dramatically, while the EU has made more moderate reductions. Morocco has also entered into trade agreements with the United States, other Arab countries and Turkey, and this is reflected by its effectively-applied tariffs being far lower than its MFN applied tariffs. For manufactured products, Morocco's effectively-applied tariff is at time of writing near zero.

---

7 A common challenge in the empirical gravity literature is the zero-trade problem along with the issue of self-selection underlined by Parra et al (2016). Helpman et al (2008) were among the first to propose a two-stage estimation procedure that incorporates selection into trade in the first stage and trade flow equation in the second stage. Hence the model is able to predict zero trade flows among others. However, as Cestepe et al (2015) highlighted, researchers have to find an exclusion restriction for the identification of the second equation, and Westerlund and Wilhelmsson (2011) proposed an easier to implement fixed effects panel Poisson Maximum Likelihood estimator to solve the zero-trade problem. Irrespective of the various econometric challenges encountered in the assessment of the EU's Middle East and North Africa trade agreements, the majority of studies agree that there is potential for greater intra-regional cooperation and the full inclusion of agricultural trade in EU-North Africa FTAs.

**Table 2: Moroccan and EU tariffs on goods from the rest of the world, 1993 and 2016**

	1993				2016			
	Morocco MFN applied rate	EU effectively applied rate	Morocco effectively applied rate	EU MFN applied rate	Morocco MFN applied rate	EU effectively applied rate	Morocco effectively applied rate	EU MFN applied rate
Food and live animals	36.94	7.34	36.94	10.42	23.37	2.86	18.17	7.13
Beverages and tobacco	31.03	15.00	31.03	39.63	30.47	1.05	9.48	5.25
Crude materials, inedible, except fuels	22.88	0.56	22.88	0.98	3.36	0.15	0.58	0.45
Mineral fuels, lubricants and related materials	24.67	0.52	24.67	0.94	5.60	0.32	1.07	0.40
Animal and vegetable oils, fats and waxes	50.70	5.90	50.70	8.53	6.53	2.04	2.47	4.64
Chemicals and related products, n.e.s.	45.92	6.25	45.92	7.52	5.64	1.75	0.79	2.90
Manufactured goods classified chiefly by material	62.71	3.77	62.71	6.00	12.16	1.84	2.70	3.04
Machinery and transport equipment	51.85	4.65	51.85	6.04	9.72	1.28	2.11	2.10

Miscellaneous manufactured articles	69.59	3.71	69.59	8.56	13.26	3.45	4.63	5.85
Commodities and transactions not elsewhere classif.	55.47	0.10	55.47	0.12	2.50	0.06	0.15	0.07

Source: <https://wits.worldbank.org/>.

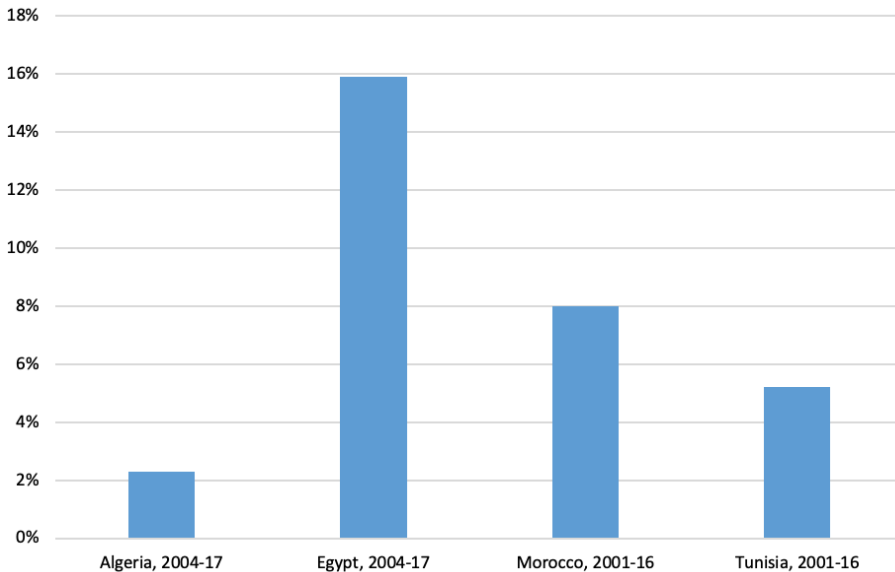
**Table 3: Tariffs applied by Morocco and the EU to each other, 1993 and 2016**

	1993		2016	
	EU effectively applied rate on Morocco	Morocco effectively applied rate on the EU	EU effectively applied rate on Morocco	Morocco effectively applied rate on the EU
Food and live animals	13.27	30.65	1.13	11.98
Beverages and tobacco	11.56	45.08	0	6.94
Crude materials, inedible, except fuels	0.77	25.2	0	0.26
Mineral fuels, lubricants and related materials	1.92	45.94	0	0
Animal and vegetable oils, fats and waxes	1.03	51.05	0	1.93
Chemicals and related products, n.e.s.	0.01	45.86	0	0.01
Manufactured goods classified chiefly by material	0.43	62.77	0	0.01
Machinery and transport equipment	0.03	52.28	0	0.98
Miscellaneous manufactured articles	0.54	72	0	0.01
Commodities and transactions not elsewhere classif.	0.25	55.97	0	0

Source: <https://wits.worldbank.org/>.

As Morocco’s tariffs have been lowered from far higher levels than the EU’s tariffs since the 1990s, it is hardly surprising that EU exports to Morocco grew faster than Morocco’s exports to the EU as the agreements came into force. It is more perhaps surprising that exports from Algeria, Egypt, Morocco and Tunisia to the EU also grew less rapidly than their exports to the rest of the world. From 2001-16 EU exports to the four countries expressed in US dollars grew at 7.3 percent per year, while EU global exports (including to the North African countries) grew at 5.2 percent per year. In this period, exports from the four North African countries to the EU grew at only 4.6 percent per year while exports from the four countries to the world (including the EU) grew at 6 percent per year<sup>8</sup>.

**Figure 1: North African countries, average annual growth in exports to the EU (energy included)**



Source: Bruegel based on Eurostat.

As things stand, the four North African countries except Tunisia continue to run large non-energy trade deficits with the EU (Figure 1).

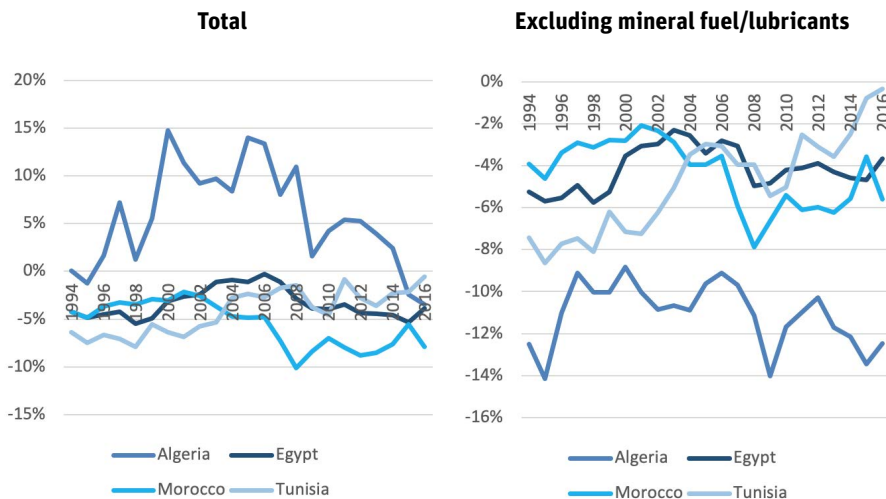
Tunisia’s non-energy trade with the EU was in deficit for many years but, as

<sup>8</sup> Sourced from the World Bank WITS database (<https://wits.worldbank.org/>). Algeria’s exports of oil and gas grew slowly and were affected by world energy market conditions, not its trade agreements. However, even if Algeria is excluded, the trade balance outcomes remain disappointing.

its domestic demand slowed amid political uncertainty, became balanced in 2016, despite a sharp fall in Tunisia's production and export of phosphates. Algeria, whose exports are dominated by oil and gas, not surprisingly runs the largest bilateral deficit with the EU.

But are bilateral trade balances the appropriate measure of gains from the trade agreements?

**Figure 2: Bilateral trade balance of Algeria, Egypt, Morocco and Tunisia with the EU, 1994-2016 (% GDP)**



Source: Bruegel based on <https://wits.worldbank.org/>, Comtrade and WDI. Note: Trade is calculated on the basis of the SITC Revision 3 nomenclature.

## 2. Trade expansion

Well-established theories of tariffs and of the costs and benefits of trade agreements point to the expansion of trade between the parties, not bilateral trade balances, as the most important single indicator to measure the gains of trade liberalisation. When a small country lowers tariffs to zero unilaterally, the price of imports falls by the amount of the tariff, favouring consumers and firms that import parts and raw materials for producers. This gain, the largest immediate benefit of liberalisation, is measured approximately by the tariff multiplied by the volume of imports. The losses associated with unilateral MFN trade liberalisation consist of

tariff revenue, equal to the tariff multiplied by the initial value of imports, and the decline in domestic production of the imported products, measured approximately by the decline in the volume of domestic production of the imported product multiplied by the tariff<sup>9</sup>. Standard theory shows that because importing is cheaper than producing at home, the gains to consumers are greater than the losses to domestic producers and the loss of tariff revenue. The gains from tariff reduction accrue even when the tariff is reduced unilaterally, without reciprocation by trading partners.

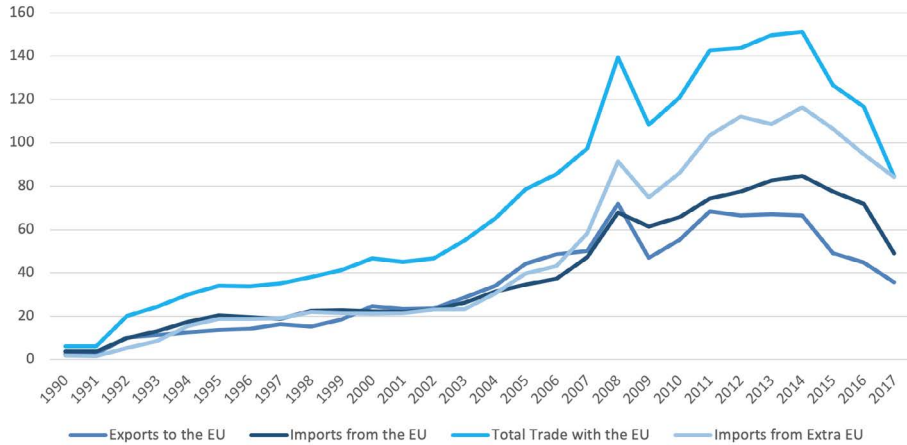
The gains and losses from a bilateral trade agreement can be calculated in the same way as the unilateral MFN elimination of tariffs with two important differences. First, there is the additional gain of increased exports in the partner's market (measured approximately as the increase in the volume of exports to the partner multiplied by the tariff applied by the partner that is eliminated as the agreement is implemented). Second, there is the cost of granting tariff preferences to the partner where the partner is not the most efficient producer of that product, known as trade diversion. This is measured approximately as the tariff multiplied by the reduction of imports from third parties.

Thus, the net gains from a bilateral trade agreement will be unambiguously positive if there is little or no apparent trade diversion, and the gains are likely to be greater the greater the amount of trade generated between the partners. Figure 3 shows that North Africa's trade with the EU grew rapidly in the wake of the agreements, and so did its imports from outside the EU, indicating significant trade creation and suggesting no trade diversion. Some North African countries, most notably Morocco, have reduced their MFN tariffs in recent years with a view to limiting trade diversion. Figure 2 also shows that, while North Africa's imports from the EU grew more rapidly than its exports to the EU, the former grew far less rapidly than imports from outside the EU. The effect of the Arab Spring is evident in the sharp deceleration and then decline of trade in recent years.

---

<sup>9</sup> For a precise exposition see, for example, Krugman (2008).

**Figure 3: Trade performance of North African countries: exports, imports and total trade with the EU and imports from the rest of the world (excluding the EU), 1990-2017 (\$ billions)**



Source: WITS, Comtrade. Note: total trade is calculated in accordance with SITC Revision 3 nomenclature.

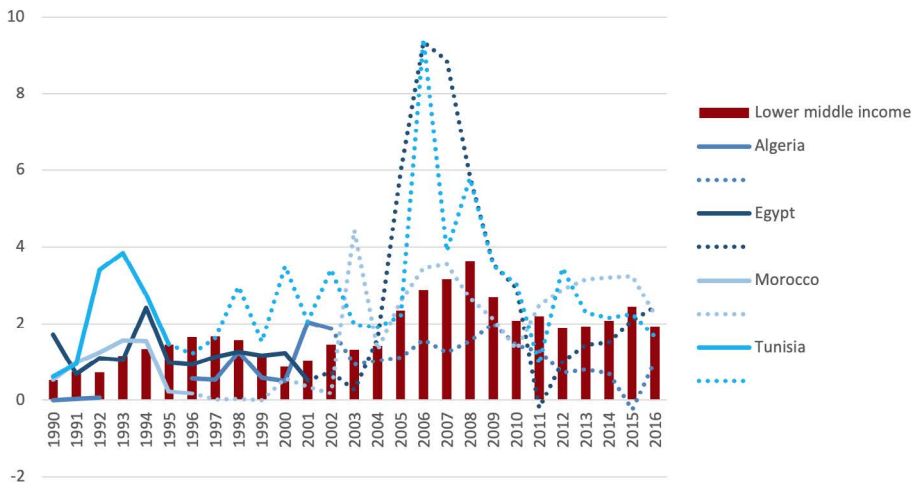
### 3. Caveats

The argument that what matters most in affecting welfare is trade creation rather than the trade balance – though well-grounded in economic theory – must come with some important caveats, which are especially relevant in the North African countries. The standard analysis implicitly assumes that resources (labour, capital, land) are fully employed and that, following trade liberalisation, factors of production move smoothly and quickly from the import-competing to the export or to the non-traded sector. However, if there are significant costs associated with the reallocation of resources, and especially if there are deterrents, such as acute political uncertainty, to investment in exporting sectors and to the upgrading of import-competing sectors, one can expect that the export supply response will be less, that the reduction in domestic import-competing sectors will be greater, and the costs of adjustment will be higher and that the adjustment will take longer. In that case, unemployment might increase and the net benefits from the trade agreement will be significantly reduced and could conceivably even be negative. Since North African economies are characterised by low employment/population ratios and high unemployment, especially among young people, this possibility lies

at the core of concerns of North African policymakers about the effects of their trade agreements with the EU. These concerns are fully understandable.

It is sometimes argued that widening bilateral trade deficits in North Africa relative to the EU simply reflect their higher return of capital as developing countries, and that such capital inflows are a beneficial effect of the trade agreements. There is evidence that, in the early years after the agreements came into effect, there was a surge of FDI into the region and that FDI flows into the region were higher than those into other lower middle income countries (Figure 3).

**Figure 4: Foreign direct investment, net inflows (% of GDP)**



Source: WDI. Note: dashed lines represent the FDI share of GDP after agreements between the EU and Algeria, Egypt, Morocco and Tunisia respectively have been signed.

However, as Figure 4 also shows, the flows of FDI were not sustained, with Morocco a partial exception. All North African countries tend to run sizable government deficits which contribute to current account deficits. Moreover, there is considerable evidence that the return of capital in North Africa is not high in comparison to the average of lower middle income countries. For example, Morocco’s investment/GDP ratio is 2.23 percent compared to 1.93 percent in the lower middle income group, but over the last ten years, its per-capita income grew at a rate about 1 percent slower than the lower middle income average. A similar calculation for Algeria suggests that the return of capital was even lower than in Morocco. A historical look at Tunisia and Egypt suggests that they used capital more effectively than Algeria and Morocco, but their domestic savings rates were



far lower and both countries exhibited high and difficult to sustain global current account deficits, which have led them to resort to the International Monetary Fund to finance their balance of payments.

