YOUTH EMPLOYMENT AND REGIONAL INTEGRATION IN THE EURO-MEDITERRANEAN REGION

QUALITATIVE AND QUANTITATIVE ECONOMIC ANALYSIS ON WHETHER AND HOW REGIONAL INTEGRATION COULD LEAD TO YOUTH EMPLOYMENT

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TEAM

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List of acronyms

AA	Agadir Agreement
C	Accession Candidates (to the European Union)
ALMP	Active Labour Market Policy
AMU	Arab Maghreb Union
CEFTA	Central European Free Trade Agreement
CGE	Computable General Equilibrium (model)
ECSC	European Coal and Steel Community
EEP	European Economic Community
EFTA	European Free Trade Association
ENP	European Neighbourhood Policy
EU	European Union
FDI	Foreign Direct Investment
GAFTA	Greater Arab Free Trade Area
GDP	Gross Domestic Product
GMP	Global Mediterranean Policy
IEA	International Energy Agency
ILO	International Labour Organization
IoT	Internet of Things
LAS	League of Arab States
MED	Mediterranean
MENA	Middle East and North Africa
MFN	Most Favoured Nation
NEET	Not Engaged in Education, Employment or Training
OECD	Organisation for Economic Cooperation and Development
RMP	Renovated Mediterranean Policy
SEMCs	Southern and Eastern Mediterranean Countries
UfM	Union for the Mediterranean
UNCTAD	United Nations Conference for Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
WBDI	World Bank Development Indicators
WTO	World Trade Organization

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Executive Summary

This study examines how regional integration can provide both short-term and long-term solutions to the employment crisis in the Euro-Mediterranean region. First, the current state of affairs, challenges and policies as regards to youth unemployment and regional integration in the Euro-Mediterranean region are described. Second, the impact on youth employment creation through regional integration of Mediterranean countries is quantified. Finally, qualitative scenarios on job creation, for which long-term challenges are devised and policy recommendations to foster youth employment and employability in the region are formulated, in light of the alternative scenarios devised and drafted with a specific focus on the role of the Union for the Mediterranean.

Main conclusions and recommendations

The domestic labour markets fail to create sufficient employment opportunities, particularly for youngsters, women and among those graduates, in a context of reference trends of population growth, shedding light on the causes and consequences of persistently high unemployment rates.

The causes of this failure include skill mismatches, rigid regulations and the limits of deregulation, the weight of the public sector and its influence of educational choices, as well as issues related to the persistence of certain socio-cultural norms. The consequences include discouragement of the unemployed and related high rates of Not in Employment, Education or Training (NEETs) across the region and increasing migratory flows fuelled by youngsters lacking a perspective in their home countries and searching for opportunities in host countries.

The main challenges consist of improving workers' employability and achieving a better match between labour supply and demand. On the supply side, these challenges can be tackled with increasing resources devoted to more efficient Active Labour Market Policies, focused on vocational and education trainings, orientation, intermediation and career guidance. On the demand side, actions require a more complex policy mix. In particular, more and better jobs can be generated by improving competition in product markets through deregulation, but also by investing in infrastructure and adopting smart- specialization strategies that would bring more benefits from further regional integration.

Coordination between countries in the region, through deeper regional integration, can boost employment through different channels. It is well known that providing better access to markets through the elimination of trade barriers could create new opportunities for competitive firms that, in turn, would increase labour demand and contribute to the generation of new jobs in the region. The elimination of tariffs on imports could make domestic prices fall to lowest region prices. Initially, domestic production falls, but domestic consumption increases and total imports also increase. Larger markets, as a result of regional integration, may allow firms to exploit economies of scale, thus driving down costs and prices to local consumers. It may also increase the range and variety of products which are available to consumers. The reduction in tariffs leads to trade creation among the participants in the liberalised region.

The regional integration status quo analysis highlights that if political and, most particularly, security concerns have been the main trigger of regional integration efforts, economic and, most particularly, trade liberalisation has been a notable core driver of Euro-Mediterranean integration. The European Union, building on a long lasting European integration process, played a catalyst role in laying the ground for trade and economic integration in the region, whereas Southern and Eastern Mediterranean countries did not achieve levels of integration sufficient, to ensure a more balanced and coherent integration of markets between the countries of these regions and between the two shores of the Mediterranean, which would permit them to benefit from a catch-up effect. In this sense, South-South integration is to be considered as a precondition for overall regional integration efforts in the future to be conducive to more satisfactory outcomes, most particularly in terms of employment.

In the regional integration scenario, characterized by the status quo's shallow economic integration conditions and where countries take action to reduce public budget deficits, improve their trade balance and upgrade their infrastructure, youth unemployment rate is predicted to be reduced from 25.7% in 2015 to 17.6% in 2040. The Euro-Mediterranean regional integration has a net positive impact on youth employment which is increased throughout the simulation period. Depending on the degree and type of regional integration, net additional jobs for youth in the non-Euro countries ranges from 221,000 persons in the case of removing trade barriers, to 423,000 in the case of institutional and process harmonisation during the analysis period. Net additional jobs for total employment in the non-Euro countries range from 1,520,000 persons where trade barriers are removed, to 2,864,000 in the case of institutional and process harmonisation during the same period.

The full integration (both removal of trade barriers and the improvement of institutional and process harmonisation) accounts for 570,000 additional jobs for youth and 3,835,000 jobs in total, during the period of analysis.

The impact from process harmonisation, institutional improvement and investment de-risking is found to provide the best prospects in terms of youth employment job creation. This is mainly due to: i) The positive impact on overall economic activity (lowering the investment risk better supports economic growth than removing tariff barriers) and ii) Alignment of skilled labour with capital. Increasing the capital stock allows the utilization of skilled labour. In certain countries and sectors, a key driver for youth employment is skills mismatching with high unemployment rates in youngsters with tertiary education).

The potential actions that countries can take in order to deliver sustainable GDP growth and permanent jobs for the youth refer to process harmonisation and on de-risking of their economies. In particular, in reducing technical barriers to trade that are not compatible with WTO rules, improve ease of doing business, improve regulatory quality and increase political stability. A timely upgrade of human capital is necessary to prepare the skills that are required for an integrated economy. These skills need to match the requirements of the key sectors that are expected to contribute to youth employment. These are business and financial services, construction and energy intensive industries.

Beyond this conventional model-based economic analysis, we devise the job –friendly scenario for the years ahead which responds to the technological progresses and long-term challenges such as robotisation and digitalisation trends. In this scenario, investments and regulations will aim at facilitating employability and the shift to new jobs and more flexible organisation of the work, while greater productivity of the economy will allow the introduction of new forms of social security etc.

Focusing now on regional dynamics in the Euro-Mediterranean area, technological progress and drivers of global competitiveness – expanding the market of horizontal nodes of production and distribution (resource mercantilism) and, at the same time, reinforcing vertical hubs of value creation (innovation mercantilism) – will also contribute to shaping future regional development scenarios as well. The ideal scenario for the Euro-Mediterranean region would be, thanks to enhanced industrial cooperation programmes between the Northern and Southern shores, to climb the ladder of global value chains.

The main assumption underlying our vision is that stepping up the position of the Mediterranean countries would require a reinforced regional integration using a multi-dimensional comprehensive and novel infrastructure, innovation and industrial policy (underlined in a co-development strategy) agenda implemented across several sectors: transport, energy and de-carbonization, water, digital economy, blue economy, sustainable urban development), and strengthened cooperation on education, employment and young employability programmes, and social agenda issues (e.g. youth and women empowerment and inclusion).

The guiding principles and targets of this new policy for the region will develop a new constructive dynamic, which will boost investment, regional projects and infrastructure development, in which the Union for the Mediterranean can take a leading role. This will create a multiplier effect in terms of economic growth and job creation.

Keywords: Regional Integration, Mediterranean Countries, Youth Employment, Computable General Equilibrium, Labour markets.

INTRODUCTION

The overall objective of this study is to examine how regional integration can provide both short-term and long-term solutions to the employment crisis in the Euro-Mediterranean region. The study targets both increased employment creation for and improved employability of youngsters in Southern and Northern Mediterranean countries, facing persistently high and increasingly unsustainable youth unemployment rates. The analysis conducted explores the conditions under which regional integration would contribute to enhance employment creation besides sustaining output growth, which is a precondition for the expansion of employment opportunities, yet not systematically translating into higher levels of employment. It will also bring evidence of the costs, in terms of rising inequalities and persistent instability, of not engaging in a path of regional integration conducive to inclusive growth.

The research is developed into four different sections. In the first two sections, the current state of affairs, challenges and policies as regards to youth unemployment and regional integration in the Euro-Mediterranean region are described. In the third section, the impact on youth employment creation through regional integration in the Mediterranean countries is quantified. Regional integration is considered to include two different dimensions: i) gradual abolition of tariff and non-tariff barriers, and ii) process harmonisation among countries and increased governance. In the fourth section, qualitative scenarios on job creation, long-term challenges are devised and policy recommendations are formulated to foster youth employment and employability in the region, in light of the alternative scenarios provided and discussed.

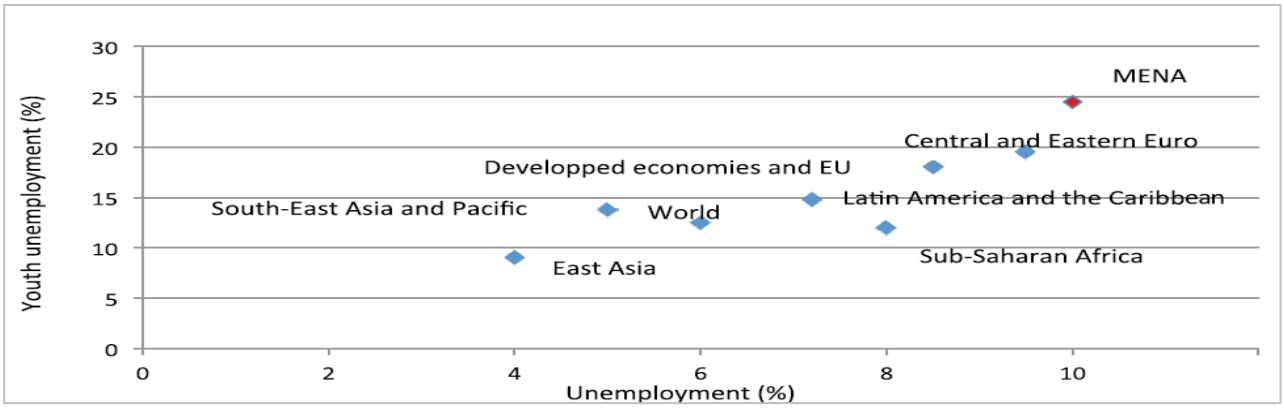
SECTION 1: LABOUR MARKETS: TRENDS, CHALLENGES AND POLICIES

This first section of the study discusses the current status quo in labour markets across the Euro-Mediterranean region and the policies formulated and implemented to address the widespread and persistent unemployment characterising these labour markets. In the analysis of the status quo, both the factors underlying and the outcomes magnifying the current youth unemployment crisis are considered, in light of the region's specificities compared to benchmark regions. In the discussion on policies, particular emphasis is placed on active labour market policies (ALMPs), mainstreamed in countries across the region to improve the employability of youth among other segments of the population disadvantaged in accessing the labour market.

Salient trends and conditions

The employment and social impacts of the global economic crisis have been particularly severe in the Euro-Mediterranean region. Southern, Eastern and Northern Mediterranean countries are all experiencing a prolonged employment crisis, whereas the improving employment trend in Northern European countries and related attractiveness for unemployed individuals across the region underpins migratory pressures. Unemployment in the Middle East and North Africa region, encompassing several Southern and Eastern Mediterranean countries, is the highest in the world, as highlighted by the World Economic Forum right after the Arab uprising in 2010 (Figure1).

Figure 1: total and youth unemployment in MENA countries and other world regions in 2010



Source: *World Economic Forum (2012)*

Unemployment trends have been deteriorating since the onset of the global financial and economic crises and the latest political developments in the South Mediterranean region, but even before the crises, the expansion of employment opportunities lagged behind economic growth in the region (European Commission, 2010). Unemployment in this region remains, by and large, a phenomenon affecting young people between 15 and 24

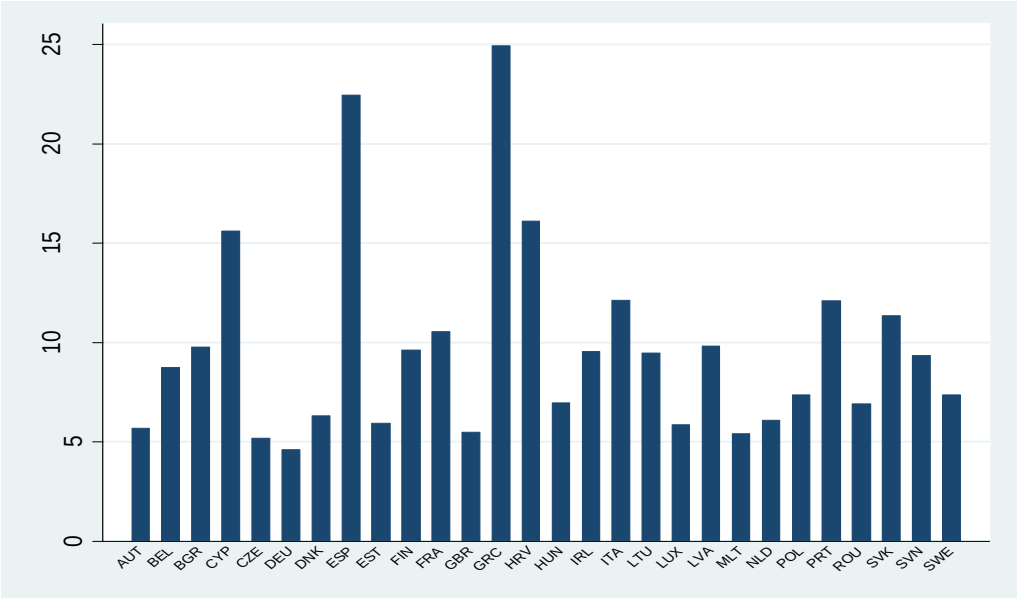
years old and, more particularly, young women (International Labour Organisation, 2015). This very fact attests that some regional specificities lie at the heart of the employment crisis facing Mediterranean countries, partly explaining why Southern European countries, in particular, also experience persistently high unemployment and youth unemployment rates.

Demographic pressures have been a leading cause of the high youth unemployment rates in the region, with a large decline in infant mortality rates and high fertility rates over the past fifty years, leading to high population growth rates. These rates translated into high labour force growth rates, a phenomenon which started in the 1970s in the Northern Mediterranean countries but currently reaching its tipping point in the Southern Mediterranean. These demographic pressures are bringing an increasing number of youngsters into the labour market, but are unable to provide a sufficient amount of job opportunities to absorb this wealth of new entrants. A striking feature of this phenomenon, specific to the region, is that education is not a guarantee against unemployment. Data suggests that the youth unemployment rate in the region increases consistently with the level of education attained. In countries such as Egypt, Jordan or Tunisia, youngsters having completed their tertiary education are two to three times more likely to be unemployed than those with primary education or less (International Labour Organisation, 2015). This contrasts with the situation in most developed and developing regions where unemployment decreases as the level of education rises.

Another notable regional specificity is unemployment duration - longer for youths than for adults as compared to most other regions, indicating persistent difficulties in finding the right job and severe implications for labour productivity. In fact, youth labour force participation rates in the region have stood at their lowest levels compared to comparable situations, at approximately 31% in the Middle East and 34% in North Africa in 2014, down from 35.5% and 37% respectively in 1991 (International Labour Organisation, 2015). In particular, female labour force participation is remarkably low in the region, approximately 14% in the Middle East and 20% in North Africa, with gender differentials more significant and resistant than in most regions. Unemployment rates for young women exceed those of young men by as much as 21% on average throughout the region.

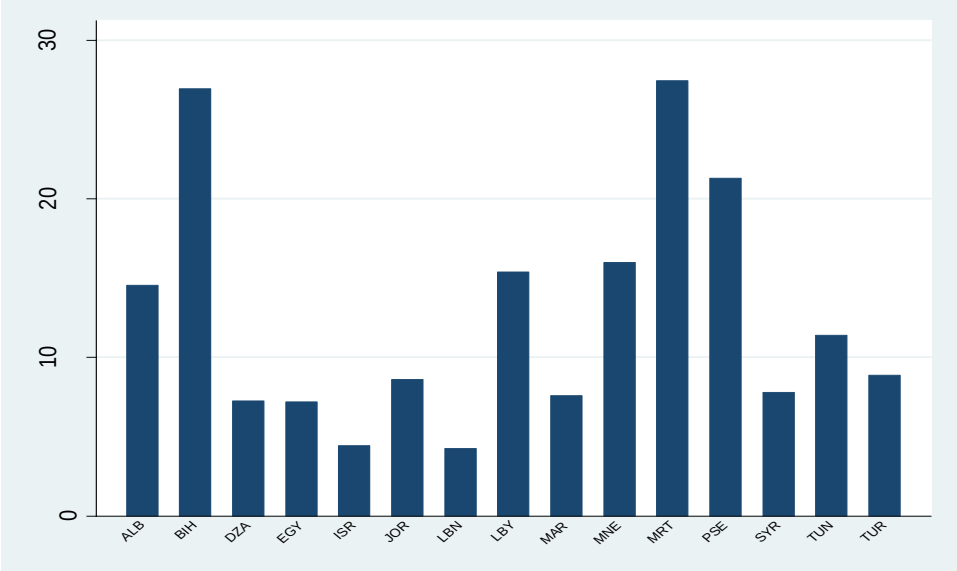
According to publicly available data by the International Labour Organisation (2016), unemployment rates in the Mediterranean region are notably higher than those observed in most EU Member States, although the two regions are characterised by a certain degree of country heterogeneity. Figure 2 shows the value of unemployment rates in EU28 countries for 2015, while Figure 3 shows the same information for Northern and Southern Mediterranean countries. As previously mentioned, average values for the two regions conceal very important differences between countries. In the particular case of the EU28, Greece and Spain are the two countries with highest unemployment rates, while in Nordic and Continental Europe rates are closer to 5%-6%. Similar differences apply to Northern and Southern Mediterranean countries, with Mauritania and Bosnia and Herzegovina showing the highest rates in the region.

Figure 2: unemployment rates in EU28 countries in 2015



Source: *own elaboration using ILOs' data and ISO 3-digit country codes.*[1]

Figure 3: unemployment rates in Eastern and Southern Mediterranean countries other than EU28 countries in 2015



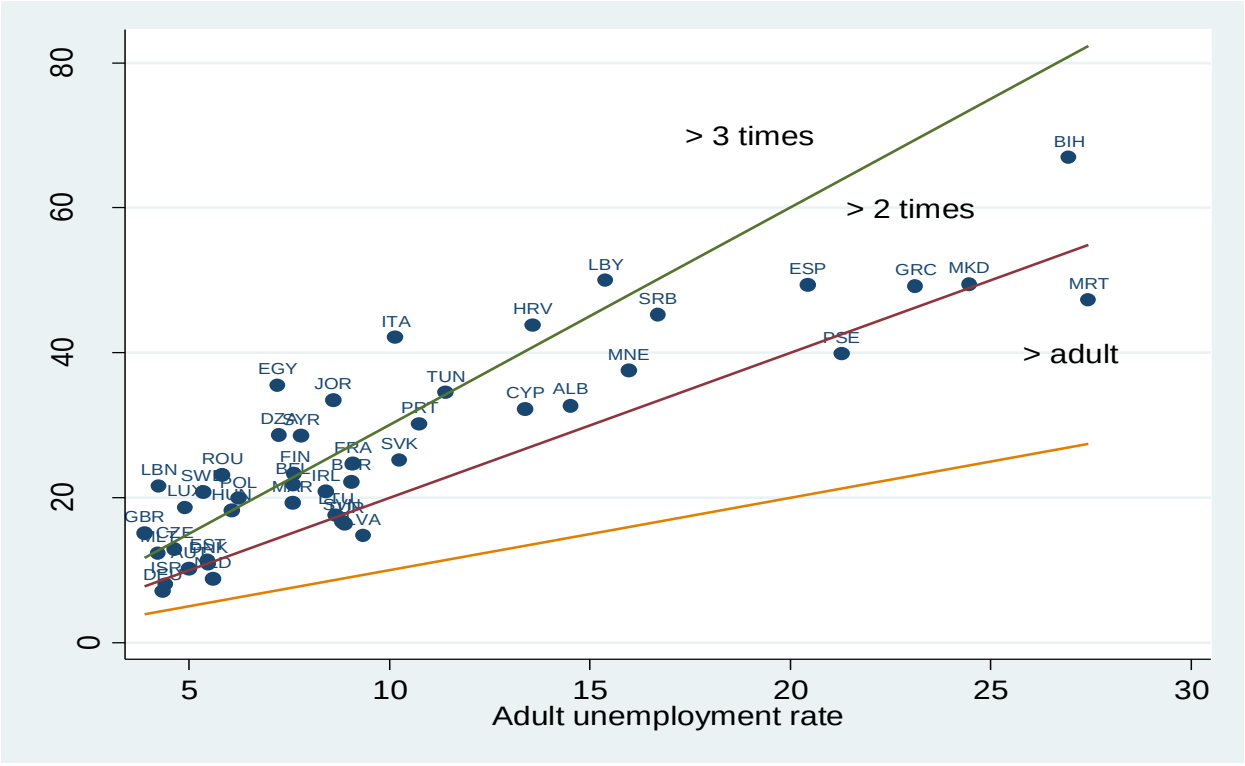
Source: *own elaboration using ILOs' data. ISO 3-digit country codes.*[2]

[1] AUT: Austria, BEL: Belgium, BGR: Bulgaria, CYP: Cyprus, CZE: Czech Republic, DEU: Germany, DNK: Denmark, ESP: Spain, FIN: Finland, FRA: France, GBR: United Kingdom, GRC: Greece, HRV: Croatia, HUN: Hungary, IRL: Ireland, ITA: Italy, LTU: Lithuania, LUX: Luxembourg, LVA: Latvia, MLT; Malta, NLD: Netherlands, POL: Poland, PRT: Portugal, ROU: Romania, SVK: Slovak Republic, SVN: Slovenia, SWE: Sweden.

[2] ALB: Albania, BIH: Bosnia and Herzegovina, DZA: Algeria, EGY: Egypt, ISR: Israel, JOR: Jordan, LBN: Lebanon, LBY: Libya, MAR: Morocco, MNE: Montenegro, MRT: Mauritania, PSE: Palestine, SYR: Syria, TUN: Tunisia.

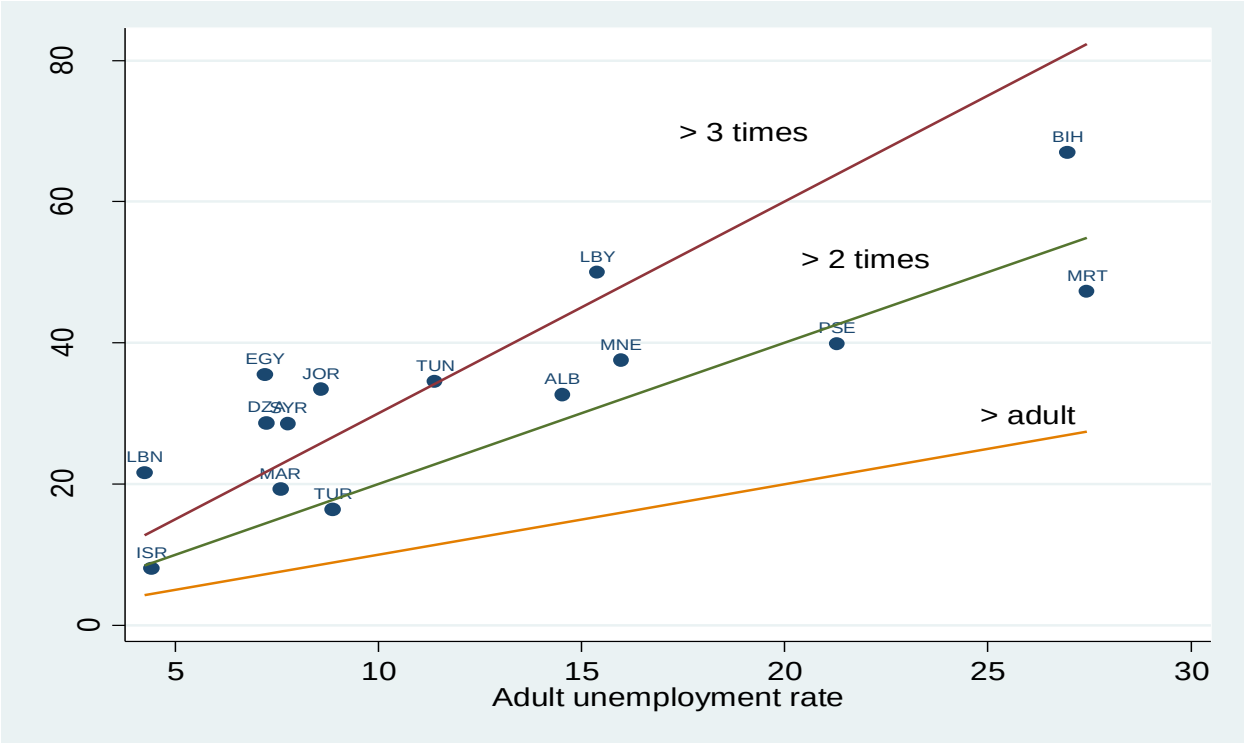
As previously mentioned, the situation in the region is even worse for youngsters, with youth unemployment rates being higher than the average rates in nearly all other countries. Figure 4 shows the ratio between youth and adult unemployment rates in 2015 for the EU, Candidate and potential candidate countries and Southern Mediterranean countries. The lines represent the number of times when youth unemployment rates are above adult unemployment rates. Mostly, youth unemployment rates are two or three times higher than adult rates. In Figure 4, only Northern and Southern Mediterranean countries are shown. While considering the very few exceptions, the youth unemployment rate is more than three times the adult one. Young individuals face more difficulties in accessing jobs than the adult population during their transition from school to work. The main reason is their lack of experience (what is known in the literature as "experience gap") but there are several factors that can improve or even worsen this transition (European Training Foundation, 2015a).

Figure 4: youth and adult unemployment rates in EU28 and Southern and Eastern Mediterranean countries in 2015



Source: *own elaboration using ILO data.*

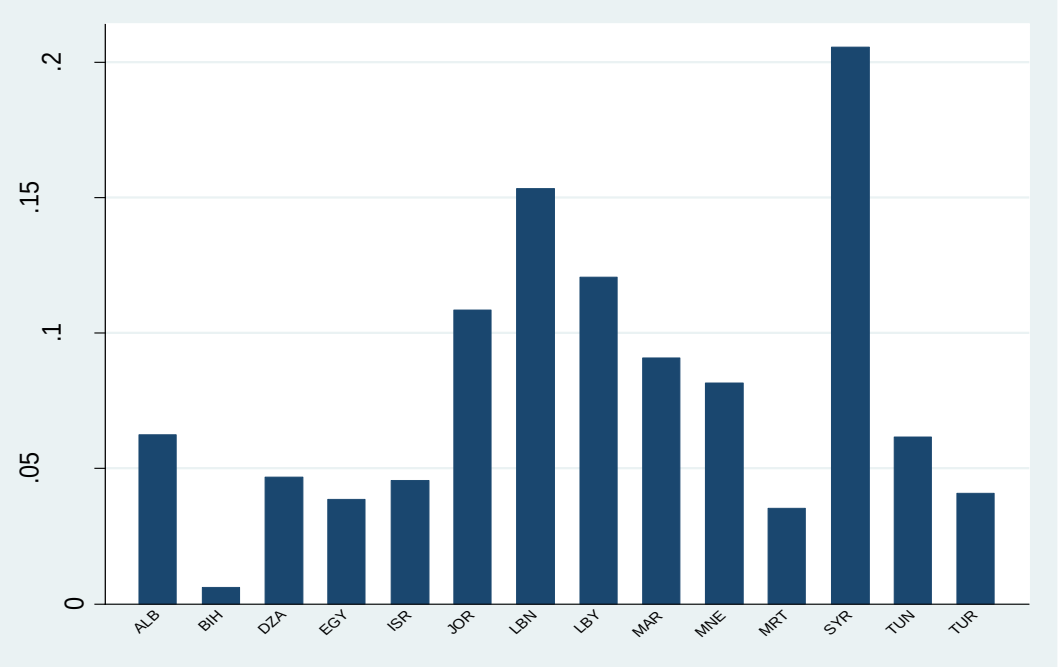
Figure 5: youth and adult unemployment rates in non-EU Southern and Eastern Mediterranean countries in 2015



Source: *own elaboration using ILO data. ISO 3-digit country codes used to identify the countries.*

These very high unemployment rates, particularly among the youth, have important economic and social consequences. On the one hand, labour market conditions are one of the most relevant pull factors explaining migration flows from certain countries to others with better labour prospects, not only to the European Union but also to other parts of the world (Figure 6). In fact, youth immigration is clearly increasing and regional destinations are also changing from traditional ones, not only addressing EU countries as the main destination (United Nations, 2016; OECD, 2016 and Table 1).

Figure 6: stock of emigrants as a share of total population in 2013



Source: *own elaboration from World Bank data. Value for Palestine is 96% (not shown in figure).*

Table 1: main destination countries of emigrants from Southern and Eastern Mediterranean countries

SOURCE	MAIN DESTINATION (% OF TOTAL MIGRANT STOCKS IN 2013 ABOVE OR EQUAL 5%)
Albania	Greece (45%), Serbia (19%), Bosnia and Herzegovina (16%), Croatia (7%)
Algeria	France (81.5%)
Bosnia and Herzegovina	Croatia (32.5%), Serbia (26%), Montenegro (11%), Slovak Republic (8%), F.Y.R. of Macedonia (8%)
Egypt	Saudi Arabia (38.5%), Kuwait (14.5%), UAE (9%), Jordan (8%), United States (5%)
Israel	United States (40.5%), Palestine (17%), Germany (7%), Canada (7%), United Kingdom (6%)
Jordan	Saudi Arabia (38.5%), UAE (18%), US (10%), Palestine (7%)
Lebanon	Saudi Arabia (20%), US (15.5%), Australia (12%), Germany (11%), Canada (11%), France (6%)
Libya	Italy (26%), UK (14%), Israel (12%), Vietnam (8%), Egypt (6%)
Mauritania	Senegal (30%), Nigeria (25%), France (12%), Mali (10.5%), Spain (7.5%), Ivory Coast (6.5%)
Montenegro	Albania (39.0%), Serbia (23.4%), Bosnia and Herzegovina (19.5%), Croatia (8.8%)

Morocco	France (30.5%), Spain (25.5%), Italy (14%), Belgium (6.5%), Netherlands (6%), Israel (5.5%)
Palestine	Jordan (52.5%), Lebanon (14%), Saudi Arabia (12.5%), Libya (7%), Syria (6%)
Syria	Saudi Arabia (25%), Lebanon (19%), Jordan (18%), Turkey (15%)
Tunisia	France (59%), Italy (17%), Germany (5%)
Turkey	Germany (47.9%), France (8.5%), Netherlands (6.5%), Austria (5.1%)

Source: *own elaboration from World Bank Bilateral Migration Matrix 2013*

On the other hand, high unemployment rates are also discouraging youth from participating in the labour market (European Training Foundation, 2015b) and, in fact, NEET (Not in Employment, Education or Training) rates are also very high in the region. For instance, according to latest estimates of the International Labour Organisation with available Eurostat statistics for 2014, the NEET rate for the age group 15-24 in Algeria is 23%, in Egypt is 28%, Israel 16% and 25% in Jordan and Tunisia, while in the European Union is around 12.5%.