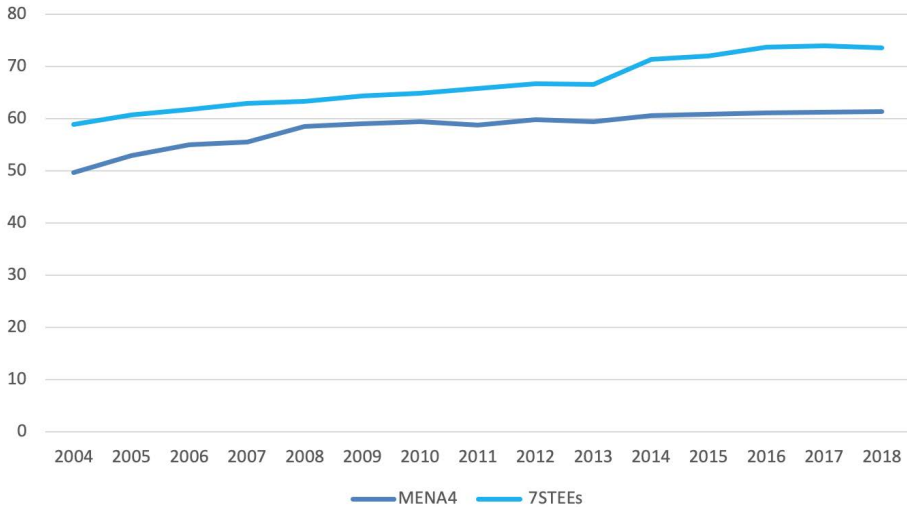
The risk that trade liberalisation might cause large adjustment costs, protracted unemployment and unsustainable current account deficits can provide valid grounds for pacing trade liberalisation, which of course also entails delaying the gains from increased trade. However, these obstacles do not negate the arguments in favour of the agreements. Instead, they show that the main issues that need to be addressed are the domestic causes of investor reticence, labour and product market rigidity, and weak competitiveness. As it happens, the EU-North Africa agreements did envisage immediate liberalisation by the EU but long implementation periods, over a decade or so, for the North African nations. However, their domestic reform processes have not yielded the hoped-for results.

#### **4. Unfavourable investment climate**

An extensive literature has shown that there is no automatic ('unconditional') convergence in income level between rich and poor countries, even when trade between them is liberalised – underscoring the importance of domestic conditions and reform (Sachs et al, 1995; Rodrik, 2011). In extreme cases, where a country is beset by profound political upheaval and investor uncertainty, as during extended periods during the Arab Spring or during the protracted civil war in Algeria, it is unlikely that investors in the export sector will take the risk, even if trade liberalisation causes the currency to devalue and provides easier access to imported parts and raw materials. Nor, in the event of trade liberalisation, are investors likely to take the risk of upgrading the import-competing sector to face the influx of competitive products from abroad.

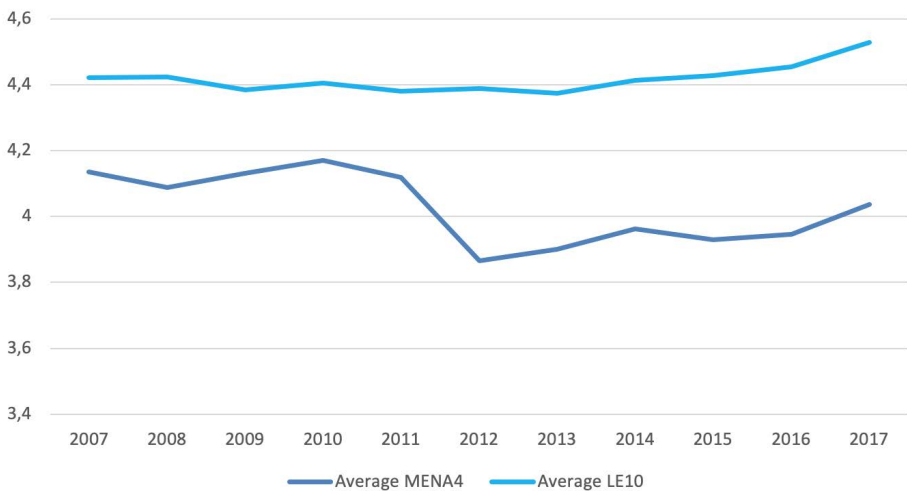
Various measures of progress in domestic reform, such as the World Bank's Doing Business and the World Economic Forum's Competitiveness Report, suggest that the North African countries lag behind not just the EU but also their developing country peer groups, including the eastern European former EU accession countries (and now EU members), which have provided nearby low-cost labour in competition with North Africa (Figures 5 and 6). Even when political conditions have been relatively stable, as in Morocco, uncertainties in other parts of the region have often had a contagious effect.

**Figure 5: Doing Business average distance-to-frontier (DTF) scores**



Source: Bruegel based on Doing Business, World Bank. Note: DTF is calculated as an average of DTF (starting a business), DTF (enforcing contracts) and DTF (resolving insolvency). MENA4 stands for Algeria, Egypt, Morocco and Tunisia. 7STEEs stands for the seven small transition eastern European economies. The term was introduced by the World Bank and refers to Bulgaria, Croatia, Estonia, Latvia, Lithuania, Slovakia and Slovenia.

**Figure 6: Global Competitiveness Index, 2007-17**



Source: Bruegel based on World Economic Forum, the Global Competitiveness Index (GCI) dataset 2007-17. Note: The GCI investigates 12 aspects of competitiveness: institutions, infrastructure, macroeconomic environment, health and primary education, higher education

and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication and innovation. The score ranges from 1 to 7 (best). LE10 includes the 10 countries that joined the EU in 2004: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.

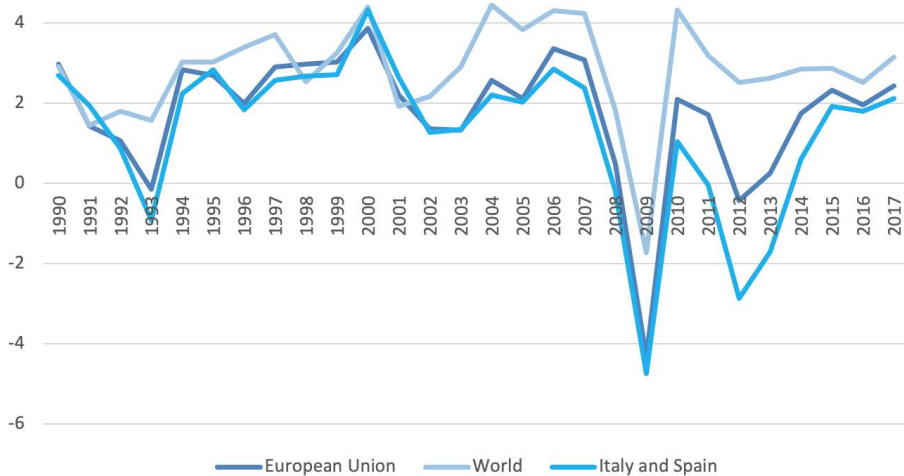
It should be noted that the North African country averages shown in Figures 5 and 6 mask significant differences between Algeria, which is ranked among the lowest-scoring countries in the world by both the World Bank's Doing Business report and the World Economic Forum's Competitiveness Report, and Tunisia, which is ranked near the median. Morocco, which is the highest ranked North African country by both organisations (rank 69-70), is ranked higher than comparable lower middle income countries. Egypt is also ranked very low (115-128) relative to its income level.

## **5. A difficult international environment**

In addition to domestic impediments, four developments external to the North African region and to the agreements have clearly dampened the region's export performance: low growth in the EU, the accession process, China's rise and the end of the Multifibre Arrangement.

First, following a period of recovery in the wake of the 1991-93 recession, EU growth has been on average near 2 percent since 2000, about half the average of the rest of the world. In addition, the EU suffered disproportionately and longer from the Global Financial Crisis. The subsequent euro crisis had a particularly pronounced effect on southern Europe, notably Italy and Spain which are, with France, the main trading partners for the North African countries. Even in the pre-crisis years, exports to the EU from the Arab countries with EU trade agreements (a broader group than North Africa) increased slightly less rapidly than their exports to the rest of the world. Those countries' total exports and total imports also grew less rapidly than the developing country average. Slower growth of trade with the EU than with the rest of the world is partly explained by the fact that EU aggregate imports from Arab countries grew less rapidly than EU imports from the rest of the world. For example, imports into the EU grew by 6.8 percent on average between 1997 and 2007, while the imports of developing economies grew at a nearly 9 percent annual rate.

**Figure 7: GDP growth (annual %), 1990-2017**

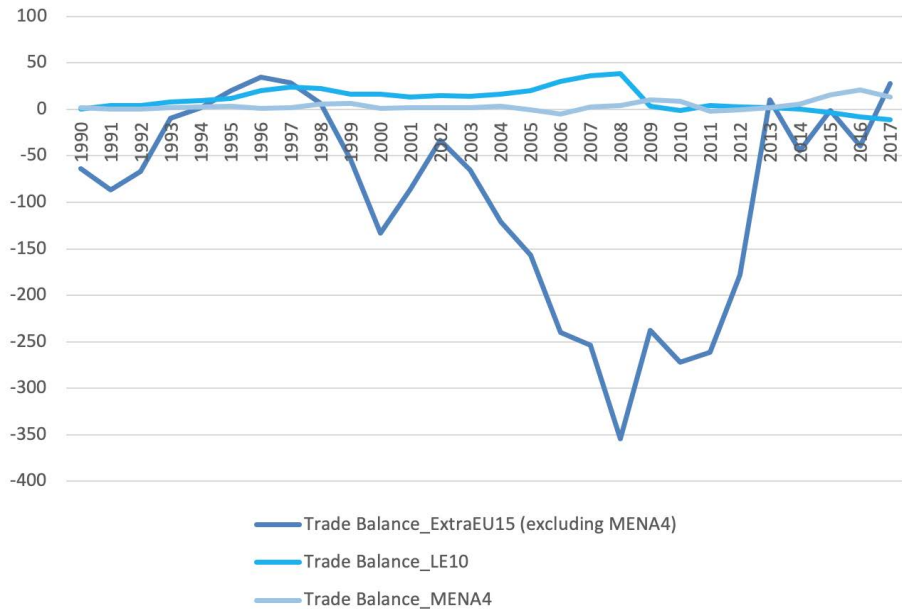


Source: Bruegel based on WDI. Note: aggregates are based on constant 2010 US dollars. For Italy and Spain combined GDP growth rate weights are taken for the year of 2005.

Second, shortly after the bilateral trade agreements between the EU and Algeria, Egypt, Morocco and Tunisia were signed in 2002, 2001, 1996 and 1995 respectively, the largest EU enlargement happened in 2004, introducing new low-cost competition within the EU’s borders .

Figure 8 shows that the EU15’s trade balance with the 10 central and eastern European countries of the 2004 EU enlargement increased following their accession. The trade balance of these economies with the EU turned into a small deficit as those countries have adjusted. Meanwhile, the EU’s trade balance with the rest of the world fell into a large deficit, which has returned to balance in the wake of the financial crisis, as domestic demand slowed, especially in southern Europe.

**Figure 8: EU15 bilateral trade balances with MENA4, the 10 countries of the 2004 EU enlargement and the rest, 1990-2017 (\$ billions)**

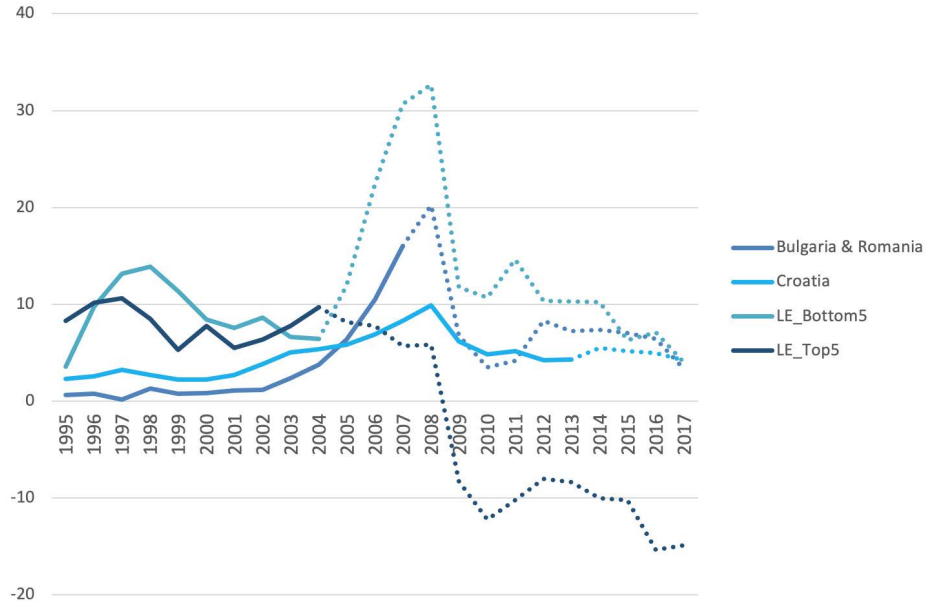


Source: Bruegel based on <https://wits.worldbank.org/>, Comtrade. Note: total trade is calculated in accordance with SITC Revision 3 nomenclature. EU15: pre-2004 EU members. LE10 = 2004 EU enlargement countries: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.

Figure 9 shows that all countries that have joined the EU since 2004 have seen a continuing trade deficit with the EU15, with the notable exception of the five countries with average PPP adjusted GDP per capita higher than \$23,000 (1995-2016) (Cyprus, the Czech Republic, Hungary, Malta and Slovenia), which had deficits at first, followed by surpluses<sup>10</sup>.

<sup>10</sup> This is in line with the analysis of Papazoglou et al (2006), who attempted to quantify the potential gains of the 2004 enlargement. Both EU and accession consumers and producers were beneficiaries, but import growth relative to the export growth was higher for countries that were initially less integrated with the EU.

**Figure 9: EU15 bilateral trade balance with the 10 countries of the 2004 enlargement, with Bulgaria and Romania (2007 enlargement) and Croatia (2013), 1995-2017 (\$ billions)**



Source: Bruegel based on WITS, Comtrade. Note: LE Bottom5: the five poorest 2004 enlargement countries (Estonia, Slovakia, Lithuania, Latvia and Poland) based on average PPP adjusted GDP per capita (1995-2016 or 1995-2004) reported by WDI. LE Top5: the five richest 2004 enlargement countries (Cyprus, Czech Republic, Malta, Hungary, Slovenia). Dashed lines represent post-accession trade balances.

Since the North African countries were poorer than the countries that have joined the EU since 2004 in the respective periods, it is perhaps not surprising that their trade balances followed a pattern similar to those of the poorest new EU members. Moreover, trade complementarity indices<sup>11</sup> suggest that Morocco, for example, competes with most of the newer EU members, although less so than China and some of the largest East Asian economies. The index is not a perfect measure of complementarity because it does not take into an account the potential consequences of the distance between the countries and other factors that might

11 Trade complementarity index for each individual year can be obtained using the following formula:, where x is the value of exports of product k from reporter country i, and X is country i's total exports. Partner country j's value of imports of product k is given by m, and its total imports value is denoted by M. A score of 100 points to the ideal trading partner. Computation performed at HS 2 digit level by WITS build in tool.

impact trade flows.

The largest eastern European EU countries – the Czech Republic, Poland and Hungary – and non-EU eastern European countries with no free trade agreement with the EU – Belarus, Moldova and Ukraine – all outpaced their Mediterranean partners in export growth between 1997 and 2007. The Czech Republic, Poland and Hungary’s average export growth was 18 percent, while for Belarus, Moldova and Ukraine it was 23 percent, versus 12.7 percent for the Arab countries with EU trade agreements. The same divergence held for imports from the EU. Arab countries’ imports from the EU grew by less than 10 percent between 1997 and 2007, while those of the three eastern European EU countries and the three non-EU countries grew by 14.6 percent and 20.1 percent respectively. This divergence occurred despite the fact that the Arab countries roughly matched the eastern European groups in aggregate growth, which should – all other things being equal – have made them equally attractive to the EU as trade partners.