High unemployment rates for high skilled youth are an indication of the existence of **skill/education mismatches** in labour markets across the region. For instance, in Egypt the unemployment rate of young individuals with tertiary studies is nearly 2.5 times higher than the one observed for individuals with primary level studies or lesser education. At the same time, according to World Bank (2012), thousands of vacancies are not being filled. The main reason underpinning these mismatches, according to the Union for the Mediterranean (UfM) ad hoc work group on job creation (2016), is that skills' demands are changing rapidly "due to the globalisation of the economy and technological innovation, which in turn speeds up organisational changes in businesses and creates the need for continuous training, also for adults". Issues relating to skill/education mismatches drew particular attention to the inability of education systems in the region to provide graduates with the skills required in the labour market on the supply side and the insufficient creation of high skilled jobs in the economy on the demand side. Furthermore, these mismatches are at least partly explained by the attractiveness of public sector jobs, which provide a series of advantages to a relatively limited pool of workers, but have a substantial influence on educational choices, not tailored to the requirements of the evolving private sector.

Skill mismatch is identified as a particular constraint on business development in Egypt (50% of all firms interviewed), Lebanon (38%), Algeria (37%), Jordan (33%), and Morocco (31%) (European Training Foundation, 2015a). These results point to two important problems in the region: the need to improve education and training systems to develop adequate skills (UNESCO, 2016) and the limited capacity of current intermediation systems to achieve efficient job matching. The underlying factors also include the impact of rigid regulations and socio-cultural norms on the employability of job seekers and the level of employment in the region. Some studies pointed out the impact of cultural and religious norms (i.e. patriarchal family unit) or behaviours related to the so-called "resource curse" in constraining labour force participation in certain

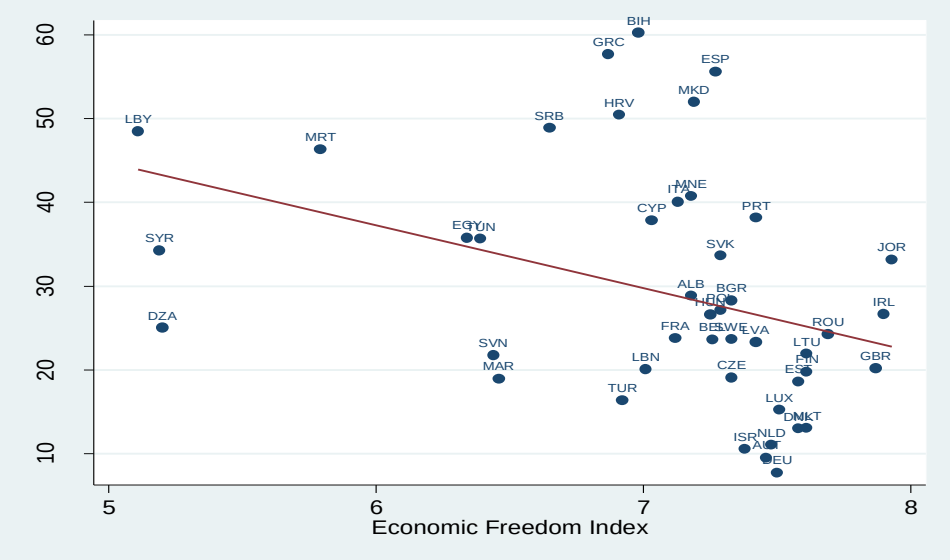
segments of the population, above all young women[3]. To be overcome, all these challenges require a high level of social dialogue. (Tzanattos, 2014).

Putting aside the factors related to labour supply, labour demand remains the prime determinant of how much and what type of jobs are created, and most labour markets in Northern and Southern Mediterranean countries have important constraints from the demand side.

First, macroeconomic conditions and institutional frameworks are not supportive for business development and job creation, as regularly highlighted in the World Bank "Doing Business" reports or by the World Economic Forum (2016). Labour market regulations are identified as an important impediment to employment creation and, more broadly, a core constraint in business expansion for up to one third employers in the region, among the highest share in all developing regions worldwide (Gatti et al, 2014). The negative effects of a rigid regulatory framework and the resulting risk-averse behaviours of employers are particularly severe for first time job seekers (Ahmed, 2012). Furthermore, poor enforcement of labour market regulations favours informality, which is widespread in the region, with an incidence in some of the South and Eastern Mediterranean Countries (SEMCs) amongst the highest worldwide. (SEMCs).

As shown in Figure 7, there is a clear association between the Fraser Institute's Economic Freedom Index and youth unemployment rates in the EU28 and other Southern and Eastern Mediterranean countries, an association that is also observed when the latter group of countries is considered in isolation. (Figure 8).

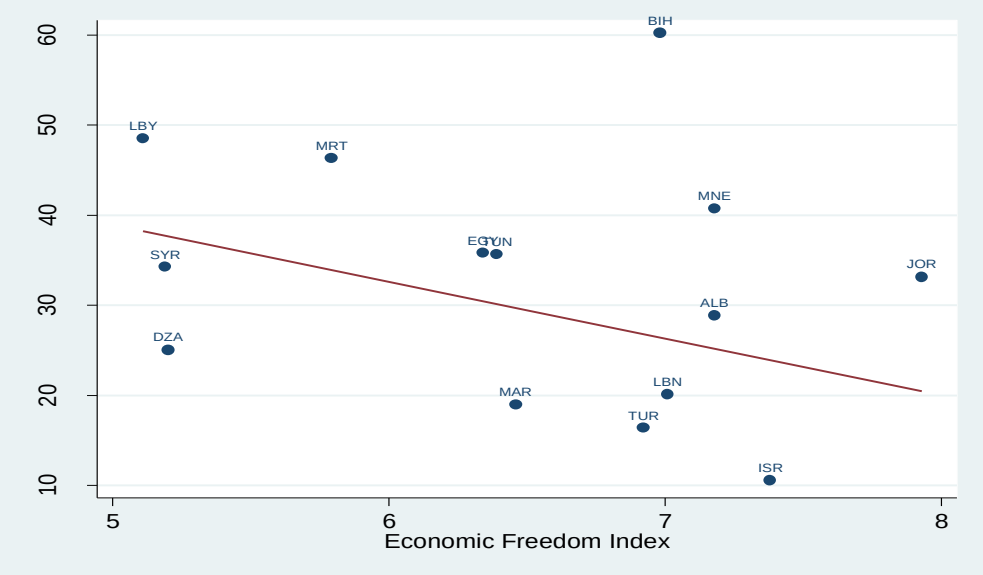
Figure 7: youth unemployment and Economic Freedom Index in EU28 and Southern and Eastern Mediterranean countries in 2015



Source: *own elaboration using ILO and Fraser Institute data.*

[3] See for example Youssef, 1978; Clark, 1991; Kandiyoti, 1988; Moghadam, 1993 and 2004; Ross, 2008; Rauch and Kostyshak, 2009 or Tsani et al., 2013.

Figure 8: youth unemployment and Economic Freedom Index in non-EU Southern and Eastern Mediterranean countries in 2015



Source: *own elaboration using ILO's and Fraser Institute's data.*

Second, the high share of the public sector in terms of employment (Behar and Mok, 2013) and the high presence of casual firms and jobs (Organisation for Economic Cooperation and Development, 2009; World Bank, 2011; Tijdens et al, 2015) also place a significant limit on the creation of high quality jobs and higher productivity, as previously noted.

Challenges and policies to stimulate job creation

As highlighted by the UfM ad hoc work group on job creation (2016), labour market policies should not only concentrate on the supply side but should also be designed as a comprehensive package of measures involving supply and demand policies, whilst looking for positive synergies among them.

However, the mainstream approach to the problem of youth unemployment in most countries has focused on labour supply. Approached in this way, youth unemployment is considered temporary, as young people will eventually manage to fill their "experience gap", based on the assumption that market dynamics will be able to solve the problem in the long run. Longitudinal studies have demonstrated that most individuals end up succeeding in the labour market, although school-to-work transitions could take several years, explaining why unemployment rates reduce with age. In light of this approach, the best option for policy makers is to deregulate the labour market, as a flexible market will provide more opportunities for the youth to fill their gap in work experience. In fact, labour market flexibility is often associated with the possibility of introducing atypical labour contracts, such as fixed-term or part-time contracts, as a way to improve the prospects of the young unemployed or those working in poor conditions in the informal work sector.

There are contrasting criticisms relating to the mainstream approach presented above. On the one hand, reducing employment protection might increase the chances of finding a job for some, but not for all young people and, most particularly, not for the least motivated, or those with a shortage of skills. On the other hand, flexible contracts in more deregulated labour markets might make it easier for young individuals to find jobs and reduce their generic experience gap, but they don't significantly contribute to the accumulation of specific work experience, because there is a strong disincentive to invest in job specific competences for both the employer and the employee. This was clearly shown in some research conducted in Spain and Italy (García-Pérez et al., 2016; Berton et al., 2011), which concluded that further deregulation of labour markets is not enough to address the issue of youth unemployment.

These criticisms justify the need for policy interventions in the form of active labour market policies (ALMPs). ALMPs have been effectively introduced in the region and, in general, they are designed and executed under the same rules as in most EU countries, in order to improve the employability of workers (European Training Foundation, 2012). However, additional efforts should be devoted to assess the impact of these different actions using appropriate evaluation techniques (European Training Foundation, 2014). Moreover, these policies should evolve from the current paradigm of "activation policies" involving mainly benefit conditionality and the co-responsibility of the unemployed towards a focus on assisting the latter in becoming employable first and then searching for a new job, with the help of efficient intermediation services through public and private agencies.

Table 2: ALMPs implemented in the Southern and Eastern Mediterranean countries

COUNTRY	ACTIVE LABOUR MARKET POLICIES
Algeria	ALMPs are well established. There is a wide range of instruments with two main functions: (i) services to ease social tensions by providing immediate temporary work contracts/internship experiences and public works programmes for the poor; and (ii) services to support entrepreneurship and micro-enterprises through providing business advice, training, credits, tax exemptions and business monitoring. Despite important resources dedicated to the ALMPs, there is limited information on their results.
Egypt	60% of ALMPs exclusively identify young people as a target group. Direct job creation is one of the most important programmes. Efforts have also been devoted to introducing start-up incentives, especially through the intervention of international donors and the private sector. Further efforts should be made to achieve greater coordination regarding vocational and educational training and intermediation.
Jordan	There was no tradition in the use of ALMPs, but a national employment strategy has recently been adopted for the period 2011-2020. Up to now, vocational training programmes have been quite ineffective.
Israel	ALMPs focus on specific targeted groups with low participation rates. Evaluation studies point to success in several programmes, but the active labour market policy still faces

	some challenges. Israel lacks a 'universal' active labour market policy and specifically ALMPs toward youth. Moreover, most ALMPs are developed and implemented outside the government ministries, with TEVET (the Israeli employment incubator) and private contractors playing a major role in the design and implementation of new ALMPs. According to the OECD, public spending on ALMPs in Israel is particularly low compared to international standards, the second lowest rate in the OECD after Mexico.
Lebanon	Training is the most widely used type of ALMP together with support for start-ups, but more effort towards coordination is required. Intermediation services are run exclusively by the government, but their efficacy is limited.
Libya	ALMPs are clearly underdeveloped. Training, intermediation and orientation services are not working properly.
Morocco	ALMPs are focused on private informal employment trying to achieve a better youth employability by providing access to a first professional job experience; and also promoting self-employment. Actions are too much focused on unemployed graduates while other disadvantaged groups should also be considered (women, rural areas, sectors).
Palestine	ALMPs are being developed through the establishment of a semi-independent agency running direct job creation programmes, training and the provision of micro-credits for business start-ups. There is also an active involvement of NGOs and international donors.
Tunisia	The country has a long tradition of ALMPs and provides many measures (internships for training, self-employment support, wage subsidies for job insertion of graduates) that have been reduced and structured along four main axes: job creation; the promotion of entrepreneurship and micro-enterprises; the protection of existing and threatened jobs; and employability and activation of unemployed through training. In fact, Tunisia has been attempting to replace traditional, supply-led VET systems with a demand-led approach. Another relevant problem being tackled is the mismatch between the skills profile of Tunisian potential migrants and the demands of international employers.
Turkey	The Turkish Employment Agency has been implementing Active Labour Market Programmes in Turkey for more than a decade. Active labour market policies (ALMPs) in Turkey equate to training programmes. According to the OECD, active labour market policies more than doubled between 2015 and 2016. The number of participants in subsidised on-the-job training programmes increased substantially during the same period.

Source: *own elaboration*

In a recent systematic review, Kluve et al (2016) analysed the impact of youth employment programmes on labour market outcomes. In particular, they compiled information on 113 counterfactual impact evaluations covering a wide range of methodologies, interventions and countries. Their analysis evaluated the effectiveness of various interventions taking into consideration a series of factors that could influence programme performance (such as country context, targeted beneficiaries, programme design and implementation, or the type of evaluation). The authors concluded that youth programmes have a positive effect, but only in one-third of the evaluated actions was the impact clearly significant. In general, programmes have been more successful in middle- and low-income countries, where they usually target more vulnerable groups and focus on skills and entrepreneurship training; two aspects clearly related to an appropriate profiling of the individuals.

In particular, entrepreneurship is capturing the attention of policy makers across the region for two reasons. First, in response to the difficulties facing young people in their transition from the education system to the labour market during and after the great financial and economic crisis. Second, because there is wide consensus that entrepreneurs positively contribute to innovation and economic growth.

According to the Global Entrepreneurship Monitor, the proportion of the adult population who own an established business varies greatly between countries. These differences are partly related to the reasons leading to the decision to start a new business, with a large number of businesses in the region established not to address market needs and exploit related business opportunities, but because the owners cannot find satisfactory jobs. This very fact might hinder the capacity of the business to grow. The lack of entrepreneurship skills is one of the main barriers to business creation in the region. In most European countries, nearly two thirds of the adult population believe they do not have the appropriate skills to become an entrepreneur. For this reason, educational policies are trying to promote those hard and soft skills that will help youngsters to adapt and to take advantage of changing economic conditions, by means of self-employment.

However, it is not clear which skills will result in successful entrepreneurial activities and should, therefore, be promoted. In fact, in the literature no evidence was found of a strong link between traditional human capital measures and nascent entrepreneurs. In one of the most influential contributions on this issue, Lazear (2004, 2005) argues that individuals with a balanced and diversified set of skills are more likely to be self-employed, whereas paid employees benefit from specialising in a certain field of expertise. In fact, the basic yet diversified knowledge of entrepreneurs is complementary to their employed counterparts' specific expertise, suggesting that they should be streamlined. In this light, the UfM ad hoc work group on job creation (2016) highlighted that "programmes to support entrepreneurship have to be prioritised, sufficiently diversified and targeted to accommodate different needs, ranging from poor or rural communities to highly skilled university graduates".

Promoting entrepreneurship can help to create new jobs and favour the transition from the informal to the formal sector, if a well-structured strategy is put in place. The European Commission and the Organisation for Economic Cooperation and Development (OECD) have adopted a strategy based on the concept of "smart specialisation" (EC, 2012 and OECD, 2012). The smart specialisation approach combines industrial, educational and innovation policies in order to identify and select a limited number of priority areas for

knowledge-based investments, focusing on their strengths and comparative advantages through the active involvement of active stakeholders. This implies that public resources are concentrated in supporting a limited number of sectors, trying to create synergies between private and public participants. An important aspect of the strategy is the mention of cooperation with other regions as being crucial in finding complementary capabilities and related cross-borders initiatives.

In summary, the main challenges facing UfM countries, as far as their labour markets are concerned, consist of improving workers' employability and achieving a better match between labour supply and demand on the supply side, and creating more and better opportunities for jobs by means of sustained and inclusive growth on the demand side. Challenges related to the supply side can be tackled with increasing resources devoted to more efficient ALMPs, focused on vocational and education trainings, orientation, intermediation, labour matching and career guidance. Challenges related to the demand side require a more complex policy mix. In particular, more and better jobs can be generated by improving competition in product markets through deregulation, but also by investing in infrastructure and adopting smart-specialization strategies that would bring more benefits from further regional integration.

In fact, more coordination between countries in the region through deeper regional integration can boost employment through different channels. It is well known that providing better access to markets through the elimination of trade barriers could create new opportunities for competitive firms which, in turn, would increase labour demand and contribute to generating new jobs in the region. The elimination of tariffs on imports could make domestic prices fall to the lowest regional prices. Initially, domestic production falls, but domestic consumption increases and total imports also increase. Larger markets, as a result of regional integration, may allow firms to exploit economies of scale, thus driving down costs and prices to local consumers. It may also increase the range and variety of products which are available to consumers. The reduction in tariffs leads to trade creation among the participants in the liberalised region.