Third, North African countries, along with the rest of the world, have experienced a large shift in world trade patterns and sharp declines in their export shares as a consequence of China’s emergence. From 1992 to 2017, China’s share of world trade increased from about 3 percent to about 13 percent. This has translated into substantial adjustment costs and has had distributional consequences, the effects of which are mostly visible in the industries/firms that are highly exposed to foreign competition.

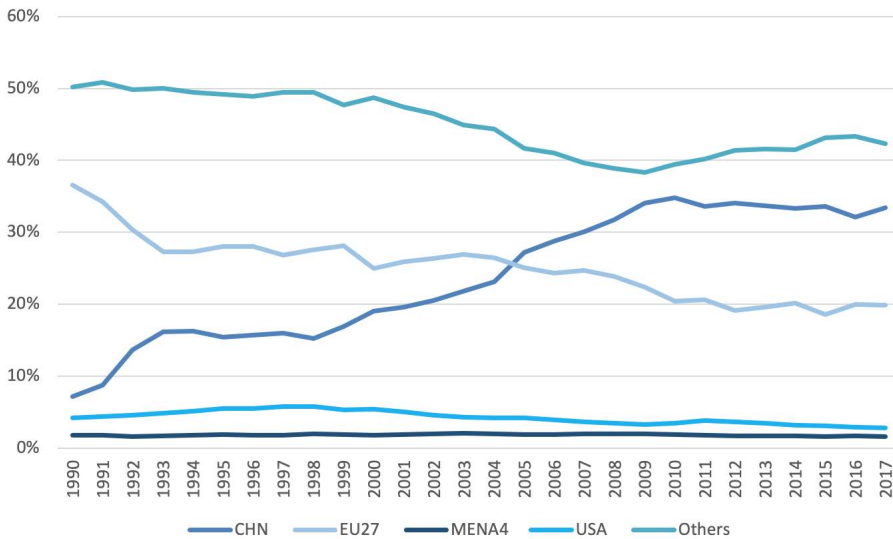
Fourth, a related external shock was the end of The Multifibre Arrangement (MFA) in 2004. The Arrangement had governed the international trade in textiles and clothing<sup>12</sup> since 1974, setting quotas for each country. Quotas were fairly broad, covering a wide range of products, and were specified not in terms of the values but in terms of the physical quantities (Harrigan and Barrows, 2009). Figure 10 shows that as quotas were removed progressively, China’s share of textile and clothing exports increased almost fivefold from about 7 percent in 1990 to 33 percent in 2017. China’s share increased massively during the final phase of quota reductions (Brambilla et al, 2010), but the largest increase in Chinese textile and clothing exports took place from 1991 to 1992. At the same time, the share of the four North African countries declined only slightly. Still, while North African textile and clothing exports were roughly equivalent to a quarter of Chinese exports in 1990,

---

12 Textiles and clothing includes textile fibres, yarn/fabric/articles, and apparel/clothing/accessories, which correspond to 26, 65 and 84 two digit categories of the SITC Revision 3 nomenclature respectively.

by 2017 North African textile and clothing exports were equivalent to only about 5 percent of Chinese textile and clothing exports. Meanwhile, textiles and clothing shares in the total manufacturing exports of the North African countries and China have been declining.

**Figure 10: Selected economies, textile and clothing exports, shares of total textile and clothing exports**



Source: Bruegel based on <https://wits.worldbank.org/> and Comtrade.

## 6. Slow diversification

Against the background of political uncertainty, weak competitiveness and a challenging international environment, the exports of North African countries remained overly concentrated on the EU. Within the countries' exports to the EU, there was relatively little product diversification.

North African exports include substantially fewer product types and are less diversified than were those of the 10 countries that joined the EU in 2004. For example, the Herfindahl index of concentration suggests that North African export diversification changed little even during the pre-crisis period, from 1997 to 2007.

Algeria has the most concentrated export structure. More than 95 percent of



Algerian exports to the EU were and are concentrated in petroleum and gas. Growth of exports of oil and gas from Algeria to the EU from 1990 to 2016 was on average slower than the growth of exports of oil and gas to the EU from the rest of the world. The period from 2008 to 2016 was marked by a negative growth rate of gas and petroleum imported by the EU and Algerian products were not an exception. These developments reflected trends in the global energy markets and were unrelated to the workings of the Algeria-EU trade agreement.

Similarly, Tunisian exports to the EU are characterised by modest diversification. The main export categories are machinery, clothing and petroleum. But while Tunisia has gained a market share in the EU imports of machinery, the growth of the share of clothing in Tunisian exports to the EU was negative over the whole period from 1990 to 2016. At the same time the share of Tunisian petroleum exports to the EU has remained relatively unchanged, while originally growing faster than the EU imports of petroleum products from the rest of the world.

Morocco's exports to the EU are also characterised by modest diversification. Morocco mainly exports transport equipment and machinery, fruits and vegetables to the EU. Morocco improved its market share in the EU in the 1990s. From 2008 to 2016 there were large advances in Morocco's exports of transport equipment. The average growth rate of transport equipment exports was almost 40 percent while the growth of total EU imports of transport equipment was slightly negative. There also has been a large increase in the share of electrical machinery exported from Morocco to the EU, with the share increasing almost fourfold.

Compared to Algeria, Tunisia and Morocco, Egypt's exports to the EU appear to be more diversified, though the growth of market share of EU imports has been limited or mostly negative for some product categories. Egypt is the only North African country in our analysis that managed to secure a higher degree of diversification. At the same time, Egypt increased its market share in petroleum goods, historically a major export sector for Egypt. In recent years, however, the most significant increase occurred in Egyptian exports of electrical machinery to the EU, with the growth rate reaching 80 percent.

## **7. Weaknesses of the present trade agreements**

Given the asymmetric nature of the trade liberalisation required by the agreements, it is surprising that the North African countries did not receive more as a *quid pro quo* for allowing the EU unrestricted access to their markets for

manufactured products. This could have come in four main areas: agriculture, liberal rules of origin, labour mobility and increased assistance and incentives to strengthen competitiveness in North Africa and meet technical and sanitary standards. In fact, while there was reciprocation in each of these areas, commitments made by the EU were less than what could have been expected. Since the original agreements were concluded, there has been further improvement in the agreements in some areas, especially in agriculture with Morocco and Egypt and on the rules of origin throughout the region. Financial assistance to Morocco and Tunisia increased after the Arab Spring but remains modest in relation to the size of those economies.

Ad valorem tariffs of five to 20 percent typically protect fruits and vegetables in the EU. An entry price system for those fruits and vegetables the EU deems particularly 'sensitive', such as oranges and lemons, provides an even higher degree of protection for those products. Though the North African Countries enjoy some preferential access in agriculture, all exporters to the EU have to contend with extensive subsidies provided to EU producers. While increasingly decoupled from production under recent reforms, there nevertheless help cover overhead costs for EU agriculture. According to the OECD, EU support for farmers accounted for 24 percent of gross farm receipts and around 50 percent of value added, on average, annually in the late 2010s. For North Africa, access to the EU is especially important for goods such as fruits, vegetables and vegetable oil. The North Africa agricultural sector supports a significant part of GDP and an even larger share of employment. For example, in 2016, agriculture accounted for about 11 percent of value-added in Egypt and 13 percent in Morocco. In addition, it accounted for 25 percent and 37 percent of employment respectively in these two countries<sup>13</sup>.

In both countries, the deepest poverty occurs in rural areas, implying that the restrictions on agricultural trade have much more severe social implications than their export or GDP shares might suggest. In addition, barriers to agricultural exports in their most important market reduce the ability of North African countries to promote agricultural processing industries, which could also help tackle underemployment in rural areas. Were the North African countries able to compete

---

13 On agriculture, processed agriculture and fisheries the EU has negotiated additions to the original free trade agreements with Morocco and Egypt. For these countries, the majority of their agricultural products enter the EU duty-free quota free, with only some products subject to special tariff treatment, mostly tariff rate quotas. The EU and Morocco signed an agreement on additional liberalisation of trade in agricultural and fisheries products, which came into force in 2012. Total trade in agricultural products between the EU and Morocco increased by 187 percent between 2003 and 2017, rising from €1.3 billion in 2003 to €3.7 billion in 2017.

with the EU on an even playing field, agriculture's share of domestic value-added would almost certainly be significantly larger and rural poverty correspondingly lower.

Restrictive rules of origin and limited cumulation can restrict North African countries' effective market access to the EU. Until quite recently diagonal cumulation existed across only some countries<sup>14</sup> and rules of origin (ROO) under the agreements with the EU differed across the North African countries. The ROOs for Egypt were not the same as those for Tunisia and Morocco, for example. Adherence to specific and complex ROOs placed a burden on exporters who might not be familiar with the specific rules and requirements. The Pan-European-Mediterranean (PEM) ROO system, introduced progressively since 2010, intended to remedy many of these problems by establishing identical ROOs and full cumulation across the region. However, integration of value chains across North Africa has been held back by individual country challenges, political instability and divisions which have resulted in closed borders, as between Algeria and Morocco.

UNCTAD (2004) suggested that the presence of restrictive ROOs might account for the failure to utilise preferences. For example, between 1996 and 2006, duties were paid on as much as 18 percent of Jordan's exports to the EU that should have been duty-free, possibly because of the high costs of obtaining certificates of origin (Ayadi et al, 2009). The ROO in the PEM convention are becoming outdated, no longer responding to value chain or customs facilitation realities for several products. Negotiations are ongoing to finalise the modernisation of the PEM ROO.

A major shortcoming of the current EU-North Africa trade agreements relates to the movement of workers. The EU-North Africa agreements essentially reaffirm both parties' very general obligations under the WTO General Agreement on Trade in Services, making no commitments on the number of skilled (or unskilled) workers allowed to work temporarily in the EU. The agreements with Morocco and Tunisia include commitments on non-discrimination with respect to working conditions and social security for their nationals legally working in the EU. Those with Algeria contain somewhat more liberal provisions, including limited movement of intra-corporate transferees or key personnel within one organisation<sup>15</sup>.

14 The agreement with Maghreb countries allowed limited cumulation. Diagonal cumulation refers to the use of inputs from other member countries towards the value-added target.

15 'Key personnel' are defined as persons working in a senior position within an organisation or "persons working within an organisation who possess uncommon knowledge essential to the establishment's service".

Increased market access, the improved division of labour and increased competition are only some of the ways in which trade agreements can enhance efficiency. The agreements can generate additional, large benefits insofar as they either directly enact or at least incentivise behind-the-border reforms that make the North African countries more competitive in international markets.

To be sure, North African countries should be enacting these reforms anyway, regardless of trade agreements. But trade agreements can nudge them along, or formally include appropriate binding commitments, as they did in the case of the former EU accession countries (Box 1). By improving the business environment in North African countries and harmonising standards with EU countries, such reforms can engender trade, especially in increasingly complex intermediate products in cross-border production networks (Behar and Freund, 2011). In rough order of importance, such reforms could include:

- Increased international access to and enhanced domestic competition in services – especially backbone services, such as transport, telecommunications, power generation and finance – and services that generate large value-added, such as wholesale and retail distribution;
- More open and predictable foreign investment regimes;
- Increased competition in government procurement;
- Judicial reforms that facilitate the creation, operation and closure of businesses; investments in trade facilitation and the logistics chain;
- Improved dispute settlement procedures and clearer property rights;
- Adoption of international standards, especially in sanitation, which would allow the export of agricultural products;
- Protection of intellectual property, which many believe can help encourage innovation and the import of advanced techniques through FDI.
- While the agreements between the EU and North African countries contain general expressions of intent in each of these areas, they cannot reach their full potential without new binding commitments or stronger incentives to reform.

**Box 1:**  
**A comparison of the EU agreements with Morocco and with the Czech Republic**

A comparison of the Czech Republic's association agreement with the EU, which was signed in 1993 and paved the way for the Czech Republic's EU accession treaty in 2003, to the EU-Morocco association agreement, concluded in 2000, reveals significant differences. The Czech Republic agreement went further in a number of important areas, from agricultural market access to rules of origin to investment. Of course, initial conditions in the two countries were vastly different and Morocco is not on an accession path, whereas the Czech Republic was. The comparison is nevertheless instructive because it shows what is possible in fashioning deep agreements.

In terms of agriculture, Morocco's agreement initially covered only a subset of Morocco's potential products and even those were restricted by long lists of qualifications and exemptions. Since the 2000 agreement, new deals have been struck which have lifted many of these restrictions and only a few tariff rate quotas and specific conditions now apply. Some of the remaining tariff quotas remain unfilled, tomatoes being an exception in 2017.

Similarly, though the rules of origin in both agreements allowed for diagonal cumulation, those in the Moroccan agreement are more onerous and complex and touch on more products than those in the Czech agreement. In addition, Czech workers were granted more access to the then European Community than Moroccans, including temporary movement (a form of services reform) and explicit spousal rights. In contrast, the Moroccan agreement has a clause on reducing migratory pressures on the EU.

Another significant difference is in investment. Both agreements included the intent to improve the business environment, but only the Czech Republic agreement required that the rights to establish a business be brought into line with European Community standards. Furthermore, the Czech Republic committed to legal harmonisation with

the EU in customs, banking, competition and other laws, while Morocco does not. The Czech accession protocol illustrated just how much further regional integration can go and helps explain why the Czech Republic, which less than a generation ago was a planned economy, has today trade and investment links within the EU which go so much deeper than Morocco's.

The accession agreement provided for: incorporation into the EU's Common Agricultural Policy, giving Czech producers subsidies comparable to farmers in existing members and making agricultural exports to the EU free but conditioning production by a system of quotas or by various reference prices; allocation of structural funds amounting to €26.7 billion (18 percent of the Czech Republic's 2010 GDP) over 2007-13; adoption of the EU rule book (*acquis communautaire*) in behind-the-border reforms and more, including the adoption of community-wide standards; adoption of the much lower EU common external tariff; formally unrestricted access to service producers, though access remains constrained by a host of domestic regulations; freedom of investment and general movement of capital; and, last but not least, the free movement of people.

By joining the EU, the Czech Republic also gained representation in the governance structure of the EU, and thus has a voice in decisions affecting all members. An important question, tackled in section 3, is whether, short of full EU membership, trade agreements with Morocco and the other North African countries could be broadened and deepened to reflect many of the features of accession agreements.

For example, the EU-Morocco association agreement on intellectual property rights (IPR) includes only weak provisions on enforcement; it is based on WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and does not reflect the higher standards set by recent investment protection agreements. Many of the association agreements also have very limited provisions relating to public procurement. The EU-Morocco agreement, for example, states only that the parties shall set as their objective a reciprocal and gradual liberalisation of public procurement contracts. Though the association agreements require that North African countries' laws approximate EU standards in areas such as technical

rules and standards and services, no binding requirement exists. Meanwhile, business surveys reveal that international investors view the inadequacy of North African countries' judicial systems and the weakness of their investment codes as a major obstacle.

Given the highly cartelised nature of important sectors in North Africa, competition policy is especially important. But, as in other areas, while some of the EU-North Africa association agreements commit partners to introduce competition legislation similar to that of the EU, others contain only a very general statement of intent. Under the agreements with Morocco, for example, the country commits to 'import' EU legislation where it could touch upon trade with the EU (Szepesi, 2004).

Intended in part to remedy these weaknesses, the EU is currently negotiating Deep and Comprehensive Free Trade Agreements with Morocco and Tunisia, on which progress has been slow for political and technical reasons.

### **III. Conclusion**

This brief review of the EU-North Africa trade agreements points to some fairly evident policy conclusions.

The single most important factor determining the region's growth and stability is what the North African countries do themselves. Their domestic reforms will ultimately determine regional success or failure. Though changes in market access and trade rules are essential, the necessary domestic reforms range much wider. To incentivise these reforms, and to gain increased and more predictable access to Arab markets, foster the region's security and therefore its own, reduce the likelihood of large disruptions in oil markets, and avoid periodic waves of refugees clamouring for help, the EU must offer concrete things. The assumption must be that, if reforms succeed, diversification will follow and trade structures will become more complementary. In turn, these will promote regional integration.