The effect of the tariff reduction on economic welfare can be segregated into three effects: the gain for consumers from lower domestic prices, the loss of profits to producers and the loss of tariff revenue to the government. Under standard assumptions, consumer gain exceeds the producer and government loss from reducing tariffs and, from that, there is an overall gain in national welfare as a result of this policy change. Similar results are obtained in the case of non-tariff barriers. A part of trade creation, trade diversion also occurs: imports from a third external country are now displaced by imports from partners that are now cheaper in relative terms which also contributes to job creation.

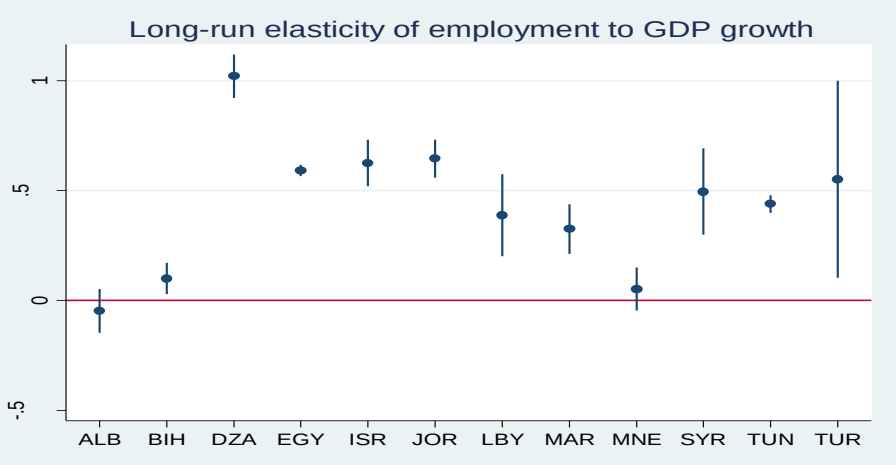
However, although the effects of further integration would be positive in the medium and long run, there could be an initial displacement of workers. In particular, trade liberalisation induces an expansion of export-related sectors but, at the same time, there is a reduction in the local demand for import-competing sectors that displaces workers in these sectors to non-tradable activities or, alternatively, to newly created sectors. In fact, further economic integration can generate clear productivity gains. Importing creates competition that forces domestic firms to become more efficient. It also provides better access to new technologies and allows firms

who are importing intermediary goods to export more efficiently. Those firms that ride the wave of continuing transition towards higher productivity in tradable activities typically pay higher wages to their workers, and these workers tend to have greater skills and be in less routine occupations; but low-skilled workers and workers undertaking routine jobs could be damaged by this situation. For this reason, policy efforts should be devoted to minimise the negative effects of this transition.

Box 1: long-term employment intensity of growth

Using data from a sample of 167 countries between 1991 and 2009, Crivelli et al (2012) 1 found that point estimates of the long-term elasticities of employment to GDP growth typically fall in the 0–1 range, with the majority of them ranging between 0.3 and 0.8. However, there was a considerable variation across regions, with the highest estimates typically recorded for the most economically developed regions. A higher value of the elasticity implies a greater capacity to generate employment during expansionary phases.

Using data from the ILO's KILM dataset for employment and GDP data from the IMF World Economic Outlook, we have obtained country-specific estimates for the UfM countries using data from 1991 to 2015. Results are summarised in the figure below. As we can see from the figure, elasticities for most UfM countries are positive and statistically different from zero. However, while values for most countries are around 0.5, the estimates for Albania, Bosnia and Herzegovina and Montenegro are significantly lower than the rest. This implies that these countries would create less jobs than the rest of the countries in the area with similar levels of growth.



Non-linear estimation of the model for Lebanon and Mauritania did not provide significant results. Palestine was not considered due to the lack of GDP data for the considered period.

Source: *own elaboration.*

1 Crivelli, E., Furceri, D., Toujas-Bernaté, J. (2012), Can Policies Affect Employment Intensity of Growth? A Cross-Country Analysis, IMF WP/12/218.

If closer integration improves the efficiency with which factors are combined, it is also likely to induce greater

investment. While this additional investment is taking place, countries may experience a medium-term growth effect. If such investment is associated with faster technical progress or accumulation of human capital, long-term growth rates may also be improved. Lastly, there are other economic aspects that can also add to the trade effects already described. In particular, infrastructure development could be improved and provide better access to markets through more efficient transport networks, that could also attract more foreign direct investment which would, in turn, reinforce the positive effects of integration on the labour markets.

SECTION 2: REGIONAL INTEGRATION: DIMENSIONS, POLICIES AND STATUS QUO[4]

Integration is a process encompassing different dimensions of deepening and broadening interaction between countries coming progressively together into an increasingly interdependent whole. Regional integration refers to the process of integration between countries within a given region, defined as a space of relative proximity and separateness, connectivity and homogeneity[5] between a set of countries, as compared to the rest of the world (Jong Choi and Caporaso, 2002).

In order to be grasped in all its complexity, regional integration must be understood as a dual process consisting of the interplay between regionalism and regionalisation. Regionalism is defined as a top-down, primarily state-led process of engaging in enhanced cooperation and building formal regional institutions.[6] Regionalisation is defined as a bottom-up, spontaneous and endogenous process of increasing people-to-people contacts, involving a variety of non-state actors organised in formal or informal networks (Börzel and Risse, 2016). The distinction between the two concepts enables us to understand the self-reinforcing potential of regional integration, consisting of a positive feedback loop between regionalism and regionalisation. States engaging in enhanced cooperation and building of formal institutions at the regional level create the conditions for enhanced formal and informal contacts between their non-state actors and the resulting construction of a common sense of identity and purpose is fertile soil for further cooperation and building of institutions.

In the literature, regionalism and regionalisation are often discussed in relation to their equivalent processes at the global level; globalism and globalisation. The relation between regionalising and globalising processes is neither a simple matter of scale, nor necessarily one of trade-off. In most cases, state or non-state actors are explicitly motivated to integrate in a whole regional, either to engage in or resist globalising processes, or a combination of both, depending on their strategy of internationalisation. State and non-state actors might achieve different levels of performance depending on the retained internationalisation strategy, meaning that depending on the modalities of regional integration and the interplay of such modalities with globalising processes, some actors might achieve better outcomes than others within the same regional ensemble. This suggests that modalities of regional integration matter and that the success of regional integration schemes ultimately lies in the quality of the institutions regulating the power struggles between actors responsible for defining such modalities.

[4] This section was published as EMNES Working Paper in June 2017, Ayadi and Sessa (2017).

[5] *Proximity and separateness* refer to physical bridges and barriers between countries and the psychological, cultural, social and political proximity or separateness between populations in those countries inherited from these geographical features. *Connectivity* refers to the flows of goods, services, money, people and data between countries and the resulting interconnectedness between such countries, most particularly in economic terms. *Homogeneity* refers to similarities between countries in a more or less large number of structural yet evolving characteristics, including norms, values, interests, political system, economic development and so on (Jong Choi and Caporaso, 2002).

[6] In this definition of regionalism, *cooperation* and *institutionalisation* are considered as two distinct levels of regional integration, assuming implicitly that cooperation is a least advanced form of regionalism than institutionalisation. Wunderlich (2013) highlighted that integration is often confused with institutionalisation in the literature, resulting in cooperation being somehow excluded from its definition, and stressed the importance of considering cooperation and institutionalisation as two distinct yet interrelated components of regional integration.

In our definition, **regional integration is a process encompassing different dimensions of deepening and broadening interaction between state and non-state actors**. In fact, depending on the conditions and motivations underpinning integration of state and non-state actors into a regional whole, one dimension of integration might be preferred and/or prioritised over another.

In the literature, the two dimensions of regional integration more often taken into consideration are the political and the economic dimensions. Economic integration is usually preferred as the main driver of regional integration between countries because, broadly considered, it is easier to achieve than political integration. As early as the 1960s, Bela Belassa considered an advanced form of political integration – political union – as the last of five subsequent steps towards regional integration, basically consisting of progressive economic integration – free trade area, customs union, common market, economic and monetary union (Bela Belassa, 1961). An emblematic illustration of this very fact is the establishment of the European Coal and Steel Community as the first step of the process of regional integration, that later made Europe an example to the rest of the world of regional integration.

An important distinction must be drawn between minimalist and maximalist approaches to regional political and economic integration. There is a difference between signing treaties aimed at institutionalising increasing political and economic interactions between regional partners and the actual implementation of such treaties. As Walter Mattli puts it in an influential book on the logics of regional integration, implementing regional integration treaties is a "lengthy process of establishing common rules, regulations and policies that will translate the aspiration for regional prosperity into reality" (Mattli, 1999: 12). The author points out that the majority of regional integration schemes have failed at the implementation stage, e.g. as is the case today with the Maghreb Arab Union.[7] In the case of regional economic integration, minimalistic approaches foresee the signature of free trade agreements aimed at facilitating trade between regional partners through tariff dismantlement, whereas maximalist approaches advocate deeper measures aimed at enhancing convergence of market conditions between the partners through harmonisation of their respective regulations and other similar adjustments.

In their analysis of regional integration, some authors retain a third broad dimension encompassing all the interactions between countries that cannot be properly understood if considered in political or economic terms. In an insightful comparative analysis of regional integration processes around the world, Petit (2006) considers three types of transactions between countries – trade of goods and services, transfer of intangible non-marketed products and financial flows – and three different types of logic driving such transactions – economic, political and civilian[8]. The economic logic refers to market-driven relations between economic actors, i.e. private companies. The political logic refers to power relations between political actors, i.e. public administrations. The civilian logic refers to people-to-people relations, motivated by reasons other than economic and political ones. Most transactions between individual countries are motivated or influenced by a combination of these three

[7] The Maghreb Arab Union among other regional integration schemes are presented and discussed below in the section dedicated to Euro-Mediterranean integration policies.

[8] Petit (2006) labels this dimension civilian integration, whereas other authors prefer to label it human, cultural or even social dimension, although the latter is often considered transversal to the political and economic dimensions.

logics, the relative importance of which may vary according to the areas and modalities of regional integration considered.

Table 3: Regional integration transactions and underlying logics

LOGIC			
	Economic	**Political**	**Civilian**
Agents/vectors	*Market organisations, firms*	*Diplomacy, army, police, justice*	*NGOs, individual actions*
Type of objective	*Profit, national wealth*	*Power, democracy*	*Welfare, social capital*
TRANSACTIONS			
Trade of goods and services			
Nature of transactions	*Trade flows*	*Governmental aid, for civil or military purposes*	*Private aid, from NGOs and families*
Base of arrangements	*Trade agreements*	*Alliances, aid policies*	*Associations, NGOs*
Transfer of intangible non-marketed products			
Nature of transactions	*Intangible exchanges of information, science, education, health*	*Diplomatic and political relations, defence, security, justice*	*Cultural exchanges, political actions, familial links*
Base of arrangements	*Research diffusion agreements and open science arrangements*	*Alliances, international treaties, governmental cooperation*	*Networks of migrants, NGOs, international associations,*
Financial flows			
Nature of transactions	*Cross-border payments, FDI, financial investments*	*Financial aid, exchange rate policies*	*Non-governmental aid, migrant remittances*
Base of arrangements	*Investment codes, fiscal arrangements, property rights*	*Financial regulations, monetary zones, international cooperation*	*Ethical codes, NGOs financial solidarity, money laundering*

Source: *Petit (2006)*

In other circumstances, one specific sub-dimension of political or economic integration turns out to be the main trigger or driver of integration between countries and draws the attention of researchers of policy makers, as in the case of security integration and financial integration. In general, notable advancements in security or financial integration resulted from the necessity to find coordinated responses to common concerns, more effective than

fragmented actions at a national level, suggesting the need for political and macroeconomic stability is a stronger incentive for countries to integrate than a common aspiration of regional prosperity.

The core concept discussed in the literature on security integration is regional security complexes, defined as a "groups of states whose primary concerns link together sufficiently closely that their national securities cannot realistically be considered apart from one another" (Buzan, 1991: 190). This definition put a spotlight on the elements of interdependence between security threats underpinning security relationships within a given region, fertile soil for advocating and actively pursuing regional integration.

In the case of regional financial integration, financial crises have historically been a strong incentive for countries to integrate and manage systemic and global risks at a more appropriate level of governance than merely nationally. This has been the case in the aftermath of the financial turmoil of the late nineties in East Asia, which prompted certain authors to argue in favour of financial integration as a precondition for successful and sustainable trade liberalisation and economic integration within a region (see Dieter, 2000). More recently, the Eurozone debt crisis resulted in the necessity to integrate further financially, which gave rise to the banking union, whose main pillars are the single supervisory mechanism at the Eurozone level, a common resolution and recovery framework and a single deposit insurance.

The analysis of the current status quo in regional integration between UfM countries[9] builds on the above discussion. First, cooperation and integration policies and programmes between partner countries in the Euro-Mediterranean region are overviewed. Second, the different areas of cooperation and integration encompassed in the policies and programmes overviewed are discussed, to highlight the main triggers and drivers of regionalisation between UfM countries. Third, data on a number of economic variables is analysed to shed light on the status of advancement of economic integration in the region.

Euro-Mediterranean frameworks for cooperation and integration

The Euro-Mediterranean region brings together states with different cultural, political and economic backgrounds, which are developing and interacting with one another with variable geometry over time and space. This diversity is often pointed out as being a congenital threat to peace in the region, but is also arguably its greatest asset, whenever a common aspiration for stability and prosperity prevails over mutual suspicion.

For the purpose of the analysis developed in this section of the report, the region is subdivided into three groups of countries based on the current geometry of integration schemes between UfM Member States. **EU28** countries are considered as a unique block to account for the advanced state of European integration, although

[9] The Union for the Mediterranean comprises the twenty-eight members of the European Union, the European Commission and fifteen Mediterranean countries, including four candidate countries to EU accession (Albania, Bosnia and Herzegovina, Montenegro and Turkey), Israel and ten members of the League of Arab States (Algeria, Egypt, Jordan, Lebanon, Libya, Mauritania, Morocco, Palestine, Syria and Tunisia). Libya and Syria are excluded from the analysis to the extent that the former only has an observer status to the Union for the Mediterranean and the latter has suspended its membership due to its internal state of conflict.

a series of differences between Northern and Southern European are of utmost relevance to the study.[10] Albania, Bosnia and Herzegovina and Montenegro and, with due analytical precautions Turkey, are grouped under the label **AC4** on account of their status as candidates or potential candidates to European Union accession and the related prospects of integration within the EU28 block. In some cases, Turkey is singled out in the analysis to delve into the specific impact of the EU-Turkey Customs Union and, on a more negative note, in respect of its deteriorating prospects of European Union accession, not to mention the influential role the country played and continues to play in the region, as compared to the other AC4 countries. In these cases, Albania, Bosnia and Herzegovina and Montenegro are grouped under the label AC3 countries. Algeria, Egypt, Jordan, Lebanon, Mauritania[11], Morocco, Palestine, Tunisia and, with the due analytical precautions Israel, are grouped under the label **MED9** on account of the different attempts to engage in regional integration, building on the ideal of unity between Arab countries. Israel is a high-profile exception, politically and economically isolated from its neighbouring countries, yet included under the MED9 label for analytical purposes, also considering that the political and economic destiny of the country within the region is inextricable from relations with its neighbours. In some cases, Israel is singled out in the analysis in light of its peculiar situation, and the other countries are grouped under the label MED8.

There are large imbalances in the degree of integration within and economic development of the three groups, which is possibly misleading for the purpose of assessing their integration into a whole regional. That said, the purpose of this study is to assess the current status quo and future prospects of Euro-Mediterranean integration from a Mediterranean-centred standpoint and, therefore, the presence of a largely unbalanced geometry of integration schemes and development levels between countries in the region is considered a central feature.

In the following paragraphs, regionalisation policies within the three groups – EU28, AC4 and MED9 – and between the three groups are subsequently scrutinised with the explicit aim of identifying core dimensions and main triggers and drivers of integration in the Euro-Mediterranean region.

EU28 countries come together in the European Union (EU), a unique economic and political union resulting from a lengthy, yet steady process of rule-based and democratically legitimated integration, launched with the eminently political aim of achieving peace and prosperity in a continent battered by two devastating wars but pursued through predominantly economic means. The European Union started with the creation of the European Economic Community in 1958, aimed at increasing economic cooperation between its six founding Member States, based on the assumption that countries trading with one another become economically interdependent and are more likely to avoid conflict. It evolved since then into a political union with its own governing institutions, to which the current twenty-eight Member States delegate part of their sovereignty, and a single market enabling

[10] In other sections of the report not exclusively focused on regional integration, Northern and European countries are considered separately in the analysis to factor in the analysis the important differentials in employment levels.
[11] Mauritania is neither a Mediterranean nor a Sub-Saharan country in geographical terms but, nonetheless, a member of the Union for the Mediterranean and, as such, is included in the analysis.

goods, services, capital, people and data to move freely. EU28 countries have integrated policies in a number of areas, some of which are of great relevance to the Euro-Mediterranean region, such as trade, aid or mobility.

AC4 countries as candidates, or potential candidates to EU accession, share a commitment to the adoption and implementation of the "acquis communautaire", the body of common rights and obligations of the European Union, far reaching in the number of policy areas covered in preparation of full integration into the union. Albania, Bosnia and Herzegovina and Montenegro signed the Central European Free Trade Agreement (CEFTA), a modern and comprehensive free trade agreement designed as an integral part of the pre-accession agenda, while Turkey established a Customs Union with the European Union as a fundamental step on the path towards full economic integration.

MED9 Arab countries come together in the League of Arab States (LAS), founded in 1945 in response to concerns related to colonial divisions of territory in the aftermath of the Second World War and, most particularly, the establishment of Israel, de facto isolated from the integration schemes across the region. The League of Arab States for a long time remained predominantly focused on protecting the sovereignty of its Member States, rather than promoting their cooperation, something that prevented any substantial advancement in both political and economic integration. The Greater Arab Free Trade Area (GAFTA) was launched in 1998, under the auspices of the League of Arab States, with the aim of enhancing economic if not political cooperation between Arab countries but, after decades of divisions and related inertia, the Greater Arab Free Trade Area failed to translate into an incentive for countries in the region to integrate further. In 1989, in response to stagnating cooperation and integration under the League of Arab States, Algeria, Libya, Mauritania, Morocco and Tunisia created the Arab Maghreb Union (AMU) with a much stronger focus on economic matters. In the constituting treaty of the Arab Maghreb Union, particular emphasis was placed on the gradual institution of an economic union through liberalisation of trade, dismantlement of tariffs and, finally, the creation of a single market. However, political divisions resulted in stagnating economic cooperation and integration, as in the case of the League of Arab States. In 2004, Egypt, Jordan, Morocco and Tunisia attempted to revamp the idea of establishing a free trade area between Arab countries and signed the Agadir Agreement. The agreement foresees the dismantlement of tariffs and the approximation of legislation in virtually all economic sectors, including agriculture, contrary to what had been achieved under other trade agreements in the region.

Table 4 presents an historical overview of the subsequent frameworks for cooperation and integration involving UfM countries and the dimensions covered in the different frameworks (economic, political, civilian, security and/or financial).

Table 4: History of cooperation and integration frameworks involving UfM countries (EU28, AC4 and MED9)

YEAR	FRAMEWORK	TYPE	UFM COUNTRIES INVOLVED	DIMENSIONS COVERED
1945-present *1958*[12] *1962* *1973*	League of Arab States (LAS)	Regional	MED9 (Algeria, Egypt, Jordan, Lebanon, Libya, Mauritania, Morocco, Palestine, Tunisia)	The LAS is a regional organisation aimed at the safeguard of the independence and sovereignty of its member states through deliberation on matters and the resolution of disputes, as well as the promotion of their interests through facilitation of political, economic, social and cultural cooperation. It aims at encompassing all dimensions of regional integration.
1951-1957	European Coal and Steel Community (ECSC)	Regional	EU6 (Belgium, France, Germany, Italy, Luxembourg, Netherlands)	The ECSC was a framework for the creation of a common market for coal and steel, aimed at preventing conflict between its founding members by means of economic integration.
1957-1993 *1973*[13] *1981* *1986*	European Economic Community (EEC)	Regional	EU12 (Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, United Kingdom)	The EEC was a framework for economic integration between its founding members, aimed at the establishment of a common market and a customs union.
1969-1990	Global Mediterranean Policy (GMP)	Bilateral	EU6 with individual MED8 (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Tunisia)	The GMP was essentially a framework for economic cooperation between the EU and its partner countries. Three main chapters: commercial cooperation, financial and economic cooperation and social cooperation.

[12] The colours indicate the years of the subsequent enlargements of the League of Arab States and the countries concerned.
[13] The colours indicate the years of the subsequent enlargements of the European Economic Community and the countries concerned. The same applies to the subsequent enlargements of the European Union.

1989-present	Arab Maghreb Union (AMU)	Regional	MED4 (Algeria, Mauritania, Morocco, Tunisia)	The AMU is an agreement aimed at laying the ground for future political and economic unity between its member states through the progressive establishment of an economic union and, ideally, the adoption of common policies in all domains. In this sense, it aims at encompassing all dimensions of regional integration.
1993-present *1995* *2004* *2007* *2013*	European Union (EU)	Regional	EU28 (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom)	The EU is a political and economic union with an internal single market with free movement of goods, services, money, people and data and a hybrid system of supranational and intergovernmental decision-making, covering virtually all dimensions of integration between its member countries, including a set of governing institutions and common policies in trade, agriculture, fisheries and regional development. In this sense, it encompasses all dimensions of regional integration.
1990-1995	Renovated Mediterranean Policy (RMP)	Bilateral	EU12 with individual MED8 (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Tunisia)	The RMP was essentially a framework for economic cooperation between the EU and its partners with the addition of a civilian dimension, limited in scope. Six objectives: support to Structural Adjustment Programmes, support to SMEs, protection of the environment, regional finance I actions, advocacy of human rights and support of societal actors in relation to SMEs.
1995-2008	Barcelona Process	Regional	EU18[15] (Austria, Belgium, *Croatia*, *Cyprus*, Finland, France, Germany,	The Barcelona Process was an initiative aimed at enhancing economic integration and political and civilian dialogue between countries in the

[15] Croatia, Cyprus and Malta were not members of the EU at the time but participated in the conference launching the Barcelona Process.

1998[14] *2000* *2002*			Greece, Ireland, Italy, Luxembourg, *Malta* Netherlands, Portugal, Spain, United Kingdom), AC1 (Turkey) and MED8 (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Tunisia)	Euro-Mediterranean region. Three main objectives of the partnership: definition of a common area of peace and stability through reinforcement of political and security dialogue (political and security dimension), construction of a zone of shared prosperity through the gradual establishment of a free trade area (economic dimension) and the rapprochement between peoples through a social, cultural and human partnership (civilian dimension).
2004-present *2004* *2005* *2006*	European Neighbourhood Policy (ENP)	Bilateral [16]	EU28 with individual MED8 (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Tunisia)	The ENP is a framework for comprehensive cooperation between the EU and its partners, focused on the stabilisation of the Euro-Mediterranean region in political, economic and security related terms. It focuses on three sets of joint priorities, each of them covering a wide number of cooperation sectors: economic development or stabilisation, security and migration and mobility.
2008-present	Union for the Mediterranean (UfM)	Regional	EU28, AC4 and MED9	The UfM is an intergovernmental organisation providing its member states with a forum to enhance regional cooperation and dialogue in a number of policy areas. The focus is on the economic, the environmental and the civilian dimensions of regional cooperation in the Euro-Mediterranean region.

[14] The Barcelona Process included the signature of bilateral Association Agreements between the EU and individual MED8 countries. The colours indicate the year in which an Association Agreement was ratified and the country concerned. The same applies to the ratification of Association Agreements under the European Neighbourhood Policy.
[16] The European Neighbourhood Policy is chiefly a bilateral policy between the EU and each partner country but also includes a number of regional and multilateral cooperation initiatives overviewed in Table 3 below.

In regard to frameworks of cooperation and integration *between* EU28, AC4 and MED9 countries, the European Union has been playing a role of catalyst in the region since the seventies, when both the first enlargement of the then European Economic Community and the launching of the Global Mediterranean Policy took place. The Global Mediterranean Policy and its successor, the Renovated Mediterranean Policy launched in 1990 following the geopolitical reconfigurations accompanying the progressive dismantlement of the Soviet Union, were built on the assumption that supporting economic liberalisation in neighbouring countries would lead to enhanced convergence and integration with the European Union, hence anchoring stability in the Euro-Mediterranean region. Under the Global Mediterranean Policy and the Renovated Mediterranean Policy, cooperation between the European Economic Community and its partner countries followed an aid for trade approach, with official development assistance channelled through financial protocols, specifying aid volumes in exchange for tariff waiving. This approach to cooperation, limited to a shallow form of economic integration, succeeded in Central and Eastern European countries, largely thanks to prospects of accession to the European Union and its single market, giving a sense of purpose to the laborious process of economic liberalisation, but it did not yield equally satisfying outcomes in Southern and Eastern Mediterranean countries.

In response to such a situation, the first framework for comprehensive cooperation in the region was launched in 1995, with the organisation of a Euro-Mediterranean Conference of Foreign Affairs Ministers. The so-called Barcelona Process, named after the city where the conference was held, aimed at going beyond a narrow focus on tariff waiving in exchange for aid to encompass political, economic and social cooperation and laying the ground for deeper economic integration, in the form of a Euro-Mediterranean Free Trade Area. However, the preparation of the largest expansion of the European Union, culminated with the accession of twelve countries in 2004 and 2007, mostly proceeding from the dismantled communist blocks of the Soviet Union and Yugoslavia, shifted the attention away from the Euro-Mediterranean region and limited the impact of the newly born Euro-Mediterranean Partnership.

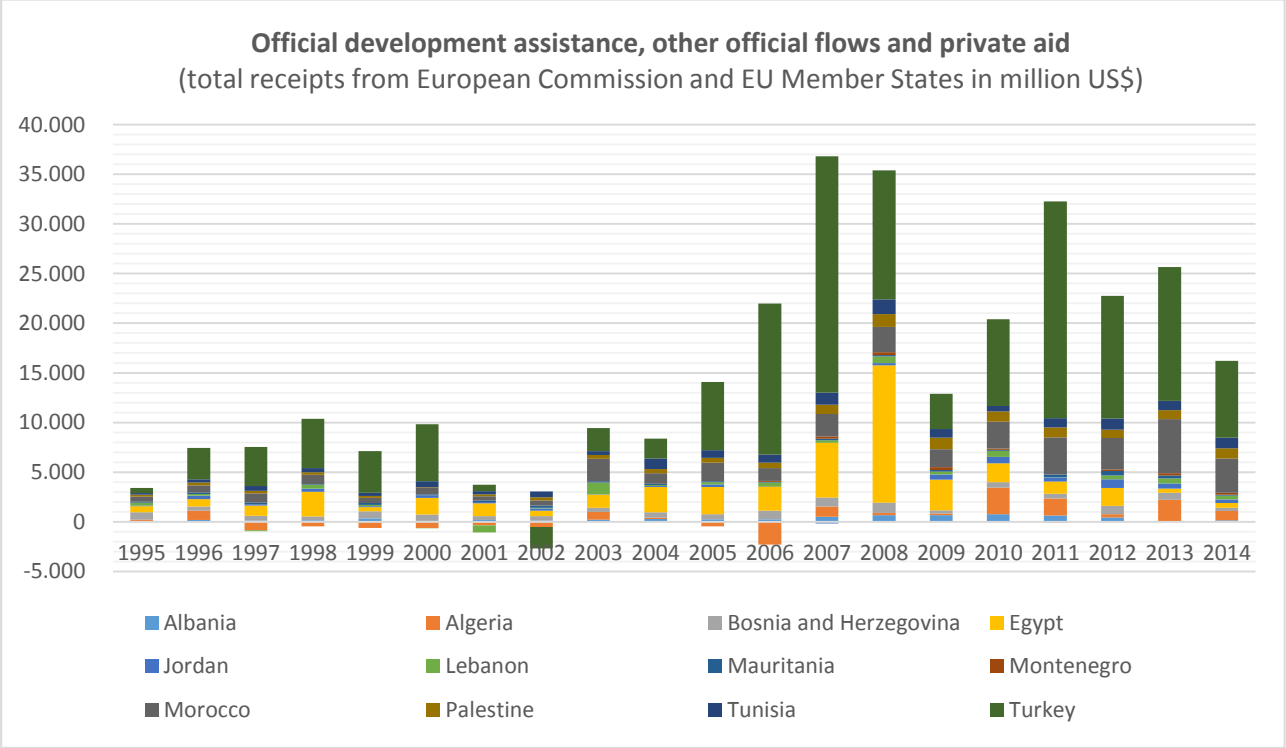
The European Neighbourhood Policy was launched in 2004, with the objective of avoiding the emergence of new dividing lines between the enlarged European Union and its neighbouring countries and, instead, strengthening the prosperity, stability and security of all. In response to the 2011 Arab uprisings and the resulting widespread instability across the Euro-Mediterranean region, the policy was revised twice to strengthen the focus on democracy, stability and security, most particularly in relation to migration and mobility matters. The European Neighbourhood Policy is mainly a framework for bilateral cooperation between the EU and each partner country in a wide number of policy areas, but funding is also allocated to regional and cross-border programmes , designed to enhance integration between partner countries themselves (see Annex V for an overview of ENP-funded projects).

The Union for the Mediterranean (UfM) was launched in 2008 to revamp the Barcelona Process, providing Euro-Mediterranean partner countries with a platform for regional cooperation and dialogue, in the form of ministerial conferences on issues of common concern, while shifting the focus of cooperation towards concrete initiatives in six identified priority areas. These areas consist of business development, social and civil affairs, higher education and research, transport and urban development, water and environment, and energy and climate

action. The Union for the Mediterranean Secretariat is mandated to organise the ministerial conferences and promote region-wide initiatives, in line with the priorities identified (see Annex VI for an overview of UfM-labelled projects).

The overall magnitude and country distribution of EU official development assistance to the Euro-Mediterranean region changed, in line with the evolution of political relations with its partner countries and the related revisions of the cooperation frameworks. Overall, AC4 countries received greater shares of aid as a percentage of their GDP from EU28 countries in the form of far reaching Stabilisation and Association Agreements, agreed upon as part of the pre-accession agenda. Under the revised European Neighbourhood Policy, MED9 countries received shares of aid based on a more-for-more principle, aimed at developing stronger partnerships and offering greater incentives to countries that make more progress towards democratic reform, in the form of the Association Agreements with the European Union.

Figure 9: Evolution of public and private aid flows from EU28 to AC4 and MED9 countries



Source: *own elaboration based on OECD data*

Figure 9 shows the evolution of AC4 and MED9 total receipts of official development assistance, other official flows and private aid from EU28 countries between 1995 and 2015. EU official development assistance increased substantially with the launch of the ENP in 2004, recovered after a consistent drop, following the 2008 Global Financial crisis and related Eurozone crisis, and showed a decreasing trend following the onset of the 2011 Arab uprisings. The country distribution of the aid changed in response to the uprisings and the resulting widespread instability in the region, with decreasing shares for Egypt and increasing shares for Morocco and Tunisia. Turkey remained stable as the main beneficiary of aid flows, on account of its status as

candidate to European Union accession and, more recently, in relation to the agreement concluded on the management of refugee flows.

Triggers and drivers of Euro-Mediterranean integration

The history of regionalisation experiences across the Euro-Mediterranean region and the evolution of cooperation frameworks between the European Union, catalyst of integration efforts in the region and its regional partners, suggest that while political motivations and, most particularly, security concerns have been important triggers of Euro-Mediterranean integration, economic endeavours have been its main and most effective driver.

In the absence of security threats justifying the need for coordinated responses, independent countries tend to look with suspicion at any concession of sovereignty. Both the European Union and the League of Arab States were launched to prevent conflicts, or settle disputes between countries, in a context of geopolitical reconfigurations in the aftermath of the Second World War. However, if on the one hand European countries achieved quite an advanced level of regional institutionalisation under the impulse of progressive integration of their economies into a single market, on the other hand Arab countries, which had built their regional integration scheme on political motives, failed to engage in substantial economic and political cooperation, if not institutionalisation.