The ideal is to aim for complete free trade between the North African countries and the EU, combined with low tariffs on goods from the rest of the world. One possible exception will relate to imports of certain agricultural products which enjoy large subsidies in the EU and which the North African countries will be allowed to protect with countervailing duties or subsidies, to be renegotiated over time as the

EU's agricultural subsidy regime evolves. Even though most agricultural support in the EU is decoupled from production, it is nevertheless distortive to some degree because it encourages farming that might not occur otherwise.

This also implies that the North African countries should aim to converge towards the EU's low external tariff, thus substantially lowering their average MFN tariffs on goods from the rest of the world. Such a process will also provide an incentive to other large trading partners to support the transition in various ways, and would also reduce trade diversion. It is possible that this process of internal and external liberalisation could result in a de-facto or de-jure customs union between the EU and the North African countries, similar to that between Turkey and the EU, and removing the need for origin certification, even if such a scenario appears far-fetched at present.

Further liberalisation of the North African countries' foreign investment regimes should also be part of deeper agreements. This should be done to a degree comparable to that of the EU, allowing all comers to enter the services market and other markets, with a limited negative list. Clearly, barriers to entry into service sectors deter inward FDI in those sectors.

The North African countries should also commit to undertake far-reaching behind-the-border reforms. A possible guide to these reforms is the EU rule book (the *acquis*). The reforms required could draw on the experience of the accession countries that subsequently became EU members, allowing for longer implementation periods and with wide scope for modification to reflect the less advanced capacity and lower incomes in North African countries.

In addition to unfettered access to its markets the EU should in return, establish a generous quota for the temporary movement of skilled workers (known as Mode 4 provision of services in the WTO); and also establish a generous quota for several categories of unskilled workers ('service providers') based on need.

While the EU's size, geographic proximity and historical and economic ties to North Africa gives it a unique role in the region, the United States also has a security interest in the success of the region, as do the Gulf countries, which have a stake in the stability of their Arab neighbours. The EU should aim to coordinate efforts to accelerate the development of North African countries. Thus, the EU should establish, together with the US and the Gulf countries, a mixed loan and grant regional Fund for Trade Facilitation and Competitiveness, which would be operated



by the World Bank in conjunction with other international institutions and major trading partners. The Fund would cover technical assistance and infrastructure investments, and its scale and operation would take as an example the Structural Funds allocated by the EU to accession countries. These funds amounted to €178 billion, about 19 percent of the aggregate 2010 GDP of the countries that joined the EU in 2004. The Fund would provide grants and loans and would work to leverage them with private sector investments, including via International Finance Corporation and the European Bank for Reconstruction and Development vehicles.

The Fund would pay special attention to investment in backbone services critical to trade such as transport, telecommunications and finance, which are also critical to economy-wide productivity. It would seek to promote a programme of domestic reforms in collaboration with the African Development Bank, the World Bank and the International Monetary Fund, designed to reduce behind-the-border barriers to trade and to increase competition in domestic markets – including by increasing the transparency and contestability of government procurement. These reforms would pay special attention to improving the working of customs and standard-setting bodies. The Fund's assistance would be conditional on prudent macroeconomic management, the operation of democracy and respect for human rights.

## References

Al-Atrash, H. and T. Yousef (2000) 'Intra-Arab trade: is it too little?' Working Paper No. 00/10, International Monetary Fund

Ayadi, R., M. Gasiorek, L. De Wulf, A.F. Ghoneim, E.E. Moez, J. Lopez Gonzalez, S.S. Guerin, P.M. Holmes, H. Kassal, M. Maliszewska and M. Tekce (2009) 'Economic Integration in the Euro-Mediterranean Region', CASE Network Reports No. 89, Center for Social and Economic Research

Baier, S.L. and J.H. Bergstrand (2007) 'Do free trade agreements actually increase members' international trade?' *Journal of international Economics* 71(1): 72-95

Behar, A. and C. Freund (2011) *Factory Europe? Brainier but not brawnier*, World Bank

Brambilla, I., A.K. Khandelwal and P.K. Schott (2010) 'China's experience under the multi-fiber arrangement (MFA) and the agreement on textiles and clothing (ATC)', in R.C. Feenstra and S.J. Wei (eds) *China's Growing Role in World Trade*, University of Chicago Press

Cestepe, H., E. Yildirim and B. Bahtiyar (2015) 'The Impact of Trade Liberalization on the Export of MENA Countries to OECD Trade Partners', *Procedia Economics and Finance* 23: 1440-1445

Ferragina, A., G. Giovannetti and F. Pastore (2005) 'A Tale of Parallel Integration Processes: A Gravity Analysis of EU Trade with Mediterranean and Central and Eastern European Countries', IZA Discussion Papers No. 1829, IZA

Freund, C. and A. Portugal-Perez (2013) 'Assessing MENA's trade agreements', in M. Gasiorek (ed) *The Arab Spring: Implications for Economic Integration*, Vox eBook

Harrigan, J., & Barrows, G. (2009) 'Testing the theory of trade policy: Evidence from the Abrupt End of the Multifiber Arrangement', *The Review of Economics and Statistics* 91(2): 282-294

Helpman, E., M. Melitz and Y. Rubinstein (2008) 'Estimating trade flows: Trading partners and trading volumes', *The Quarterly Journal of Economics* 123(2): 441-487

Krugman, P.R. (2008) *International economics: Theory and policy*, 8/E, Pearson Education India

Miniesy, R.S. (2004) 'The gravity model at work: An empirical study on the effects of governance on bilateral trade flows with special emphasis on intra-Arab trade', mimeo

Papazoglou, C., E.J. Pentecost and H. Marques (2006) 'A gravity model forecast of the potential trade effects of EU enlargement: Lessons from 2004 and path-dependency in integration', *The World Economy* 29(8): 1077-1089

Parra, M.D., I. Martínez-Zarzoso and C. Suárez-Burguet (2016) 'The impact of FTAs on MENA trade in agricultural and manufacturing products', *Applied Economics* 48(25): 2341-2353

Rodrick, D. (2011) 'Unconditional Convergence', NBER Working Paper 17546, National Bureau of Economic Research

Sachs, J.D., A. Warner, A. Åslund and S. Fischer (1995) 'Economic reform and the process of global integration', *Brookings Papers on Economic Activity* 1995(1): 1-118

Szepesi, S. (2004) 'Comparing EU free trade agreements: competition policy and state aid', InBrief 6E, European Centre for Development Policy Management

UNCTAD (2004) *Trade Preferences for LDCs: An early Assessment of Benefits and possible Improvements*, United Nations Conference on Trade and Development

Westerlund, J. and F. Wilhelmsson (2011) 'Estimating the gravity model without gravity using panel data', *Applied Economics* 43(6): 641-649



---

## Chapter 2

# Structural Transformation of the Moroccan Economy and Global Value Chains: New Insights

Abdelaaziz Ait Ali & Yassine Msadfa

### I. Framework of the Study

The structural transformation of an economy remains a necessary gateway for any nation wishing to move up along the development path. The pace of the transformation of an economy depends on its ability to move from an agrarian subsistence society, in its initial stage, to a more productive economy.

In the case of Morocco, the debate has gained momentum regarding the ability of current dynamics to accelerate the pace of economic activity to the point of deploying the working population in a situation of “underemployment” to sectors with more decent productivity levels and promising better standard of living. This comes against a context where the industrial sector no longer seems to be in a suitable position to act as a bridge between a predominantly agricultural economy and a predominantly tertiary one. This is to say that the Moroccan economy is becoming “tertiary” in a premature way, in favor of a reallocation of the agricultural labor force but, sometimes, at the expense of the manufacturing sector, which is shrinking relative to the current stage of development. Therefore, industrial policies have emerged, aimed principally at the development of an industrial fabric anchored in large multinational companies established in Morocco, which is supposed to forge links with smaller domestic productive structures

This work is situated at the crossroad of these perspectives: it constitutes a participation in the debate on the growth model in Morocco, approached from the perspective of structural transformation in the Kingdom and its degree of integration

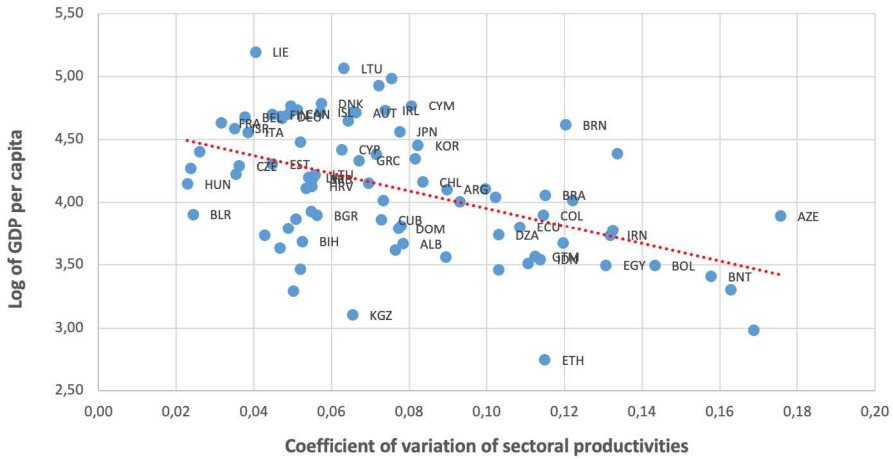
in the GVCs, with a theoretical and quantitative basis. We use the approach developed by McMillan and Rodrik (2011) to propose a broad interpretation of the structural dynamics observed in the Moroccan economy while exploiting the OECD and WTO TIVA database on integration into global value chains.

## II. Theoretical Background

### 1. Structural transformation: A necessary condition for growth and economic development

Solow (1956) developed the first formulations of neoclassical growth theories. According to him, the accumulation of the capital factor and the improvement of human capital were the main triggers of growth and convergence process. However, these observations ignore the coexistence in the domestic economies of two heterogeneous economic sectors. The first is a traditional one, with low levels of productivity and which provides its subsistence employees. The second is a modern one, which embodies the characteristics presented by the neoclassical model, hence the emergence of dual economy models that refocuses the economy debate on the primordial nature of the dynamics between traditional and modern sectors for an understanding of growth challenges for developing countries (Rodrik (2013)).

These models suggest that growth remains dependent on the progress made by each sector, but also on the ability of the modern sector to absorb more of the labor force released by the traditional sector. This supposes, indeed, two elements. The possibility, on one hand, of the traditional sector to upgrade its production systems and converge thereby to the modern sector and the need, on the other hand, of the modern sector to grow to offer employment opportunities to the labor force that emanates from the traditional sector. This last effect is commonly called structural transformation. The chart below illustrates the possibility of coexistence in a quasi-dual economy in generally low- and middle-income countries, where productivity levels are relatively disparate across sectors. This heterogeneity of production systems in general is also a potential source of growth for these economies. In fact, the countries where production systems are quite heterogeneous from one sector to another are generally the least developed, whereas with inter-sectoral technological dissemination, the labor factor pulled by the most modern sectors, converge productivities and, ultimately, the standard of living. Hence, the role of the reallocation of the labor factor in the process of developing countries.

**Figure 11: Inter-sector productivity gap and level of development**

The role that structural transformation can play in a nation's economic building process is often the subject of consensus among different streams of economic thought (Kuznets, (1966) and Kruger (2008)). Retrospective studies of growth in both developed and emerging countries lead to universal and near-similar conclusions, which is that any sustained growth over a prolonged period is associated with a metamorphosis of the economic structure of a country, which manifests itself through the strengthening of the role of tertiary and secondary activities to the detriment of primary activities. Then the secondary activities themselves contract in relative terms for the tertiary sector to become at a stage of advanced development, the main provider of jobs and creator of wealth. The first theoretical foundations, which have described this process, date back to economists Clark (1940) and Fischer (1939). Kuznets (1966), in one of his most important contributions, states that “rapid changes in production structure are inevitable – given the differential impact of technological innovations on the several production sectors, the differing income elasticity of domestic demand for various consumer goods...”. Kuznets highlighted the economic forces behind this structural transformation. Theoretically, this reallocation process is the result of a combination of two factors; the first is related to the sphere of supply (Baumol (1967), Ngai and Pissarides (2007)), namely the degree of technological absorption by sector which results in a change in relative prices, and the second is dictated by demand, specifically income elasticity (Kongsamut et al, 2001).

Thus, with the more intense use of the capital factor and the emergence of new technologies, the agricultural sector is the first to benefit from it, which makes it

possible to increase productivity in this sector and to free up an important labor supply for the industrial sector (pushing strategy). Once a level of development is reached, the same logic used is similar to the secondary sector and the economic center of gravity passes from the units producing industrial goods to the units producing services. Concerning the second factor, the elasticity of demand favors the decline of the primary sector and, subsequently, the secondary sector in favor of the tertiary sector (pulling strategy). With the development of the standard of living, the share of income allocated to food goods is shrinking. Manufacturing products have higher income elasticity than primary products, but with rising incomes, consumption is becoming increasingly service-oriented. More recently, Rodrick's "Structural Change, Fundamentals and Growth: An Overview" (2013) has focused on the process of structural transformation as a necessary condition for the economic development of any nation. According to him, the emergence of new high-productivity sectors has marked the convergence process of several economies, including those in Southeast Asia. Manufacturing activities are the cornerstone of the Asian miracle. Even in the presence of a low-skilled labor force, countries can rely on the industrial sector to begin their process of convergence and offer employment opportunities that are more attractive than the agricultural sector with productivity levels that are higher. The argument put forward, in this sense, is that the level of knowledge required in some manufacturing activities is not as high compared to the skills deployed in the primary sector. Thus, the reallocation of the labor factor between the two sectors would be fluid and the process of increasing the overall productivity of the economy should be triggered.

## **2. Can structural transformation be considered as a universal and standard phenomenon?**

At first glance, the reallocation of the labor factor is presumed to be fluid by the combination of supply and demand factors that make the process of structural transformation materialize through the tertiarization of the economy in question and the increase in productivity in each sector. In reality, structural transformation in the desired direction is the exception rather than the rule. Otherwise, when it is shared, this process is far from being standard to all developing economies and seems to be very specific depending on the characteristics of each economy, with a very different structural transformation pace. Even at the level of South-East Asia economies, performance remains divergent and economies, such as those of India and Thailand, and have not managed to replicate the same path as their predecessors, namely: Taiwan, South Korea and Malaysia (ADB (2015)), with an agricultural sector that continues to employ a large part of the employed population. Some economies



in Latin America or Africa, starting from a similar starting point to that of the Southeast Asian economies, have failed to achieve structural transformation as much as their Asian counterparts. They continue to operate at a lower equilibrium point, with an African population that remains dependent on the agricultural sector for subsistence with very low levels of productivity. Even worse, some countries in sub-Saharan Africa seem to have taken the opposite path. The strong growth over the last decade in the African continent has overshadowed a worrying finding for the future of the African economic model. Under internal and external economic pressures, labor force in many African countries migrated from higher productivity activities to lower productivity activities, sometimes even to the agrarian sector. The number of employees in the agricultural sector has not only increased in relative terms, but also in absolute terms (Zambian case) (Rodrik and McMillan (2011)). UNECA (2015) and Vries & Timmer (2013) state that the flow of resources has been absorbed from the agricultural sector to the tertiary sector in the majority of sub-Saharan African countries, but to activities whose productivity level does not improve, especially informal activities. These studies confirm that structural transformation has significantly constrained growth in these countries. Parallel to the divergence of structural transformation trajectories, the manufacturing sector does not seem to claim the same role as a catalyst for growth and as a kind of bridge between the primary and tertiary sectors. While in the early stages of the transformation, the industrial sector was able to absorb the workforce employed in the agricultural sector, the recent experience of low-income countries undermines this standard economic fact and indicates that the labor factor is channeled in certain situations from the primary sector directly to the tertiary sector, at an early stage of development (Africa is the most illustrative example). The diagnosis of the African economy growth model presents this premature deindustrialization, given the low level of per capita income, as the main growth challenge for policymakers in the continent. Overcoming this impasse is likely to trigger the transition of African economies to a higher growth stage (AfDB (2015), UNECA (2014)).

The sustainability of growth in Africa could not be supported solely by the natural resources sector, but by capitalizing on the comparative advantage of the continent in this area, which must take the form of a greater valuation of these natural endowments at the local level. The development of a manufacturing sector is the main challenge to ensure greater local value-added content and to attract the rural labor force to more productive activities. The question that arises in this context is related to the factors that hinder the birth of a manufacturing sector in Africa, at least the one with low technological content but labor intensive sector, in the presence of a comparative advantage in natural resources and abundant labor.