This reasoning also applies to Euro-Mediterranean integration, that is, integration between European and Arab countries along with Turkey and Israel into a whole regional. The subsequent cooperation frameworks between the European Union and its regional counterparts were launched following major geopolitical reconfigurations and with the eminently political aim of achieving stability in the Euro-Mediterranean region, but identified the key to achieving such an aim as being regional prosperity achieved through economic integration. As a result, while political integration is almost non-existent in the region, with the exception of some ministerial conferences and parliamentary meetings under the Union for the Mediterranean and the Parliamentary Assembly of the Mediterranean and some cooperation on security-related matters, relatively limited in comparison with benchmarking regions, important advancements in economic integration have still been achieved.

In line with the above, it is important to bear in mind the evolving conditions for political association between UfM countries when assessing the prospects of regional integration and, most particularly, future progress in economic integration. The existence of security issues of common concern that would be more effectively tackled with coordinated responses, if combined with increasing levels of solidarity between partner countries, can be an important trigger of further regional integration. In contrast, if combined with an escalation of tensions between countries, the same issues can threaten the limited advancements achieved so far.

There are important differentials across the Euro-Mediterranean region concerning the conditions for political association, if not integration. In the Maghreb, the relative convergence of political aspirations between Tunisia and Morocco and the European Union is broadening the margin for enhanced cooperation, on the basis that calls for more co-ownership of the regionalisation process are taken into due consideration. This is illustrated in the current situation, characterised by an increased support of the European Union for the two countries and

their initiatives of North-South integration under the 5+5 dialogue and South-South integration under the Agadir Agreement. However, there is also increasing scepticism concerning the Deep and Comprehensive Free Trade Area and the related stall in the negotiations. In the Mashrek, the emergence of new conflicts in Syria and Iraq, the exacerbation of internal problems in Egypt and Turkey and the persistence of the Israeli-Palestinian conflict, which remains the main source of mistrust and suspicion between Euro-Mediterranean partners, present a combination of major threats to further regional integration. However, in an optimistic vision of the future, these challenges could become fertile soil for more effective integration attempts, as the history of regionalisation schemes in the region teaches us.

In the next section, the current status quo in regional integration between UfM countries is analysed, focusing on economic integration, the only dimension in which some substantial progress has been achieved and for which reliable data is available.

Status quo of regional economic integration

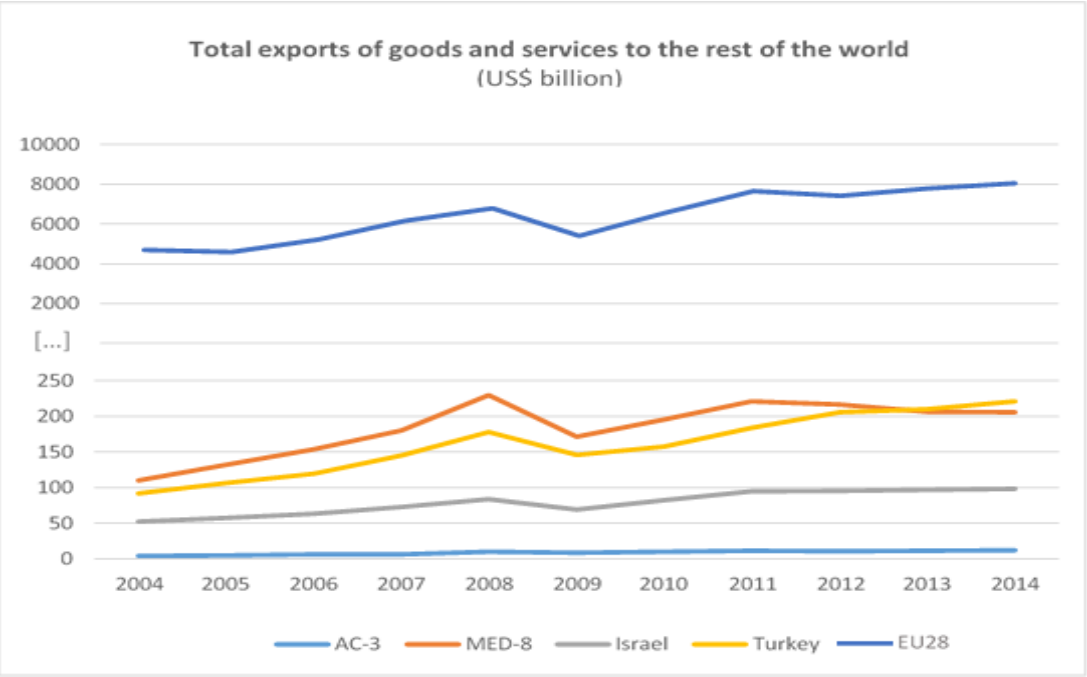
In the analysis of economic integration, it is important to bear in mind the previously mentioned distinction between shallow and deep integration. Shallow integration refers to the simple liberalisation of trade through dismantlement of tariffs between partner countries. Deep integration refers to the convergence of market conditions between partner countries, pursued through the dismantlement of non-tariff barriers to trade and the approximation of regulatory frameworks.

In this section, shallow and deep economic integration are subsequently assessed looking into trade, tariff and investment data. First, the evolution of UfM countries' trade is analysed to highlight the magnitude of their internationalisation. Second, data on tariff and non-tariff barriers to trade is presented to shed light on the evolving conditions for shallow and deep integration between them. Third, FDI data and indicators on the business environment of the different countries are considered as proxies for convergence of market conditions, based on the assumption that convergence of market conditions has positive implications in terms of investments. Fourth, a number of economic indicators are overviewed to highlight eventual dynamics of economic catch-up between poorer and richer UfM countries resulting from regional integration.

Trade

Figure 10 and Figure 11 below, show the evolution of UfM countries' exports and imports of goods and services in the last decade. EU28, AC3 and MED8 countries are considered as blocks on account of their relative homogeneity as far as the dynamics of trade liberalisation in the region are concerned, while Turkey and Israel are singled out on account of their specific situations.

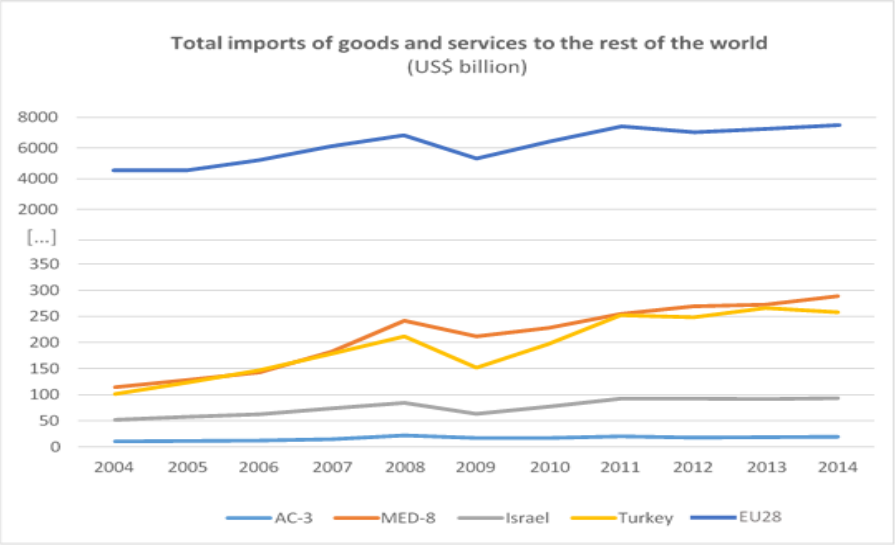
Figure 10: Evolution of UfM countries' total exports between 2004 and 2014



Source: *own elaboration based on UNCTAD data*

Looking at the figures, the first element that becomes apparent is the magnitude of EU28 countries' total trade in goods and services, compared to the total trade of the other blocks and countries retained in the analysis. Putting aside the size effects largely explaining the differentials in magnitude, Figure 10 and Figure 11 show that all countries doubled their total trade between 2004 and 2014, exception given to AC3 countries that experienced relatively stagnating levels of trade in the period considered. In 2014, EU28 countries were the only ones, together with Turkey, to have recovered the positive trend in exports registered in the years leading up to the 2008 Global Financial Crisis.

Figure 11: Evolution of UfM countries' total imports between 2004 and 2014

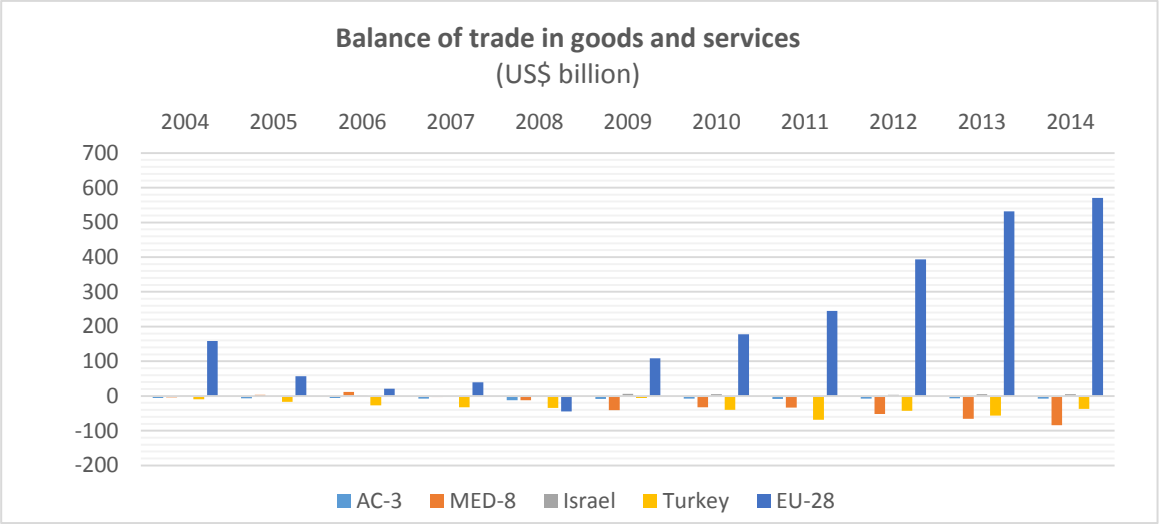


Source: *own elaboration based on UNCTAD data*

MED8 countries did not achieve recovery of their pre-crisis export levels. The figures show a positive trend in their exports in the two years following the crisis, but exports began to fall again from 2011 onward, suggesting a negative effect on exports of the Arab uprisings and the resulting widespread political instability. MED8 countries' imports continued to increase during the same period. AC3 countries experienced a sensibly greater increase of imports compared to exports, suggesting certain imbalances in the process of accession to the EU, considering that the latter is their main trade partner.

Figure 12 shows the evolution of EU28, AC3, MED8, Israel and Turkey's trade balances in the period between 2004 and 2014. Two distinct periods can be identified looking at the data, the years leading to the 2008-2012 Global Financial Crisis and the resulting Eurozone crisis on the one hand, and its aftermath on the other hand.

Figure 12: Evolution of UfM countries' trade balance between 2004 and 2014



Source: *own elaboration based on UNCTAD data*

Before the crisis, EU28 and MED8 countries' imports and exports were approximately balanced, with only slight differences depending on the year considered. After the crisis, EU28 countries registered a drastic improvement in their trade balance, reaching a cumulated $600 billion surplus in 2014, while MED8 countries registered a diametrically opposed trend and reached a cumulated $80 billion deficit in 2014. The negative impact of the 2011 Arab uprisings and the resulting widespread political instability on the exports of MED8 countries was mentioned earlier as a partial explanation of their deteriorating trade balance. However, considering that in 2004 the ENP was launched and in the period between 2004 and 2014 substantial advancements in the liberalisation of trade between EU28 and MED8 were achieved, a link between these policies and the diverging trade balances cannot be excluded.

Turkey experienced a variable yet steady deterioration of its trade balance topping a $70 billion deficit in 2011, while Israel maintained a certain balance between imports and exports over the period considered, with a slight positive trend towards a trade surplus registered in the years following the Global Financial Crisis.

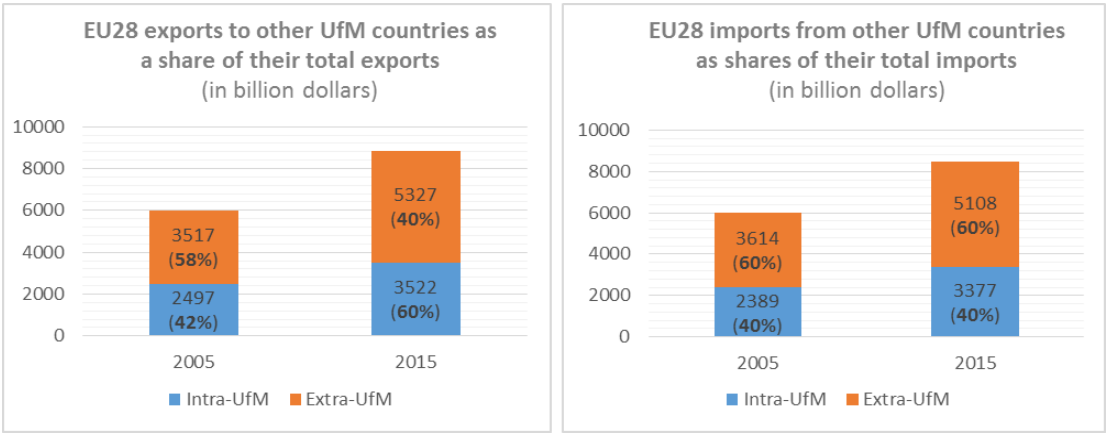
Looking at country-level data, the EU28 position in terms of trade appears to be sustained by trade surpluses of Germany and to a minor extent Italy, while other EU countries managed to maintain their share of exports,

even registering trade deficits. The AC4 position, in terms of trade, deteriorated over the period considered, but with a more substantial deterioration in the case of Turkey, possibly partly explained by differences in the modalities of economic integration with the EU. MED9 resource-rich countries, such as Algeria, have a trade surplus while other countries have trade deficits. Overall, their position in terms of trade deteriorated with widespread instability in the region with some countries, such as Tunisia and Egypt, suffering more than others, such as Morocco.

As far as trade regionalisation is concerned, that is, the evolution of trade between UfM countries as compared to trade of UfM countries with the rest of the world, it is important to bear in mind that EU28 countries are the natural and main trading partners of AC4 and MED9 countries. However, the level of trade between the MED9 countries is very low, only 6% of their total exports and 5% of their total imports[17], indicating very low South-South integration, as compared to North-South integration.[18] In fact, regional integration between UfM countries follows an hegemonic case of integration, in which a group of countries – in this case EU28 considered as a block – is in the position to impose the choices that fit best with its own specific form of internationalisation (Petit, 2006).

Figure 13 shows the share of EU28 trade with AC4 and MED9 countries (intra-UfM) as compared to the share of EU28 trade with the rest of the world (extra-UfM). The data shows that the share did not change between 2005 and 2015. This suggests that trade regionalisation, that is, trade between regional partners increasing at a faster pace than their trade with the rest of the world, remained low in the region and that, until now, Euro-Mediterranean integration acted neither as a driver towards globalisation nor a protection against it, for the countries retained in the analysis.