The business climate is often the most scathing point for researchers, who argue that the regulatory, logistical and policy dimensions are behind this premature deindustrialization of the developing countries' economies (FERDI (2015)). It is widely accepted that these parameters constrain the initiation and the realization of investment projects, but it is also clear that the Southeast Asian countries were not better endowed than their African counterparts. So, the question of deindustrialization, although complicated to define, goes beyond the boundaries set by these standard factors and finds part of its explanation in other elements.

Certain economists have advanced new arguments related to this phenomenon and blame precisely trade openness and globalization. As explained previously, in developed countries the question of deindustrialization is often associated with technological development and its degree of absorption by each sector (Baumel (1967), Ngai and Pissarides, (2007)), which results in a decrease in relative prices in favor of manufacturing products. With less than unity elasticity of substitution, demand for manufactures does not increase proportionally with relative price declines, thus inducing a shift in economic structure that takes the form of deindustrialization. Rodrick (2015) points out that the logic of technological progress is not adequate to explain the situation of developing countries. The trade openness of these countries is the origin of the decline in the share of the manufacturing sector, whether in terms of employment or value added. The exchange rate policy is also suspected of having slowed down the development of the manufacturing sector. Faced with the opening of trade borders and fierce competitiveness of the world market, exchange rate policies can cushion external shocks to the domestic productive fabric, indirectly subsidize the manufacturing sector, and protect domestic firms against foreign competition by underestimates of domestic currencies (Balassa (1982)). Rodrik (2009) even surmises that the exchange rate undervaluation can mitigate market failures and promote growth. Rodrick and McMillan (2011) have shown, on a sub-sample of developing countries, that economies that have adopted an active exchange rate policy appear to have a successful structural transformation.

It is for these reasons that Africa does not seem to be engaged in the process of industrialization and its growth model risks being out of breath, in particular, with the fall in commodity prices. However, there is no guarantee that the role played by industrialization in past decades is still valid in a changing economic context. Structural transformation by the classical route (industrialization) is surrounded by many uncertainties as to its ability to replicate today. The international trend is towards a manufacturing sector with a higher capital intensity, and employment

content is low and more focused on skilled labor (Rodrick (2013)). As a result, its virtue in terms of its ability to absorb unskilled labor from the agricultural sector is likely to be in question. Microeconomic analyses of the sector in middle-income countries revealed the importance of efficiency and technology (approximated by the evolution of Total Factor Productivity (TFP)) in the growth of sector provides value added at the expense of the accumulation of factors of production, precisely human labor. Ilyas et al (2010) demonstrated, for the Pakistani case, that the largest contributor to the growth of the domestic manufacturing sector is TFP, based on aggregate data from 1965 to 2007. The Chinese case is also illustrative of this paradigm shift. Curtis (2016) also affirms the importance of TFP in consolidating growth in the local manufacturing sector. It turns out that this sector can do well without the contribution of the labor factor and maintain a steady pace of growth. Works that address these questions for the Moroccan case show an increasingly dominant role of the capital factor in maintaining a positive growth rate in the industrial sector (HCP (2016)).

This mutant environment—whose implications we have seen, which allow us to rethink a structural transformation—is, however, an opportunity for low-income economies that want to engage in the transformation process. Indeed, the production systems were never as fragmented as they are today. The drop in transportation costs, the revolution in communication technology and the decline in trade barriers have begun a trend towards the geographical reallocation of activities according to the comparative advantages of each economy. The exchange of finished goods, the historic engine of international trade, has given way to that of intermediate goods that are now the most traded in the world.

### **III. Structural Transformation: Lacking Role of Manufacturing**

The contribution of the manufacturing sector to wealth creation in Morocco has declined over the years and has been accompanied by a decline in its share of employment, reaching 10.4% of total employment in 2015, down from about 12.2% in 1999. Therefore, the results of the labor productivity decomposition suggest that this sector has not contributed to productivity growth in its cross-sectoral component. By sub-sector, it appears that these are activities with a relatively low level of productivity, mainly the textile and leather industry, whose relative or even absolute employment has declined. This trend has intensified, especially since 2009, with an average rate of -2.8% per year compared to a near stagnation in the

previous period.

Compared to intra-sector productivity trends, despite the relatively low level, performance remains disappointing and below average, with improvements observed, especially for “other manufacturing industries” and “mechanical, metallurgical and electrical industries”. Productivity performance is indeed linked to the dynamic between value added growth and its employment content. Sectors with employment elasticity above unity experience a decline in apparent labor productivity, while sectors with a less proportional employment content show an improvement in productivity. For the manufacturing sector, it is clear that productivity growth is driven by factors other than employment, namely capital factor and/or total factor productivity. The elasticity of employment in relation to the evolution of value added is negative, meaning that value added growth destroys jobs. On the other hand, this measure, calculated on the manufacturing sector as a whole, masks significant differences between the sub-sectors.

**Table 4: Contribution of the reallocation of labor to the evolution of productivity in the Moroccan economy <sup>16</sup> : (2000-2015)**

Sectors	Within effect	Between effect	Productivity / total productivity (2015) in %	Elasticity of employment in % <sup>17</sup>
Agriculture	1.0	-0.2	40	-4
Fishing	0.0	0.0	165	3
<b>Primary</b>	<b>1</b>	<b>-0.2</b>	<b>42</b>	<b>-5</b>
Food and tobacco industries	0.0	0.1	286	87
Textile and leather industries	0.0	-0.1	39	106
Chemical and Para-Chemical industries	0.0	0.0	715	60
Mechanical, metallurgical and electrical industries	0.1	0.1	179	48
Other manufacturing industries	0.2	-0.1	172	-17
<b>Manufacturing</b>	<b>0.3</b>	<b>0.0</b>	<b>152</b>	<b>-1</b>
Petroleum refining and other energy products	-0.1	0.0	409	-1

<sup>16</sup> Employment data with this level of disaggregation are available until 2015.

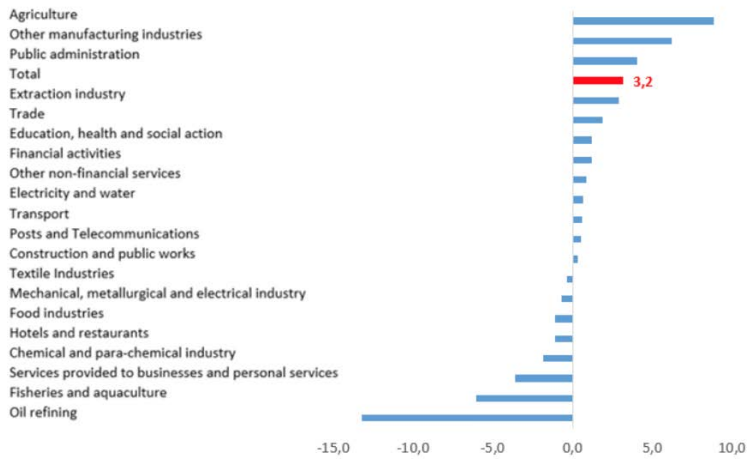
<sup>17</sup> This measure indicates the degree of sensitivity of employment to changes in value added.  $\text{Ln}(\text{employment}) = \epsilon \cdot \text{Ln}(\text{value added})$ .

Electricity and water	0.1	-0.1	825	12
Construction and public works	0.0	0.2	61	111
Extraction industry	0.1	0.0	335	15
<b>Other industrial sectors</b>	<b>0.1</b>	<b>0.1</b>	<b>95</b>	<b>98</b>
Trade, retails and wholesales	0.1	0.1	57	57
Hotels and restaurants	0.0	0.1	77	124
Transportation	0.0	0.1	100	77
Posts and telecommunications	0.1	0.2	1109	50
Financial activities and insurance	0.1	0.1	996	62
Business and personal services	-0.3	0.7	539	191
General public administration and social security	0.4	-0.1	204	11
Education, health and social work	0.2	0.0	208	51
Other non-financial services	0.0	0.0	25	73
<b>Tertiary</b>	<b>0.6</b>	<b>1.2</b>	<b>144</b>	<b>50</b>
Total	2.2	1.0	-	24

Source: Authors' calculations, data from the "Haut Commissariat au Plan"

If we decide to subdivide our study period into two sub-periods, quite interesting findings appear in relation to the evolution of productivity. Manufacturing activities recorded productivity growth of only 2%, compared to an average of 3.2% for the whole economy. With the exception of "other manufacturing activities", which grew at an annual average rate of 6.2%, the rest of the activities saw a decline in their productivity, starting with chemical and para-chemical activities, which grew at a rate of 1.8%. Textile activities saw their productivity decline by 0.3% annually. Far from manufacturing activities, the highest performances were recorded by the agricultural sector with an annual average growth rate of 9%. Compared to the agricultural sector, the share of employment has fallen considerably, with significant productivity gains thanks to the intensity of use of the capital factor and/or an optimization of production systems. However, the primary sector, especially in its agricultural component, remains the weakest link in the Moroccan economy, with productivity levels below the overall average of 60%. It is sufficient to note that it accounts now for nearly 40% of the working population, to understand the challenges it faces in the coming years.

**Figure 12: Average change in labour productivity 1999-2009, in%**



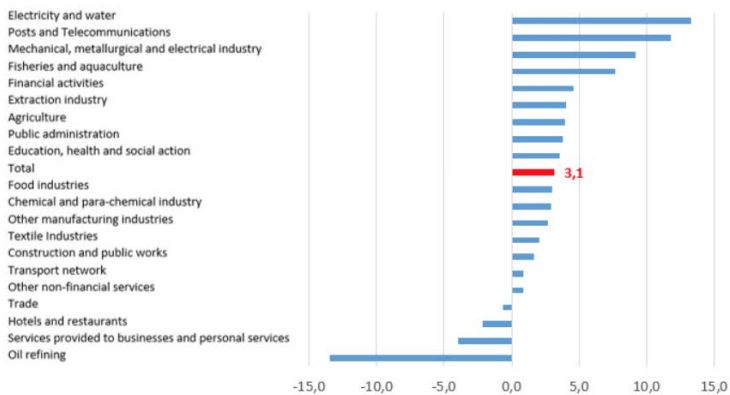
Source: Authors' calculations, data from the "Haut Commissariat au Plan"

In reverse, the tertiary sector displays an interesting dynamic in terms of its ability to generate employment and improve productivity. The telecommunications, financial activities, services to businesses and personal services sectors contributed most to the increase in the cross-sectoral component of productivity, although employment growth in these sectors is not as high. The effect was amplified by the level of productivity of these sectors, which is 6 to 16 times that of the Moroccan economy. In terms of productivity, one employee in the telecommunications sector is equivalent to 16 employees in the Moroccan economy. With the exception of "services to businesses and personal services", these sectors have achieved some of the best performances in terms of cross-sectoral productivity trends. This shows that, beyond many historical facts that have shown that the process of structural transformation takes place through the shift from agriculture to industry and, in a second stage, to services (economic take-off from Asia), in some situations, notably in the case of Morocco (and many developing countries), the employment structure is altered in favor of services directly. Nevertheless, if we follow a mathematical logic, the economic gain in terms of wealth creation would be optimal if employees move to sectors with higher productivity levels, in this case the modern tertiary sector.

Thus, the structural transformation, understood by the term "between effect", has been associated with movements in the labor factor within two blocks. The first, traditional, which operates at lower levels of productivity and whose standards

in terms of labor qualification are not high; and a second, modern, generally assimilated to certain activities in the tertiary sector where productivity levels are high and the labor force is highly skilled. The dynamics of input and output flows between sectors are generally recorded within each block itself. The skilled labor factor is generally channeled towards sectors with higher productivity, while the low-skilled factor is absorbed by sectors with lower productivity and whose alternatives are circumscribed by human capital requirements. For the national case, the positive contribution of the term “structural transformation” reflects, at first sight, a movement of the labor factor from the agricultural sector mainly towards the construction, trade and transport sectors, which have relatively higher productivity levels, without being significantly more demanding in terms of labor qualification. It is difficult, however, to conclude on the movements of labor factors within the more productive sectors.

**Figure 13: Average change in labour productivity 2009-2015, in%**



Source: Authors' calculations, data from the “Haut Commissariat au Plan”

## IV. Integration in Global Value Chains (GVC): First Insights using TIVA<sup>18</sup> Database.

Nowadays, only the TIVA database, produced jointly by the OECD and WTO, makes it possible to highlight the integration of the Moroccan economy within the GVC, to propose a clear and content-based measure of value added in exports of goods and services and ultimately evaluate the impact of the recent dynamics of

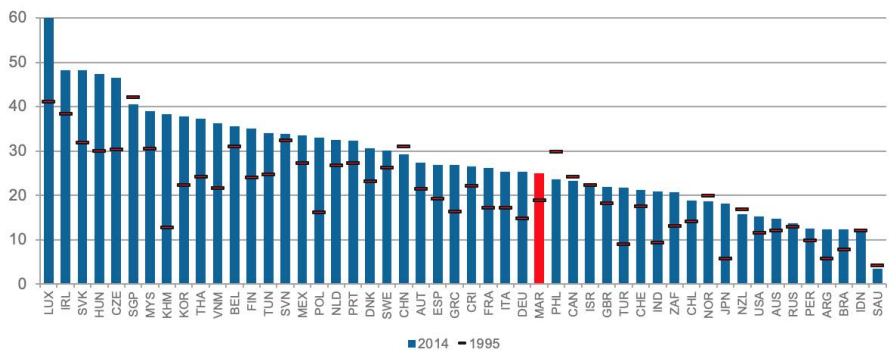
<sup>18</sup> Trade in Value Added Database.

Moroccan exports on the creation of wealth and the generation of employment at the national level. In addition, this database offers a series of indicators that reveal the integration of each national business sector.

### 1. National exports that contain more foreign value added

One of the first signs of growing integration into GVC is the increasing weight of imported intermediate products in the country’s exports, or in other words, the share of foreign value added in the Moroccan economy’s exports. The latter has not stopped growing since the mid-90s, to represent in 2014 almost 25% of our exports. Expressed in another way, Moroccan exports in 2014 account for nearly 75% of domestic value added, compared to 25% for foreign one. On a global scale, the tendency is generally towards a greater dependence of the exports of each country vis-à-vis the goods and intermediary service.

**Figure 14: Foreign Value Added in total exports by country in %**



Source : TIVA database

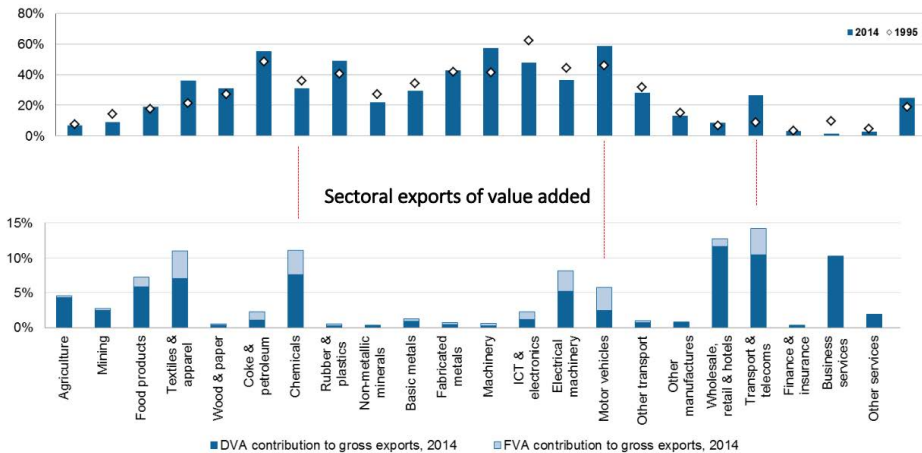
Regarding each country’s level of integration in GVC occurs, the economies on the left of the chart display further integration. Luxembourg, for example, saw an increase in the weight of foreign value added in its exports to reach nearly 60% of total exports in 2014 compared to 40% in 1995. Likewise, countries whose foreign value added is relatively low, are the least integrated in the value chains according to this perspective. These countries are generally marked by a preponderance of raw material exports, which are generally intense in domestic value-added and require less intermediate goods for their production, especially mining products (Saudi Arabia, Brazil, Russia ...). These economies contribute to supplying GVC through commodities and positioning themselves at the upstream stage of the production processes.



## 2. But disparities from one sector to another arise, with a tertiary sector that generates more value added to exports

The distribution of value added by sector hides a wide disparity from one sector to another. Indeed, the average of 25% for foreign value added is generally exceeded when it comes to manufacturing activities that are more dependent on intermediate products and, ultimately, foreign value added. The automotive industry is indeed the most dependent on foreign inputs with a share of about 60%, followed by machinery and petroleum refining activities. It is possible that this proportion would be even higher if the figures were updated and reported on the latest developments, with Renault plant cars starting production since 2013.

**Figure 15: Foreign Value added in Moroccan exports by sector, in %**



Source : TIVA database

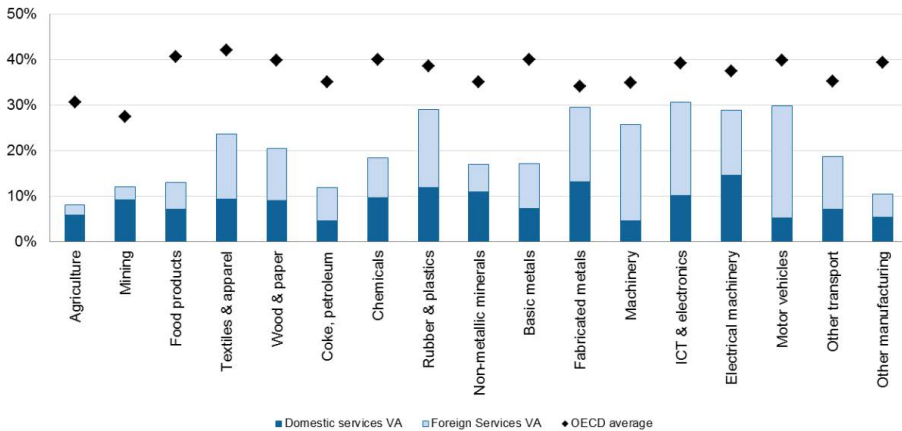
Besides the trade and tourism sector, service activities for companies, as well as transport, telecommunications are the least greedy for foreign value added. Better still, these sectors are promoting the export dynamics more generally than their manufacturing counterparts. Indeed, it is clear to what extent the service sectors make up the largest share of domestic value added exported, unlike manufacturing activities, especially new automotive, electronics and aeronautics activities. The sum of the value added generated by these four activities barely equals (Motor vehicles, Electrical Machinery, ICT electronics and Machinery) the value added of the transport and telecommunications sector contained in our exports of goods and services, which is considered generally, at first glance, as non-tradable. This finding

is slightly nuanced when it comes to the traditional manufacturing activities of the Moroccan economy, particularly the textile, chemical, pharmaceutical and agro-food sectors, which capture domestic value as adding nearly 18% of total exports.

### 3. Services exported as “manufactured goods”

The low value-added content of Moroccan exports of manufacturing products, particularly automotive, electrical and electronic, does not necessarily mean that these activities play their role in the growth dynamic. These sectors demonstrate a strong capacity to position themselves as a locomotive for growth and generate positive training effects on the rest of the economy. This observation is corroborated by the strong preponderance of the tertiary sector as a prime supplier for the manufacturing sector. The latter relies on the logistics activities of transport, telecommunications and business services in general to support the production process.

Figure 16 : Share of upstream services in Moroccan exports of goods

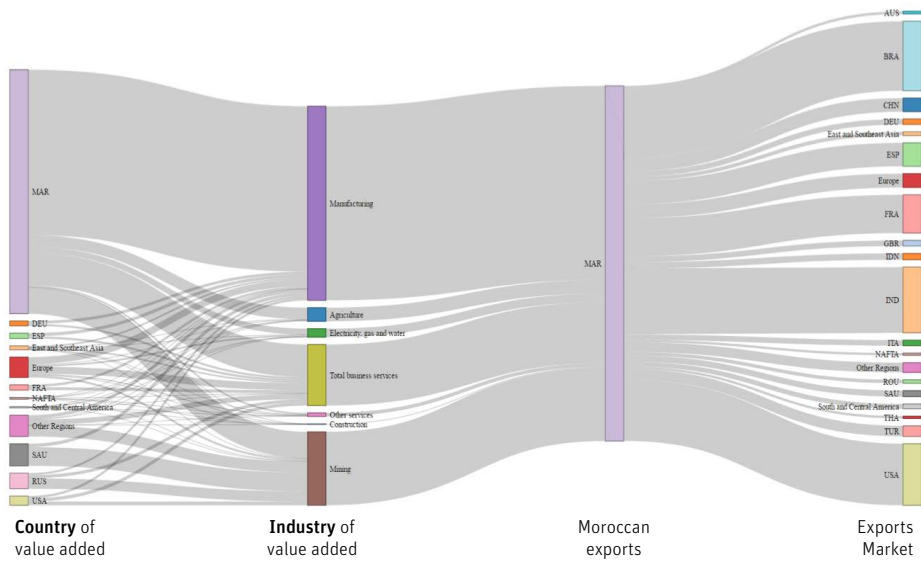


Source: TIVA database

For the Moroccan economy, the tertiary sector’s value added in exports is estimated at 46% of total value added in exports. This contribution is relatively underestimated, when the export figures are expressed in gross and not in value added (39%). Indeed, the world economies are no exception to this rule, with a tertiary sector that is a first-rate input for manufacturing exports and whose competitiveness can only translate into positive spillover effects on the manufacturing sector. The graph above confirms this observation for the Moroccan

economy, especially for new manufacturing activities, which includes a nearly 30% share of services in their exports. However, the total share of services in the value added exported of manufactured goods remains below the OECD average, which indicates a margin of possible progress in terms of competitiveness of domestic service industries and strengthening links between domestic suppliers and exporters of manufactured goods.

**Figure 17: Value chains of Moroccan chemicals and pharmaceuticals**



Source : TIVA database

Overall, the first figures on integration in GVC prove that the Moroccan economy is well engaged in this process, as shown by the evolution of the share of foreign value added in Moroccan exports to 25% in 2014. The increasing role of the tertiary sector in wealth creation and employment is reflected in exports of goods and services, when these are expressed in value added. This confirms that the value added captured by non-tradable sectors, such as telecommunications and transport, exceeds the value added generated by the manufacturing sectors of the automotive, electronics and machinery industries as a whole. Manufacturing products are now vectors that can guide tertiary activities for export, because nearly 30% of exports of manufacturing products is service products, such as logistics, service activities to the profit businesses and telecommunications.

## V. Challenges to Overcome for the Moroccan Economy

The performance of the Moroccan economy, while positive in general, poses serious challenges for the ability of the growth model to offer alternatives for the active population from the rural area who seek better job opportunities compatible with their skills. This extra labor supply comes in addition to the mass that reaches the labor market annually, nearly 180,000 per year (Ministry of Employment 2014). The agricultural sector is pushing away nearly 50,000 jobs annually between 2004 and 2015. The manufacturing industries that are well suited historically to play this role do not prove to be able to create jobs, especially in their textile and clothing component. The latter, often claimed to play this role, reports a drop in employment and a loss of dynamism and, even worse, lower productivity levels than the agricultural sector for the first time in 2015. In this case, the improvement of productivity in the agricultural sector, which has probably exerted a “push effect” on the populations, has apparently not been accompanied by a growing demand from the textile industry “pull effect” and cannot economically attract employees by offering lower levels of productivity, which means lower wages. Over the study period, the construction sector has positioned itself as an alternative to the manufacturing sector as the first job creator with an annual average of 46,000 jobs between 2000 and 2010, since it displays the same characteristics as the textile and clothing industry in terms of the required sets of skills.

Nevertheless, the expansion of this non-tradable sector is still constrained by the evolution of domestic demand, especially after a period of euphoria in the sector from the second half of the 2000s. Subsequently, this sector has exhibited some signs of sluggishness. In addition, the productivity differentials are not as important; especially in regards to motivating agricultural employees constantly move towards this dynamic sector in urban areas and to raise, consequently, the level of productivity of the Moroccan economy as well as their well-being. Another alternative is the agro-food sector, whose employment elasticity and ability to grow at such a rate, to allow the absorption of the potential agricultural labor force, must be thoroughly evaluated. This sector, on the other hand, offers productivity levels that are 2 to 3 times higher than the national average and contributes significantly to export activities. Rodrick (2013) assumes that certain branches of the tertiary sector can claim such a role and help reduce the agricultural labor force, by offering it higher levels of productivity, like the retail trade sector, which can grow without calling for a highly qualified workforce. Moreover, its level of productivity is almost double the levels in the agricultural sector. There should be well-thought industrial policies aiming to meet the needs of employees, who leave or are forced

to leave the agricultural sector and, given their relatively low skill levels, can only be employed by sectors such as light manufacturing activities that do not display signs of dynamism.

In parallel, industrial policies, focused on the manufacturing sector, have globally succeeded in positioning the Moroccan economy on global value chains and turning it into a production hub, especially in the automotive and aerospace sectors. These industrial strategies are aimed at promoting local production ecosystems centered on world leaders to gain a growing share of export value added over time and ensure an implicit transfer of know-how for the benefit of small and medium-sized national enterprises (SMEs). This logic is based on the increasing fragmentation of production processes and the organization of productive systems around Global Value Chains (GVCs). However, this international division of labor may be a double-edged practice for developing economies, such as Morocco. On the other hand, it provides a gateway to the international market for developing economies, without constraining the national economy to fully develop integrated production structures on their territory. On the other hand, Morocco risks being trapped in activities with low added-value activities and which cannot meet the economic and social aspirations of the labor force in the long term. We believe, however, that the challenge of moving up the value chains is not as critical today. It is essential for a lower-middle-income economy to be able to offer alternatives to the active labor force or those who have withdrawn from the labor market jobs that offer at least a higher level of productivity (salary) than the agricultural one. The productivity gains of the Moroccan economy, which inevitably support the improvement of the standard of living in the long term, come initially, to the detriment of employment in the short run. This consequence of the foreign competition and the opening of the Moroccan economy must be managed in this case by an extension of the size of the external markets of the Moroccan economy; to compensate for the “economies of the employment” induced by more efficient production systems.

## VI. Conclusion

There is, today, a consensus among economists about the important role that structural transformation can play in the process of nation's development (Kuznets, (1966) and Kruger (2008)). Indeed, with the spread of technology across sectors, the labor factor is migrating to more modern sectors, allowing productivity levels in an economy to converge and the standard of living to grow. This is what economists have been observing for quite a long time globally. A change of the economic structure in several countries, which manifests itself through the strengthening of the role of tertiary and secondary activities to the detriment of primary activities at first, before the secondary activities contract in relative terms for the tertiary sector become, at an advanced stage of development, the main provider of jobs and creator of wealth. However, the way and the speed with which this transformation takes place are different from one country to another. Hence the interest of this work which is to try to propose a rather extensive reading of the structural dynamics observed in the Moroccan economy, by appealing to the approach developed by McMillan and Rodrik (2011). As a result, it can be observed that in the case of the Moroccan economy, the contribution of the manufacturing sector to wealth creation is decreasing and has been accompanied by a decline in its share of employment, which is even more marked. The results of the decomposition of labor productivity suggest that this sector has not contributed to productivity growth in its inter-sectoral component. Productivity growth in the manufacturing sector is driven by factors other than employment, namely the capital factor and / or total factor productivity. The elasticity of employment in relation to changes in value added is therefore negative, meaning that a growth in value added in this sector not only does not create jobs, but also destroys them. The tertiary sector has an interesting dynamic in terms of its ability to generate employment and at the same time improve productivity. These findings pose a number of challenges for the Kingdom's economy. Among these challenges is finding concrete employment responses for the rural labor force seeking work opportunities outside agricultural activities. These challenges become more complex in the presence of manufacturing activities that do not create enough jobs. Their lightweight component, often claimed to play this role, shows a decline in employment and a loss of dynamism and, even worse, lower productivity levels than the agricultural sector for the first time in 2015. The Moroccan economy is called on, more than ever, to increase its integration in world markets to support the productivity gains that are relatively important now and that do not promote absorption of the workforce. In other words, the savings in employment per unit produced can be offset by the increase in the size of job opportunities.

Integration into global value chains may be an opportunity for the Moroccan economy, which is relatively well engaged in global trade, particularly in the automotive, aerospace and electrical sectors. In support, proactive public policies that promote national and international companies in their investment strategies are much needed. This strategy is a response to the challenges we initially faced. Indeed, successful integration into GVCs can accelerate structural transformation in a country through two main channels. First, the globalization of production networks has given more important role for intermediate products, which has given the opportunity to different countries to accelerate the movement of their labor force towards higher productivity sectors by specializing in one or more tasks within GVCs.

Second, the acceleration of the structural transformation brought about by integration into GVCs also lies in the possibility that developing countries will increase the level of their labor force through a learning effect.

The first figures on integration in global value chains prove that the Moroccan economy is well engaged in this process, as evidenced by the evolution of the share of foreign value added in Moroccan exports to 25% in 2014. The increasing role of the tertiary sector in wealth creation and employment is reflected in exports of goods and services, when these are expressed in value added. This shows that the value added captured by non-tradable sectors, such as telecommunications and transport, exceeds the value added generated by the manufacturing sectors of the automotive, electronics and machinery industries as a whole. Manufacturing products are now vectors that can guide tertiary activities for export, because nearly 30% of exports of manufacturing products are based on service products, such as logistics, and service activities to the profit businesses and telecommunications.

Finally, public interventions and policies designed specifically for selective sectors are not enough to have a strong manufacturing sector and a competitive economy. A so-called “Policy mix” between “vertical” and “horizontal” policies should be favored. Long-term strategies related to labor market innovation and trade policy must be at the heart of policy makers’ concerns. Maintaining a sound macroeconomic framework, for example, is crucial, especially with regard to monetary policy decisions, exchange rate fluctuations and the direction of fiscal policy, which should not be neglected.

## References

Ait Ali A. and Msadfa Y. (2016), « Industrial policy, Structural change and Global Value Chains Participation: Case study of Morocco, Tunisia and Egypt », OCP Policy Center.

Asian Development Bank, (2015), "Structural change and moderating growth in the People's Republic of China: implications for developing Asia and beyond".

BAD (2014), « Global Value Chains and Africa's Industrialization », African Economic Outlook.

Baumol (1967), "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis", American Economic Review.

Cadot, Melo, Plane, Wagner et Woldemichael, (2015), « Industrialisation et transformation structurelle : l'Afrique sub-saharienne peut-elle se développer sans usines ? » FERDI.

Colin Clark (1940), "The Conditions of Economic Progress", Population.

Curtis (2016), "Economic Reforms and the Evolution of China's Total Factor Productivity", Review of Economic Dynamics (2016).

FISHER (1939), "Production, primary, secondary and tertiary". Economic Record.

HCP (2016), "Etude sur le Rendement du Capital Physique au Maroc ».

Jouanjean M., Gourdon J. and Korinek J. (2017), « GVC Participation and Economic Transformation: Lessons from three sectors », OECD Trade Policy Papers No. 207.

Kongsamut, Rebelo and Xie, (2001), "Beyond balanced growth", IMF.

Krüger (2008), "Productivity and structural change: a review of the literature", Journal of Economic Surveys.

McMillan M., Rodrik D. and Verduzco- Gallo I. (2014), « Globalization, Structural Change, and Productivity Growth, with an Update on Africa », World Development.

Ministère de l'Emploi et des Affaires Sociales et Bureau Internationale du Travail, (2014) « La croissance économique au Maroc : une croissance créatrice d'emploi ? ».

Misra and Suresh (2014) "Estimating Employment Elasticity of Growth for the Indian Economy", Reserve Bank of India.

Ngai and Pissarides (2007), "Structural Change in a Multisector Model of Growth", American Economic Review.

OCDE (2013), « Economies Interconnectées : comment tirer parti des chaînes de valeur mondiales, rapport de synthèse.