Figure 13: Evolution of intra-UfM trade as compared to extra-UfM trade



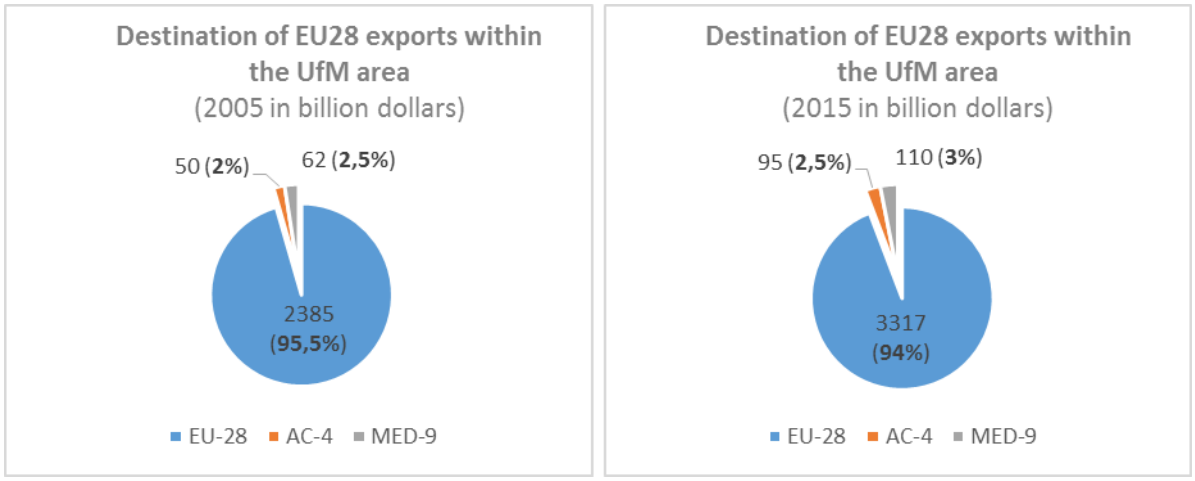
Source: *own elaboration based on COMEXT data*

[17] Referring to: http://ec.europa.eu/trade/policy/countries-and-regions/regions/euro-mediterranean-partnership/

[18] Venables (2003) looks into the division of labour between countries within a customs union and the trade diversion and creation effects towards the rest of the world. He brings evidence that regional integration between high-income countries and low-income countries usually leads to convergence, while regional integration between low-income countries usually leads to divergence.

Figure 14 and Figure 15 compare data on EU28 trade with AC4 and MED9 countries in 2005 and 2015. EU28 exports to AC4 and to MED9 countries doubled between 2005 and 2015. EU28 imports from AC4 also doubled, while imports from MED9 did not vary much between the two reference years. In 2005, MED9 countries exported to EU28 almost twice as much as AC4 countries, while their respective shares were roughly equal in 2015.

Figure 14: EU28 intra-trade and exports to AC4 and MED9 countries in 2005 and 2015

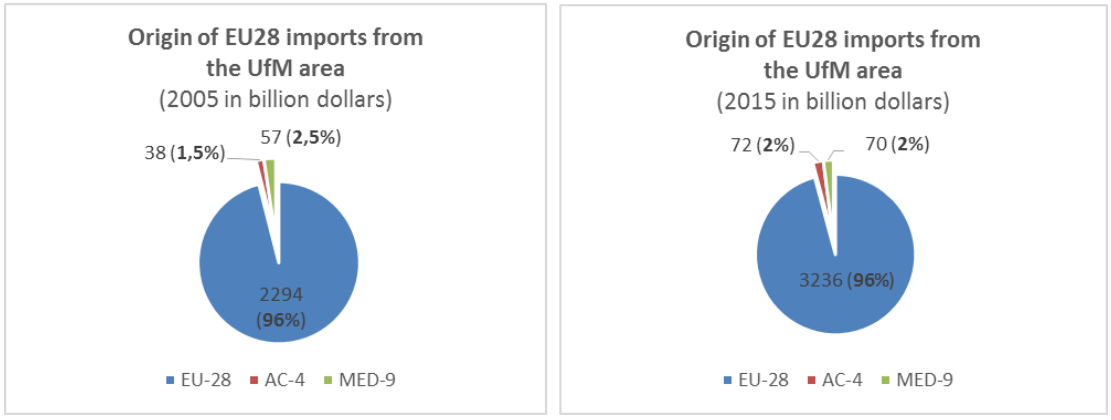


1)EU28 refers to intra-EU28 exports, AC4 and MED9 refer to EU28 exports to the two groups.

Source: *own elaboration based on COMEXT data*

These results suggest that actual and prospective integration with the EU single market have some positive effects on the AC4 position in terms of trade, contradicting the deterioration of their balances of trade previously discussed. This leads us to believe that greater harmonisation with EU norms and standards does have a positive effect on AC4 trade with the EU28, but might have negative effects on their trade with third parties. An interesting question for further research could be to analyse whether regional integration in its current form, with the European Union playing the role of catalyst, is the preferable route towards the internationalisation of Mediterranean countries that are not members of the European Union.

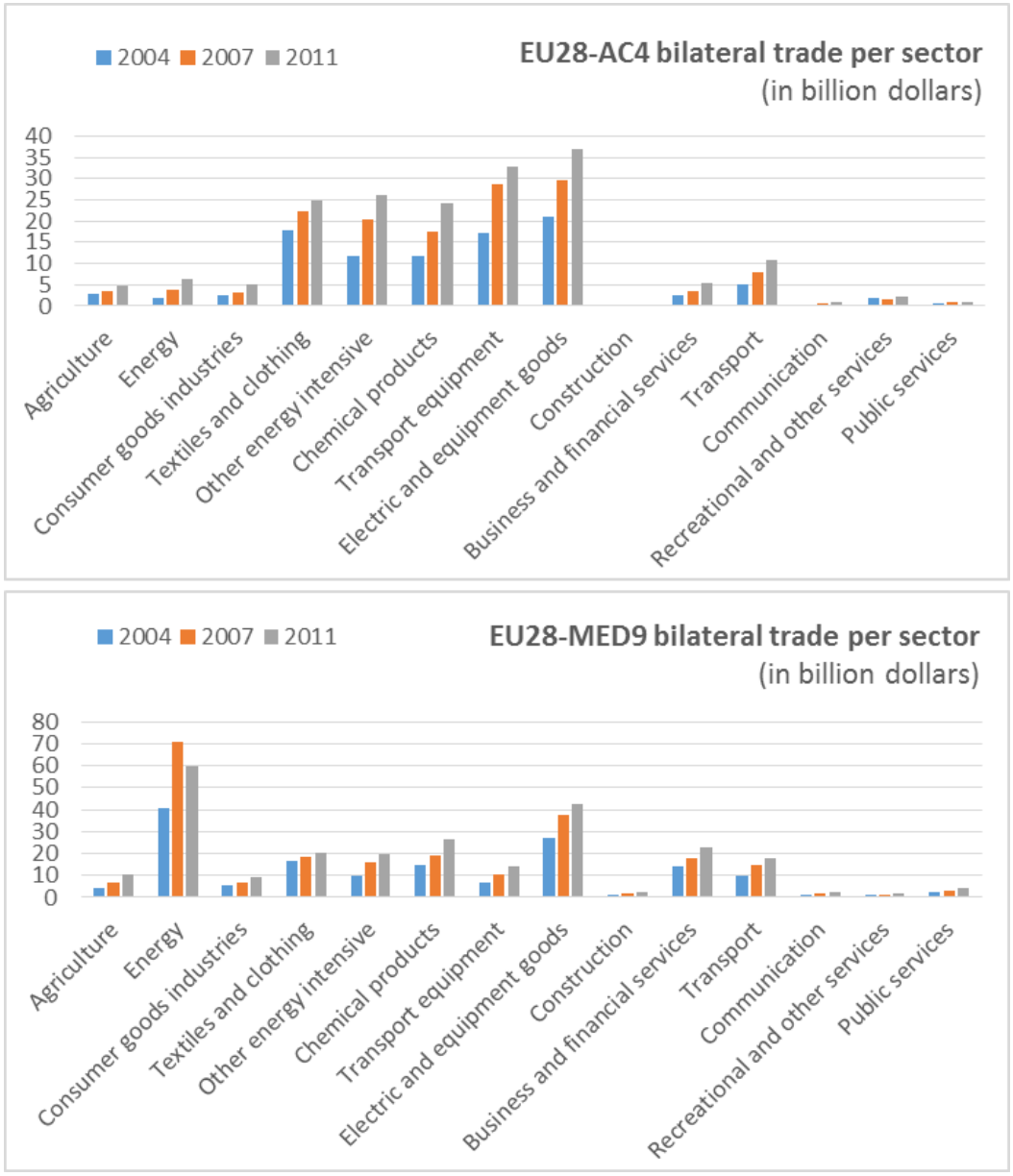
Figure 15: EU28 intra-trade and imports from AC4 and MED9 countries in 2005 and 2015



1)EU28 refers to intra-EU28 imports, AC4 and MED9 refer to EU28 imports from the two groups.

Source: *own elaboration based on COMEXT data*

Figure 16: Evolution of sectoral trade between EU28, AC4 and MED9 countries



1) *Bilateral trade is defined as the cumulative exports of EU28 to AC4 countries and vice versa in the above figure and EU28 to MED9 and vice versa in the bottom figure.*

Source: *own elaboration based on COMEXT data*

Figure 16: Evolution of sectoral trade between EU28, AC4 and MED9 countries shows the sectoral distribution of bilateral trade between EU28, AC4 and MED9 countries in 2004, 2007 and 2011. Overall, the figures show higher values of trade in goods than in services and among goods, the exception being the agricultural sector, which was excluded from most free trade agreements between partner countries in the region (see discussion below), resulting in limited trade of agricultural goods.

The data suggests that bilateral trade is more diversified between EU28 and AC4 countries than between the former and MED9 countries, with four sectors dominating trade in goods between partners in the region: textiles and clothing, energy and related products, chemical products and equipment goods. The latter sector,

encompassing transport and electric equipment goods, registered the greater increase among all sectors between 2004 and 2011.

The sectoral distribution of bilateral trade between EU28 and MED9 countries is skewed towards the energy products and equipment goods sectors, which respectively dominate MED9 exports to and imports from EU28 countries. The cumulated exports of the two groups of countries in the sector topped $70 billion in 2007, twice as much as the second sector with the higher value of exchanges, but dropped to $60 billion in 2011 as a result of the global financial crisis and the related trade slowdown. The data aggregated at the MED9 level hides some important differences between countries. Algeria, Egypt and Libya (which is not included in the analysis) account for the very large majority of trade relations in the energy sector, while other MED9 countries export less but have more diversified trade relations with their EU28 counterparts.

Besides the acceleration of trade in equipment goods between EU28 and AC4 countries and the fluctuations of trade in energy between EU28 and MED9 countries briefly discussed above, the sectoral distribution of bilateral trade between UfM countries did not change much between 2004, 2007 and 2011.

Tariff and non-tariff measures

As previously mentioned, trade between UfM countries doubled in the period between 2005 and 2015, the exception being for exports of MED9 countries, in line with the overall increase of trade with the rest of the world over the same period. This is largely the result of the completion of tariff dismantlement under free trade agreements already in force and the signature of a number of additional trade agreements, most particularly in the case of AC4 countries.

Table 5 provides an overview of the free trade agreements in force between UfM countries as of 2015.

Table 5: WTO status and free trade agreements in 2015

COUNTRY	WTO ACCESS	WTO MEMBER	MFN TARIFF RATE (%)[1]	FTAs BETWEEN COUNTRIES IN THE UFM AREA[2]
Albania	2000	Yes	3,69	Turkey (2008), EU (2009), EFTA (2011)
Algeria	1987	No	12,52	AMU (1989), EU (2005), ongoing negotiations with EFTA
Bosnia and Herzegovina	1999	No	5,87	Turkey (2003), EU (2008), EFTA (2015)
Egypt	1995	Yes	10,58	Palestine (1997), Jordan (1998), Morocco (2003), EU (2004), EFTA (2007), Turkey (2007)
European Union	1995	Yes	1,5	Turkey (1996), Palestine (1997), Tunisia (1998), Israel (2000), Morocco (2000), Jordan (2002), Lebanon (2003), Egypt (2004), Algeria

				(2005), Bosnia and Herzegovina (2008), Albania (2009), Montenegro (2010)
Israel	1995	Yes	2,35	EFTA (1993), Jordan (1995), Canada (1997), Turkey (1997), EU (2000)
Jordan	2000	Yes	8,7	Israel (1995), Egypt (1998), Tunisia (1998), Morocco (1999), EU (2002), EFTA (2002), Turkey (2011)
Lebanon	1999	No	4,44	EU (2003), EFTA (2007)
Mauritania	1995	Yes	12,02	AMU (1989), negotiations concluded but not signed with EU (2014)
Montenegro	2012	Yes	5,78	EU (2010), Turkey (2010), EFTA (2012)
Morocco	1995	Yes	9,03	AMU (1989), Jordan (1999), EFTA (1999), Tunisia (1999), EU (2000), Egypt (2003), Turkey (2006)
Palestine		No	NA	EU (1997), Egypt (1997), EFTA (1999), Turkey (2005)
Tunisia	1995	Yes	15,93	AMU (1989), AEC (1991), EU (1998), Jordan (1998), Morocco (1999), EFTA (2005), Turkey (2005)
Turkey	1995	Yes	5,21	EFTA (1992), Israel (1997), Bosnia and Herzegovina (2003), Palestine (2005), Tunisia (2005), Morocco (2006), Syria (2007), Egypt (2007), Albania (2008), Montenegro (2010), Jordan (2011), agreement signed but not in force with Lebanon (2012)

Sources: *WTO, WDI for tariff data, and WB Preferential Trade Agreements Database for FTA data.*

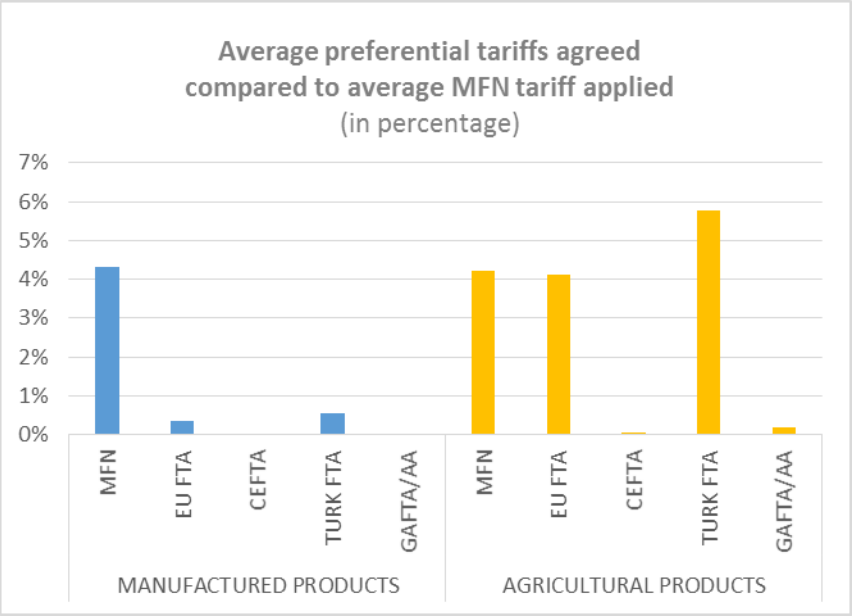
1) *Most favoured nation, weighted mean, all products. 2014 data for every country except 2012 data for Montenegro and 2008 data for Tunisia;* ***2)*** *Agadir Agreement, Greater Arab Free Trade Area, EU Association Agreements and EU-Turkey Customs Union excluded.*

Overall, tariff waiving between UfM countries is considerably more advanced for manufactured products than for agricultural products and little progress has been achieved in the dismantlement of non-tariff barriers to trade, most particularly when it comes to subsidies, which are still widespread in the Euro-Mediterranean region regardless of the shoreline under consideration. .

Figure 17 presents the average most favoured nation tariff and preferential tariff rates, applied by UfM countries under the different agreements regulating their trade interactions. These agreements consist of bilateral free trade agreements signed by the European Union and by Turkey with different partners across the region, the

Central European Free Trade Agreement between AC3 countries and the Greater Arab Free Trade Area and Agadir Agreement between MED8 countries.

Figure 17: MFN and preferential tariff rates applied between UfM countries in 2015



MFN *= most favoured nation tariff rate under World Trade Organisation rules.*

EU FTA *= Free Trade Area established under the Association Agreements with the European Union.*

CEFTA *= Central European Free Trade Agreement.*

TURK FTA *= Turkey bilateral free trade agreements with partners in the Euro-Mediterranean region.*

GAFTA/AA *= Greater Arab Free Trade Agreement and Agadir Agreement, almost overlapping in terms of tariffs applied.*

Source: *own elaboration based on WBDI and WTO data*

The Greater Arab Free Trade Area and the Agadir Agreement are overlapping as far as preferential tariff rates agreed upon signatory countries are concerned, with the latter being formally open to all members of the former. The preferential rates agreed under the Greater Arab Free Trade Area and the Agadir Agreement are close to zero for both manufactured and agricultural products, but delays in implementation of the agreements might result in applied tariffs being sensibly higher than the agreed tariffs.