Rodrick, (2013) «Structural change, Fundamentals and Growth: an Overview», Institute for Advanced Study.

Rodrik (2015), "Premature Deindustrialization", Institute for Advanced Study.

Simon Kuznets (1943) "Modern Economic Growth: Findings and Reflections", American



Economic Review

Solow, (1956), "A Contribution to the Theory of Economic Growth", Quarterly Journal of Economics

UNECA, (2014) "Macroeconomic Policy and Structural Transformation of African Economies"

Vergne C. et Ausseur A. (2015), « La croissance de l'Afrique subsaharienne : diversité des trajectoires et des processus de transformation structurelle », Macroéconomie et Développement.

Vergne C. et Ausseur A. (2015), « La croissance de l'Afrique subsaharienne : diversité des trajectoires et des processus de transformation structurelle », Macroéconomie et Développement, N° 18.

Vries, G. J. D., Timmer (2013), "Structural transformation in Africa: Static gains, dynamic losses" The Journal of Development Studies



---

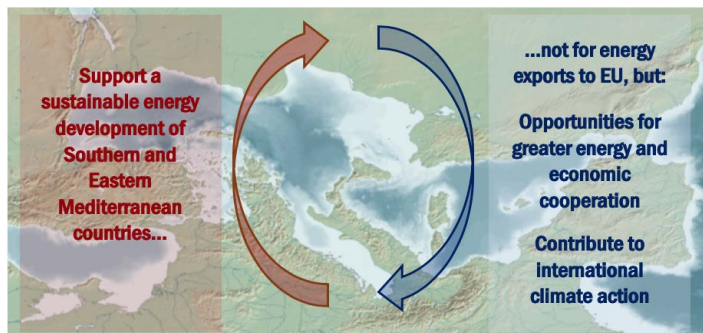
# Chapter 3

## The EU-Southern Mediterranean Energy Relationship: A Fresh Perspective

Simone Tagliapietra

The author is grateful to Francesco Chiacchio, Yana Myachenkova and Alexander Roth for excellent research assistance.

### A new paradigm for Euro-Mediterranean energy cooperation



Source: Bruegel

### The issue

Energy is a fundamental component of the economic relationship between the European Union and southern Mediterranean countries, largely driven, so far, by Europe's quest for oil and gas supplies. However, given the booming energy demand in southern Mediterranean countries and their great solar and wind potential, regional energy cooperation should also strongly focus on fostering large-scale deployment of renewable energy. This would allow southern Mediterranean

countries to meet their increasing energy demand in a more sustainable way, and would also have positive economic and political benefits for Europe.

## Policy Challenge

Under the 2015 Paris Agreement on climate change, southern Mediterranean countries adopted post-2020 plans to reduce their greenhouse gas emissions and set targets for deployment of renewables. However, these commitments are largely conditional on international climate finance support being provided. Europe could scale-up its climate financing in the southern Mediterranean, but this should be linked to the implementation of certain energy reforms in those countries. Reforms should not be aimed at transposing in southern Mediterranean countries the EU framework and rules, but rather at removing the main barriers to the private sector's engagement in those countries' renewable energy sectors. This could be done by promoting pragmatic solutions to specific legal, regulatory and financial bottlenecks. Greater climate financing should be provided only when southern Mediterranean countries implement such solutions in practice. Helping southern Mediterranean countries meet their energy needs in a sustainable way would also benefit Europe by opening up new business opportunities for European energy companies, promoting the export of European renewable energy technologies, guaranteeing the stability of future gas exports from the region to Europe, promoting economic development in southern Mediterranean countries and delivering on those countries' pledges under the Paris Agreement.

### 1. Energy: the core of the Euro-Mediterranean economic relationship

Energy is a fundamental component of the economic relationship between the European Union and the 'southern neighbourhood' Mediterranean countries<sup>19</sup>. This dates back to the 1960s, when discussions started on the first large-scale energy infrastructure in the Mediterranean region – a gas pipeline connecting Algeria to Italy via Tunisia. Since then, more than 6,000 kilometres of gas pipelines have been laid across the Mediterranean, to connect Algeria with Spain and Italy, and Libya with Italy. Large-scale liquefied natural gas (LNG) and oil infrastructure has

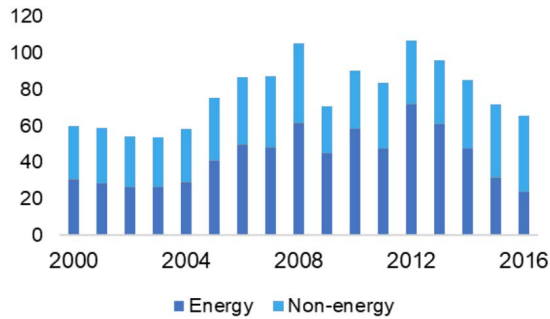
---

<sup>19</sup> In the European Neighbourhood Policy (ENP), the category 'Southern Neighbourhood' includes ten partner countries: Morocco, Algeria, Tunisia, Libya, Egypt, Israel, Palestinian Territories, Jordan, Lebanon and Syria.

also been constructed all around the Mediterranean<sup>20</sup>.

This infrastructure, built on the basis of bilateral state-to-state and company-to-company relationships between producers in the south and importers in the north, still channels a major part of Southern Mediterranean countries' (SMCs) total exports to Europe (Figure 18).

**Figure 18: SMCs' exports to Europe: the key role of energy (€ billions)**



Source: Bruegel based on Eurostat data.

In the early 2000s, the idea emerged of replicating the successful gas cooperation story in the Mediterranean region in the area of renewable energy. Taking a regionalist approach rather than a traditional bilateral approach to cooperation, two initiatives were launched with the objective of tapping into the vast solar and wind energy potential of SMCs: Desertec and the Mediterranean Solar Plan. These would supply clean energy to the SMCs and to Europe. Desertec was a German industrial initiative, and the Mediterranean Solar Plan was a Union for the Mediterranean flagship project. Both initiatives were supported by the European Union, which has always viewed energy cooperation as a special tool to promote political stability and economic prosperity in the region.

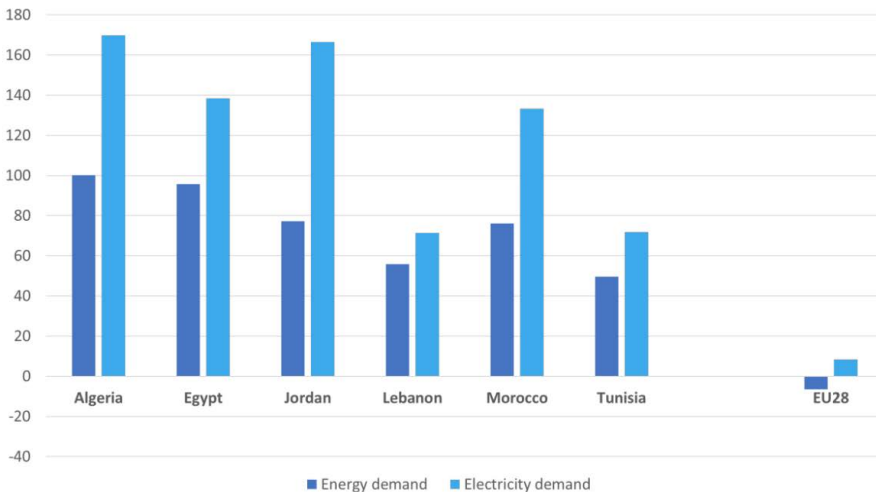
But these two initiatives failed in less than a decade, largely because of a lack of commercial and political realism. The initiatives' business models were based on the export to the EU of solar and wind electricity produced in SMCs and were not commercially viable because of: i) high electricity generation costs; ii) lack of electricity interconnections between SMCs and between the northern and southern

<sup>20</sup> For a comprehensive overview of the historical development of energy cooperation in the Mediterranean, see Tagliapietra (2017).

Mediterranean shores; and iii) the lack of a clear need on the EU side for additional renewable energy capacity. In political terms, the initiatives did not properly consider that the first priority for SMCs was meeting their own booming energy demand. Nor did they take sufficiently into account the overall lack of cooperation between SMCs, the group of countries with the lowest level of intra-regional trade in the world. In particular, both initiatives proved unrealistic because they sought to adopt a one-size-fits-all approach to a region that was – and continues to be – too complex and diverse for this to work (Tagliapietra and Zachmann, 2016).

This experience suggests that fostering renewable energy in the region cannot be done on the basis of a Eurocentric approach. In other words, instead of the traditional focus on exporting energy from SMCs to Europe, the priority should be supporting SMCs in meeting their booming energy demand in a sustainable way. Cooperation between the EU and SMCs in terms of renewable energy should be about developing projects for the SMCs’ consumption, not for Europe’s. Since 2000, energy demand, especially electricity demand, has boomed in SMCs (Figure 19). This trend is set to continue in the future, in response to expected population and GDP growth in SMCs.

**Figure 19: Energy and electricity demand in SMCs, % change between 2000 and 2015**



Source: Bruegel based on International Energy Agency, World Energy Balances database, accessed in March 2018.

From an energy cooperation perspective, the most sensible way for the EU to respond to this challenge is to foster the large-scale deployment of renewable energy – notably solar and wind – in SMCs.

The other important component of Euro-Mediterranean regional energy cooperation, natural gas, does not need EU support in order to progress. It is a well-established sector in which progress is mainly driven by the private sector. As has been shown since 2015 in Egypt with the discovery and rapid development of the large-scale Zohr natural gas field, European energy companies – with the diplomatic backup of their respective governments – can foster vast projects without any EU intervention.

For renewable energy the situation is different. The sector is not yet well established in the region, increasing the financial and regulatory risks for European companies. This is the primary reason why a strong EU contribution in the field could foster progress.

As we will show, making progress on renewable energy in the region would not only allow SMCs to meet their energy demand sustainably – from both environmental and macroeconomic perspectives – but would also have positive benefits for the EU in both economic and political terms.

## **2. Current renewable energy developments in SMCs**

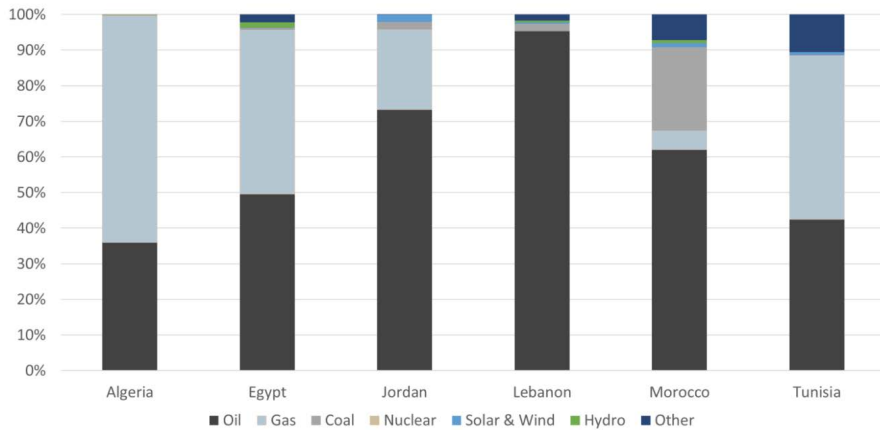
The SMCs are richly endowed with solar and wind energy resources, which are estimated to be among the best in the world (IRENA, 2015). Solar photovoltaic (PV) potential is widespread in the region and can be tapped at both household and utility levels. Concentrated solar power performs optimally in utility-scale projects situated in the region's deserts, where the intensity of solar irradiation is among the highest in the world. Wind power also has great potential for the SMCs, given the favourable wind conditions that characterise all these countries.

In recent years, the SMCs have started to exploit this potential. Between 2010 and 2015, they expanded their installed wind capacity from 857 megawatt (MW) to 1,942 MW, and their installed solar capacity from 74 MW to 382 MW. The greatest share of this increase came from Morocco, which increased over the same period its installed wind capacity from 253 MW to 934 MW, and its installed solar capacity

from 34 MW to 200 MW<sup>21</sup>.

Notwithstanding this progress, wind and solar were still a minor contributor to SMCs' primary energy mixes in 2015, with shares of 0.01 percent in Algeria, 0.17 percent in Egypt, 2 percent in Jordan, 0.3 percent in Lebanon, 1.1 percent in Morocco and 0.8 percent in Tunisia (Figure 20).

**Figure 20: Primary energy mix in SMCs, 2015**



Source: Bruegel based on International Energy Agency database, accessed in March 2018.

### 3. Future prospects, in light of the Paris Agreement

In the context of the 2015 Paris Agreement on combating climate change, all SMCs have adopted post-2020 plans, known as Nationally Determined Contributions (NDCs), to reduce their greenhouse gas emissions. With the exception of Egypt, all SMCs have outlined clear 2030 emission reduction targets. Algeria, Lebanon, Morocco and Tunisia also included in their NDCs specific targets for the deployment of renewable energy, while Egypt and Jordan adopted similar targets through national energy strategies (Table 5).

These countries' NDCs differ considerably in terms of their levels of ambition, but they do share a common feature: linking action to external support. The SMCs have committed to only modest greenhouse gas reductions through their own

<sup>21</sup> Data from the IRENA database.



efforts and have promised much more substantial action only if external technical and financial support is made available<sup>22</sup>.

**Table 5: SMC Nationally Determined Contributions under the Paris Agreement**

	Unconditional emissions reduction targets	Conditional emissions reduction targets	Renewable energy implementation measures
<b>Algeria</b>	7% by 2030 compared to BAU	22% by 2030 compared to BAU	27% of electricity production by 2030
<b>Egypt</b>	No specific target determined	No specific target determined	Not determined (National strategy 20% of electricity production by 2022)
<b>Jordan</b>	1.5% by 2030 compared to BAU	14% by 2030 compared to BAU	Not determined (National strategy 10% of energy mix by 2020)
<b>Lebanon Not ratified</b>	15% by 2030 compared to BAU	30% by 2030 compared to BAU	15-20% of electricity production by 2030
<b>Morocco</b>	17% by 2030 compared to BAU	42% by 2030 compared to BAU	52% of installed electricity production capacity by 2030
<b>Tunisia</b>	13% by 2030 compared to 2010	41% by 2030 compared to 2010	30% of electricity production by 2030

Source: Bruegel based on International Panel on Climate Change. Note: BAU = business as usual.

International climate finance thus has a crucial role to play in fostering the implementation of the Paris Agreement in the SMCs and, consequently, in fostering the large-scale deployment of renewable energy.

#### **4. Flows of European and international climate finance to SMCs**

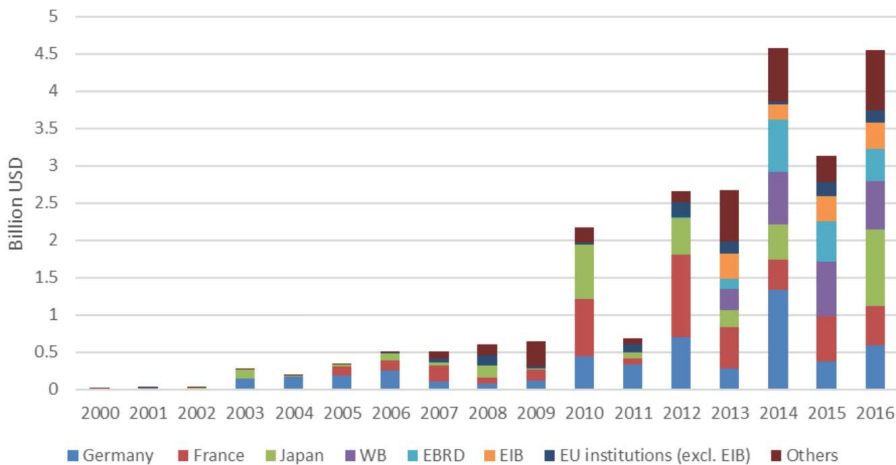
Under the Paris Agreement, developed countries committed to mobilise from various sources – public and private, bilateral and multilateral – \$100 billion per

<sup>22</sup> Conditionality in relation to climate goals is not just an SMC-specific issue, but a broader issue for all developing countries. About 78 percent of NDCs contained within the Paris Agreement include conditions. Of these, over 80 percent are attached to the provision of external financial support for all or part of the proposed measures (Day et al, 2016).

year by 2025 to support developing countries in their efforts to reduce emissions. With a contribution of €20.2 billion in 2016<sup>23</sup>, the EU is the world's largest contributor of climate finance to developing countries.

In recent years, SMCs have received increasing flows of European and international climate finance (Figure 21). Between 2013 and 2016, Germany was the top contributor with a cumulative investment of \$2.8 billion, followed by the World Bank Group (\$2.4 billion), France (\$2 billion), the European Bank for Reconstruction and Development (EBRD, \$1.8 billion), Japan (\$1.7 billion), the European Investment Bank (EIB, \$1.2 billion) and other EU institutions (\$0.5 billion).

**Figure 21: European and international flows of climate finance to SMCs, by provider (2000-2016)**



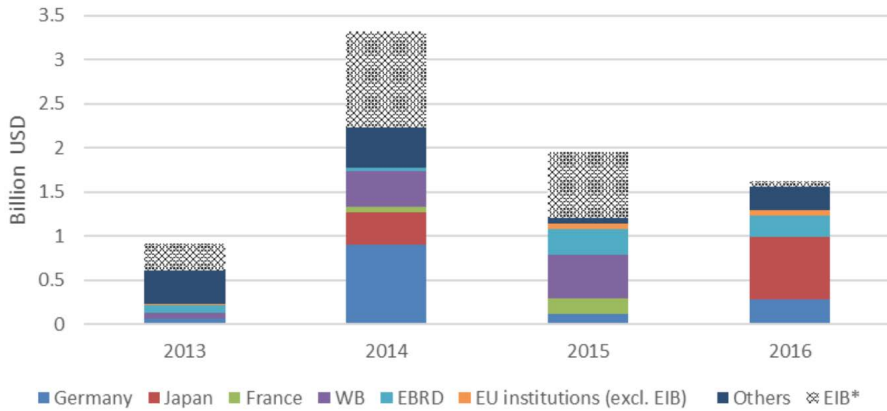
Source: Bruegel based on OECD DAC database, accessed in March 2018.

Over the same period, Morocco was the main recipient of these flows (\$5.4 billion), followed by Egypt (\$4.6 billion), Jordan (\$2.39 billion) and Tunisia (\$1.5 billion).

In terms of the energy component of these flows of finance, the EIB played a leading role between 2013 and 2016, with a cumulative investment of \$2.1 billion. This was followed by Germany (\$1.4 billion), Japan (\$1 billion), the World Bank Group (\$0.9 billion) and the EBRD (\$0.6 billion) (Figure 22).

23 This includes contributions from the EU's own budget, from EU member states and from the European Investment Bank (EIB).

**Figure 22: European and international flows of energy-related climate finance to SMCs (2000-16)**



Source: Bruegel based on OECD DAC database, accessed in March 2018. Note: given the lack of data on EIB energy-related climate finance in the DAC database, the EIB’s contribution is here proxied by reporting the energy investments carried out by EIB’s Facility for Euro-Mediterranean Investment Partnership (FEMIP), as per related annual reports.

Of the 2016 energy-related climate-finance flows to SMCs, 53 percent was devoted to renewable energy generation, 30 percent to non-renewable energy generation, 15 percent to energy distribution and 2 percent to energy-policy related activities.

In absolute terms, SMCs received \$0.8 billion of European and international climate finance to support renewable energy projects in 2016. This figure, amounting to 0.8 percent of the annual climate finance commitment pledged by developed countries under the Paris Agreement, could be scaled-up in the future, notably on the basis of a stronger European commitment to the region.

More robust European action to foster the development of renewable energy in SMCs via climate finance should, however, be linked to the implementation of certain energy reforms in SMCs. These would be directed at removing the key barriers to the private sector’s engagement in renewable energy in these countries.

## 5. Linking climate finance to better renewable energy governance

Scaling-up renewable energy in the SMCs in line with the countries' NDCs will be costly. For instance, the World Bank Group estimates that Egypt, Jordan and Morocco alone would need around \$100 billion in investment in renewable energy generation between 2016 and 2030 to meet their NDC targets (IFC, 2017).

International private investment is essential to meet this large investment need. However, various barriers in SMCs continue to prevent international investors from becoming more engaged in SMC renewable energy sectors (RES4MED, 2017). Two key barriers stand out:

- **Legal and regulatory barriers:** All SMCs have renewable energy targets, but achieving them ultimately relies on the presence of sound and stable renewable energy regulatory frameworks. On this front, much remains to be done in the SMCs. Jordan is the only SMC with a well-established and reliable renewable energy regulatory framework, while in other countries the situation is more complex. For instance, frequent changes in feed-in-tariff schemes and fossil-fuel subsidies are a concern for investors in Egypt, while the lack of an independent regulatory authority is a key concern for investors in Morocco. The lack of a fully developed regulatory framework continues to hinder investments in Algeria, Lebanon and Tunisia.
- **Financial barriers:** Currency convertibility, inflation and lack of foreign reserves are concerns for investors in almost all SMCs. The cost of financing and the limited availability of debt from commercial sources for renewable projects represent a general challenge in all SMCs, though to different degrees. These barriers are felt either through non-availability of finance or inflexible grace periods that are not adapted to the characteristics of such investments.

SMCs must take action to overcome these barriers, in line with their respective national circumstances. That is, the governments of SMCs should act first and reform their energy sectors in order to unleash private investment.

Europe meanwhile could incentivise this process by offering individual countries more ambitious climate financing, aimed at cutting the cost of capital for renewable energy projects and leveraging more private investment (Box 2).

## **Box 2:** **The role of climate finance in reducing the cost of capital for renewable energy in SMCs**

Over the last decade, wind and solar power have become mainstream technologies thanks to substantial declines in their costs. Since 2009, solar photovoltaic costs have dropped by 80 percent and this trend is continuing. Wind turbine costs have halved in the same period. In 2017, the cost of electricity generation from newly installed wind averaged \$0.06 per kilowatt-hour (kWh) worldwide.

The cost structure of electricity generation from renewable energy technologies differs from thermal power generation since renewables do not use any fuels. Most of the generation cost relates to the capital cost of technologies. Financing costs, therefore, are key to ensuring cost-competitiveness. Capital costs include the costs of debt and equity, and are affected by country- and industry-specific risks. For instance, the cost of capital for renewable energy investments in Europe ranges from 3.5 percent in Germany to 12 percent in Greece for onshore wind (DiaCore, 2016). This wide range is a consequence of the different policy risks that investors face (for example, differences in the national regulatory frameworks that support the deployment of renewable energy sources).

An enabling investment environment boosted by low financing costs is fundamental to create markets for renewable energy technologies. This is where climate finance comes into play. In SMCs, renewable energy is financed from various sources. One form is funding made available by private investors, along with land ownership. This comes with minor risks as funds are readily available. Commonly, local banks and international finance institutions (IFIs) provide loans to investors in renewable energy. For these loans, the interest rate, which would determine to a great extent the cost of capital, could depend on factors including loan type, the currency of the loan and funding source. For instance, an issue for SMCs in particular is that interest rates for local currency are much higher than 10 percent currently. On the other hand, foreign exchange loans in euros or US dollars from IFIs such as the EBRD and the EIB could offer investors more favourable financing costs. Greater

engagement of these institutions and other climate finance vehicles could leverage additional financing, in particular from the private sector, because the IFIs' risk-mitigation and credit-enhancement tools would reduce the risks for private investors.

But such action should be conditional on the implementation of the reforms necessary to attract further private investment. To be clear, these reforms should not be aimed at replicating in the SMCs the European frameworks and rules. The EU has traditionally had a tendency to promote in its neighbourhood the take-up of EU energy policy principles, such as liberalisation.

This copy-and-paste approach clearly emerges from the Action Plans that form the backbone of the EU Neighbourhood Policy<sup>24</sup>. These plans foresee gradual convergence of SMCs towards European rules. In 2003, for example, a 'Memorandum of Understanding for the progressive integration of electricity markets of Algeria, Morocco and Tunisia and in the EU electricity internal market' was signed. The creation of Mediterranean associations of regulators and transmission system operators in 2007 and 2012 also somewhat followed the blueprint of EU internal market integration.

Recent history has shown that, apart from sharing best practices, the effectiveness of these initiatives has been limited. The Eurocentric approach to energy cooperation in the Mediterranean should therefore be changed. Instead of seeking to promote energy market liberalisation in SMCs, Europe should work with individual SMCs to formulate pragmatic solutions to specific legal, regulatory and financial bottlenecks.

In the legal and regulatory areas, concrete solutions to be promoted in specific SMCs might include measures to increase clarity and transparency of rules; to provide legal and administrative support to international energy companies willing to invest in the country; to enhance transparency and clarity of rules in dispute procedures and to shorten dispute resolution timeframes; to phase-out fossil fuel subsidies; to establish one-stop-shops for renewable energy permits.

In terms of financing, concrete solutions to be promoted in specific SMCs might include measures to enhance local banks' capacities and ranges of instruments

---

24 See: [https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/overview\\_en](https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/overview_en).

for supporting international investors; to establish a more stable central-bank monetary policy; to encourage transactions and power-purchase agreements with a more stable currency; to establish favourable tax regimes for renewables<sup>25</sup>.

Greater climate finance support should only be offered to SMCs that implement such solutions in practice.

## 6. The positive implications for Europe

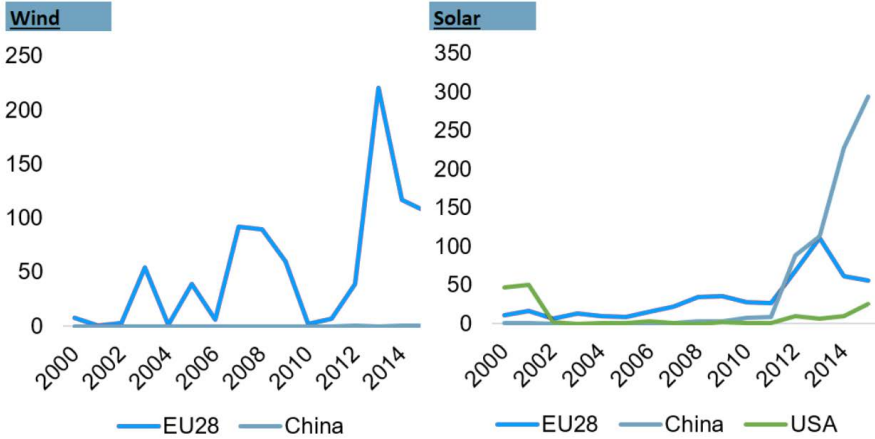
Providing support so that SMCs can meet their energy demands in a sustainable way would benefit not only the SMCs themselves, but also Europe. Supporting sustainable energy development in SMCs would imply:

- Opening up new business opportunities for European energy companies to operate in rapidly growing markets;
- Promoting the export of European renewable energy technologies. This is notably the case for wind power, a sector in which SMCs rely almost exclusively on imported European technology (Figure 23);
- Guaranteeing the stability of future gas exports from the region to Europe, by allowing these countries to meet their growing electricity demand with renewables instead of gas. This is important for Europe because these gas exports are an important element of the EU's gas security-of-supply architecture;
- Promoting more rapid economic development in SMCs, which is a key prerequisite for expanding the region's economic and trade relations with Europe;
- Making a significant contribution to global emissions mitigation efforts by promoting the development of cleaner energy systems in SMCs, in line with the Paris Agreement.

---

<sup>25</sup> For country-specific lists of possible pragmatic solutions, see RES4MED (2017).

**Figure 23: SMCs’ import of wind and solar technologies by source (€ millions)**



Source: Bruegel based on Comtrade

In order to have an impact, energy cooperation between the EU and SMCs should shift its focus from the export of energy from SMCs to Europe, to Europe supporting SMCs in meeting their booming energy demand in a sustainable way. Europe could scale-up its climate financing activity in SMCs to support these countries in meeting their Paris Agreement pledges. But greater support should be linked to the implementation of energy reforms in SMCs, aimed at removing the barriers to the private sector’s engagement in their renewable energy sectors. This could be done by promoting pragmatic solutions to specific legal, regulatory and financial bottlenecks in individual SMCs. Higher levels of climate finance should be offered only to SMCs that actually implement such solutions. Supporting SMCs in meeting their energy needs in a sustainable way would also benefit Europe both in economic and political terms.



## References

Day, T., M. Kurdziel and F. Roeser (2016) Conditionality of intended nationally determined contributions, New Climate Institute, Berlin, available at: [http://mitigationpartnership.net/sites/default/files/indc-conditionality\\_O.pdf](http://mitigationpartnership.net/sites/default/files/indc-conditionality_O.pdf)

DiaCore (2016) The impact of risks in renewable energy investments and the role of smart policies, available at: <http://diacore.eu/images/files2/WP3-Final%20Report/diacore-2016-impact-of-risk-in-res-investments.pdf>

IFC (2017), Climate Investment Opportunities in Emerging Markets, International Finance Corporation, available at: [https://www.ifc.org/wps/wcm/connect/51183b2d-c82e-443e-bb9b-68d9572dd48d/3503-IFC-Climate\\_Investment\\_Opportunity-Report-Dec-FINAL.pdf?MOD=AJPERES](https://www.ifc.org/wps/wcm/connect/51183b2d-c82e-443e-bb9b-68d9572dd48d/3503-IFC-Climate_Investment_Opportunity-Report-Dec-FINAL.pdf?MOD=AJPERES)

IRENA (2015) Africa 2030: Roadmap for a Renewable Energy Future, available at: <http://www.irena.org/publications/2015/Oct/Africa-2030-Roadmap-for-a-Renewable-Energy-Future>

IRENA (2016) Renewable Energy in the Arab Region. Overview of Developments, available at: [http://www.irena.org/DocumentDownloads/Publications/IRENA\\_Arab\\_Region\\_Overview\\_2016.pdf](http://www.irena.org/DocumentDownloads/Publications/IRENA_Arab_Region_Overview_2016.pdf)

RES4MED (2017) Survey on the main barriers affecting investments in RE capacity in the Mediterranean Focus on Southern and Eastern Mediterranean Countries, available at: [http://www.res4med.org/wp-content/uploads/2017/11/RES4MED\\_Survey\\_on\\_RE.pdf](http://www.res4med.org/wp-content/uploads/2017/11/RES4MED_Survey_on_RE.pdf)

Tagliapietra, S. and G. Zachmann (2016) 'Energy across the Mediterranean: a call for realism', Policy Brief 2016/03, Bruegel, available at: <http://bruegel.org/2016/04/energy-across-the-mediterranean-a-call-for-realism/>

Tagliapietra, S. (2017) Energy Relations in the Euro-Mediterranean. A Political Economy Perspective, Palgrave Macmillan, London





# Towards EU-MENA Shared Prosperity

This joint Bruegel-PCNS publication comprised of three policy contributions from researchers of both institutions is the result of the establishment of the “Platform for Advanced & Emerging Economies Policy Dialogue”. This third publication comes to further enhance a collaboration that led to two previous policy reports under the theme “Towards an EU-MENA Shared Prosperity”. In the first paper, Uri Dadush and Yana Myachenkova explain how trade agreements that the European Union has with North African countries are often seen as having delivered disappointing results, and how the agreements have been judged too harshly, as they helped generate large amounts of trade. In this regard, the paper gives relevant recommendations of policies for a greater trade performance.

The second paper highlights the role of structural economic transformation as a necessary gateway for nations wishing to move up along the development path. It focuses on the case of Morocco, shedding light on its manufacturing sector’s transformation, its integration in Global Value Chains (GVC) and its economic challenges.

In “The EU-Southern Mediterranean Energy Relationship: A Fresh Perspective”, Simone Tagliapietra analyses how regional energy cooperation should strongly focus on fostering large-scale deployment of renewable energy, allowing southern Mediterranean countries to meet their increasing energy demand in a more sustainable way, and having positive economic and political benefits for Europe.

**BRUEGEL**  
1210 Brussels, Belgium

[www.bruegel.org](http://www.bruegel.org)

**POLICY CENTER FOR THE NEW SOUTH**  
Rabat, Morocco

[www.policycenter.ma](http://www.policycenter.ma)