EU Association Agreements foresee the establishment of free trade areas on manufactured products with transition periods up to twelve years, which are in some cases complemented with additional provisions for the progressive dismantling of tariffs on agricultural products. The data shows that tariff waiving on manufactured products, under the EU Association Agreements, is almost completed while on agricultural products it is still lagging behind, largely because liberalisation of the agricultural sector is a highly sensitive issue in social and, therefore, political terms for all countries in the region. For the same reason, tariff waiving under Turkey's free trade agreements is also much more advanced on manufactured than agricultural products, resulting in average tariffs applied by Turkey on the latter being considerably higher than the average MFN tariff applied across the region. Finally, under the Central European Free Trade Agreement, tariffs on both manufactured and agricultural products were dismantled in preparation for full integration into the EU single market as part of the pre-accession agenda.

The dismantling of non-tariff barriers to trade has been rather slow in the Euro-Mediterranean region. EU28 countries played a catalyst role in the dismantling of tariff barriers, but lower tariffs are de facto compensated

with higher non-tariff measures hampering access to the EU single market for goods and services from partner countries.

The World Trade Organisation defined a number of non-tariff measures applied by its member countries and collects data on the measures initiated or that are in force in a given year of reference. The data collected suffers from a number of flaws but is useful to sketch a picture of the advances in deep trade integration between UfM countries.

Table 6 gives an overview of five different types of non-tariff measures applied in UfM countries for which WTO data is available. These measures include anti-dumping, countervailing, safeguard, sanitary and phyto-sanitary measures and technical barriers to trade.

Table 6: NTMs initiated or in force in UfM countries in 2015

COUNTRY	ADP	CV	SG	SPS	TBT
EU28	22	3	0	38	78
Albania	0	0	0	5	19
Egypt	5	0	4	10	107
Israel	1	0	0	0	16
Jordan	0	0	1	8	0
Morocco	4	0	2	5	1
Tunisia	0	0	1	1	0
Turkey	26	1	2	17	19

ADP = anti-dumping

CV = countervailing

SG = safeguard

SPS = sanitary and phytosanitary

TBT = technical barriers to trade

Source: *own elaboration based on WTO data for available countries*

Technical barriers to trade are the most common non-tariff barriers in the region, with Egypt and EU28 countries standing out for the particular elevated number of measures they initiated or were in force in 2015. Sanitary and phytosanitary measures are also rather widespread, most particularly in the case of EU28 countries, which also have a high number of anti-dumping measures in place, along with Turkey. In some cases, individual EU member states apply additional non-tariff measures to those adopted at the EU level.

The European Union also plays a leading role when it comes to the reduction of non-tariff barriers to trade, focused on enhancing harmonisation of norms and standards across the region in order to facilitate trade. EU28 countries have a set of stringent norms and standards – the so-called "acquis communautaire" – that are transposed in the legislation of AC4 countries, as part of the pre-accession agenda and advocated by MED9 countries by means of dedicated ENP projects. More recently, the reduction of non-tariff barriers lies at the heart of the on-going negotiation of Deep and Comprehensive Free Trade Areas. The harmonisation of norms and standards between EU28 and MED9 countries, based more implicitly than explicitly on the latter approximation to the norms and standards of the former, is slowed down by the lack of EU membership perspective, the main incentive for AC4 countries to adapt their own norms and standards. This slowdown attests to the limitations of a strategy for deep economic integration which is rather unilateral in nature.

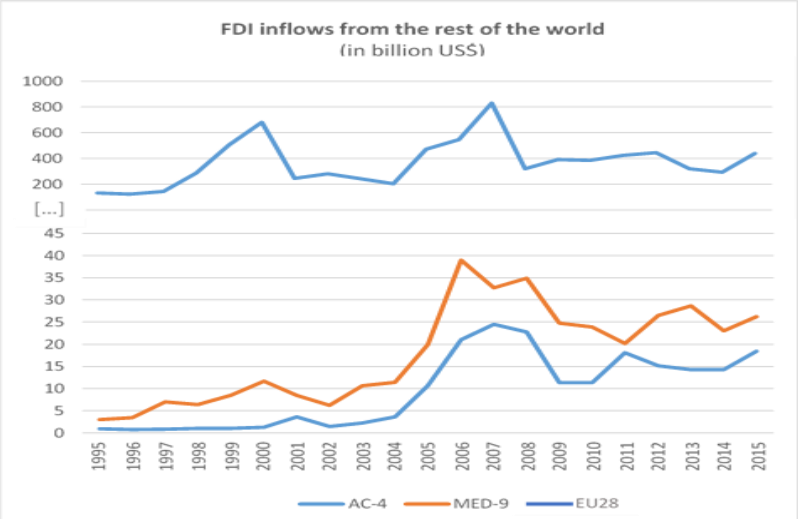
FDI and business environment

The main difference between shallow and deep approaches to economic integration is that the latter encompasses socio-economic reforms aimed at improving the business environment of the integrating economies, besides facilitating their trade interactions, something that is supposed to translate into higher levels of investment. Most particularly, deep economic integration is supposed to have positive effects on FDI, to the extent that improvements in the business environment are largely considered in terms of economic liberalisation, boosting the competitiveness of both domestic and foreign actors. .

There are important differentials in FDI attractiveness between EU28, AC4 and MED9 countries. EU28 countries form one of the leading regions worldwide, in terms of FDI outward and inward stock, while AC4 and MED9 countries are lagging behind compared to benchmark regions. The attractiveness of MED9 countries further deteriorated with the widespread instability that followed the 2011 Arab uprisings, as attested to by their ranking in the Global Foreign Direct Investment Country Attractiveness index,[19] which was seventh among eight geographic groups. At the other side of the spectrum, half of the twenty-five top ranked countries of the index are members of the EU.

Figure 18 and Figure 19 present the evolution of FDI inflows and outflows in EU28, AC4 and MED9 countries between 1995 and 2015. The data shows the magnitude of the differentials in FDI attractiveness, discussed above, but also an increasing trend for AC4 and MED9 countries compared to EU28 countries, which experienced more fluctuating levels of FDI inflows in the period considered. These fluctuations correspond to surging levels of FDI inflows in the years leading to the 2001 and 2008 financial crises and stagnation in their aftermath.

Figure 18: Evolution of FDI inflows to UfM countries

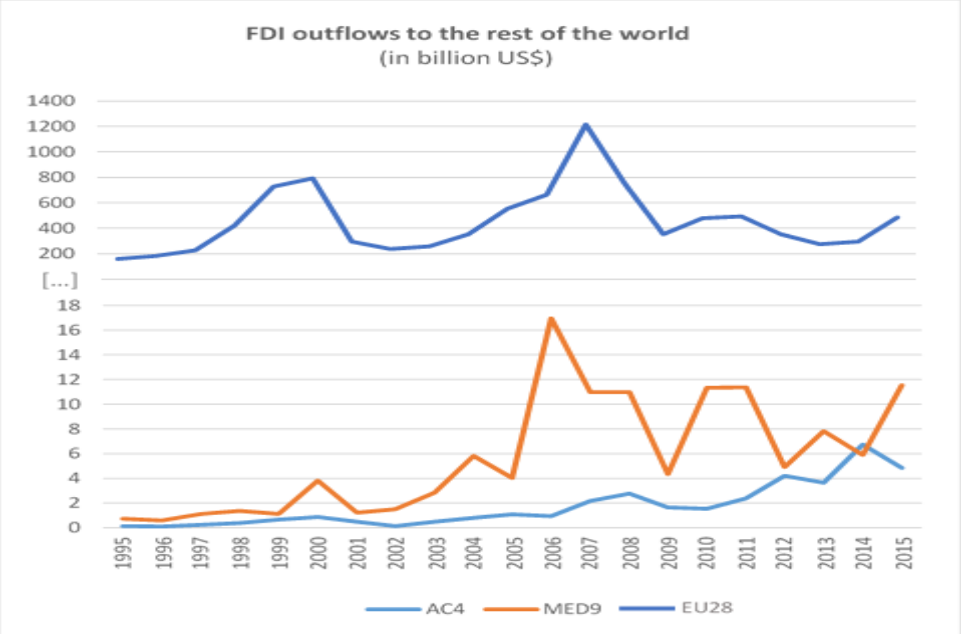


Source: *own elaboration based on UNCTAD data*

[19] The methodology of the GFICA index is available at: http://www.fdiattractiveness.com/index-methodology/

FDI flows between UfM countries are rather limited. EU28 countries are the main purveyor of FDI in AC4 and MED9 countries, but have a less hegemonic position in the region when it comes to FDI, as compared to trade. The United States are another important purveyor of FDI in AC4 and MED9 countries, followed by sizeable and increasing inflows from emerging economies, such as China and Gulf Cooperation Council countries.

Figure 19: Evolution of FDI outflows from UfM countries



Source: *own elaboration based on UNCTAD data*

FDI outflows from EU28 to MED9 countries have been rather variable in the last decade. Their evolution, from $27 billion in 2008 to $14 billion in 2012, mirrors the overall evolution of EU28 FDI outflows over the same period, from €564 billion in 2007 to €112 billion in 2014. The decrease of EU28 outflows to MED9 countries has been less drastic than for other EU partners worldwide, at least partly in relation to closer political association and economic cooperation under the ENP and the UfM. However, these outflows were largely concentrated in the capital-intensive energy sector and did not contribute to employment creation in MED9 countries. This specific point deserves further investigation using FDI data broken down by sectors, which is not available in the UNCTAD database.

Dynamics of economic catch-up

To conclude on economic integration, it is important to look into the dynamics of economic catch-up between lower and higher income UfM countries, to the extent that only in a situation of actual or, at least, prospective convergence are the necessary incentives for lower income UfM countries to engage further in regional integration created. Petit (2006) highlights two ideal types of regional integration schemes – between countries of similar income and between countries of different income – and underlines the dynamics of economic catch-up necessary for the second ideal type, applicable to the UfM region, to be sustainable. Higher income countries with high productivity and production costs tend to invest their savings in lower income countries to benefit from low production costs. These investments result in productivity gains in lower income countries and, therefore,

higher rates of economic growth, while in higher income countries the margin of profit increases, thanks to the lower production costs. Hence, economic catch-up materialises through knowledge transfers and related productivity gains, while the effects on employment depend on the intensity of labour of the sectors receiving these transfers and materialising these gains.

Table 7 summarises data on three key economic indicators considered useful to shed light on the dynamics of economic catch up between higher- and lower-income UfM countries, in light of the above discussion. The indicators retained are GDP per capita in current US$ and gross capital formation and gross savings, both in percentage of GDP.

Table 7: Indicators of economic catch-up between UfM countries (description of variables in footnote)

COUNTRY	DATE	(1)	(2)	(3)	COUNTRY	DATE	(1)	(2)	(3)
EU28	*1995*	16.522	24	21	Lebanon	*1995*	3.863	36	NA
	2005	26.205	25	20		*2005*	5.339	23	6
	2015	30.121	20	20		*2015*	8.051	28	22*
Albania	*1995*	761	21	20	Mauritania	*1995*	606	20	27
	2005	2.709	37	30		*2005*	693	61	NA
	2015	3.965	27	43*		*2015*	1.371*	57*	NA
Algeria	*1995*	1.445	31	NA	Montenegro	*1995*	NA	NA	NA
	2005	3.102	32	52		*2005*	3.675	18	NA
	2015	4.206	46*	25		*2015*	6.415	21	27*
Bosnia and Herzegovina	*1995*	481	20	NA	Morocco	*1995*	1.424	25	22
	2005	2.928	27	9		*2005*	2.023	30	32
	2015	4.198	18*	22*		*2015*	2.872	32*	28
Egypt	*1995*	964	20	22	Palestine	*1995*	1.327	38	7
	2005	1.197	18	22		*2005*	1.455	26	-3
	2015	3.615	14	27		*2015*	2.867	21	NA
Israel	*1995*	18.029	26	13	Tunisia	*1995*	2.013	25	20
	2005	20.611	20	22		*2005*	3.218	22	20
	2015	35.330	19	19		*2015*	3.873	22*	15
Jordan	*1995*	1.557	33	29	Turkey	*1995*	2.896	25	22
	2005	2.361	34	16		*2005*	7.117	20	16
	2015	4.940	23	21*		*2015*	9.130	19	12

Source: *own elaboration based on WBDI and UNDP data*

(1) *GDP per capita in current US$;* ***(2)*** *Gross capital formation in % of GDP;* ******* *2014 data*

(3) *Gross savings in % of GDP*

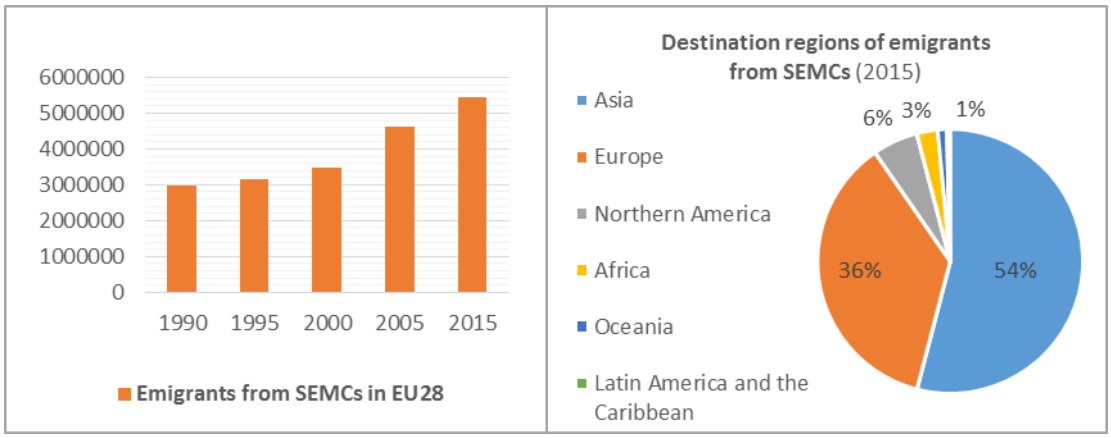
GDP per capita is an indicator widely used to capture wealth differentials between countries and, therefore, of convergence or divergence between the three reference years retained herewith, 1995, 2005 and 2015. The figures are influenced by the important differential in demographic patterns between EU28 and MED9 countries and, in the case of the former, the average GDP per capita hides important differentials between higher income Northern European countries and lower income Southern European ones. GDP per capita increased in all UfM countries in the period considered, but the gap between EU28 countries and AC4 and MED9 countries is still substantial in 2015. GDP per capita grew quicker in AC4 and MED9 countries than in EU28 countries between 2005 and 2015, only in a limited number of cases, attesting to limited convergence of income levels in the region.

FDI-induced technology transfers and productivity gains are supposed to translate into higher rates of gross capital formation, but the data shows that the rate of gross capital formation remained stable, between 20% and 30% of GDP between 1995, 2005 and 2015. The situation is more heterogeneous in the case of gross savings, a measure of the potential for increased investment, both private and public, through taxation in those countries catching up. Gross savings increased or decreased depending on the country and diminished in the EU28, probably in relation to the financial and economic crisis.

The data above suggests that several decades of economic integration have not materialised in the catch-up of poorer to richer countries in the Euro-Mediterranean region, with a number of consequences that are worth brief discussion. The persistence of a substantial gap in economic conditions and opportunities between Southern and Eastern Mediterranean countries and their Southern, and especially Northern European counterparts, is arguably the structural determinant of migration trends across the Mediterranean Sea, whereas chronic unemployment and widespread instability can be counted among conjunctural drivers of increased flows in recent years.

Figure ***20*** presents some basic information about the magnitude and the direction of migration flows in the region. After Asia, Europe is the second most important destination for migrants from Southern and Eastern Mediterranean countries and, most particularly, Gulf Cooperation Council countries. The data shows that the number of migrants residing in the European Union sharply increased between 2005 and 2015, while it had remained more or less stable in the period between 1990 and 2000. Interestingly enough, this increase started in the build-up of the 2011 Arab uprisings, not only in their aftermath, raising a number of interesting questions for further research.

Figure 20: Emigrants from Southern and Eastern Mediterranean countries in the European Union



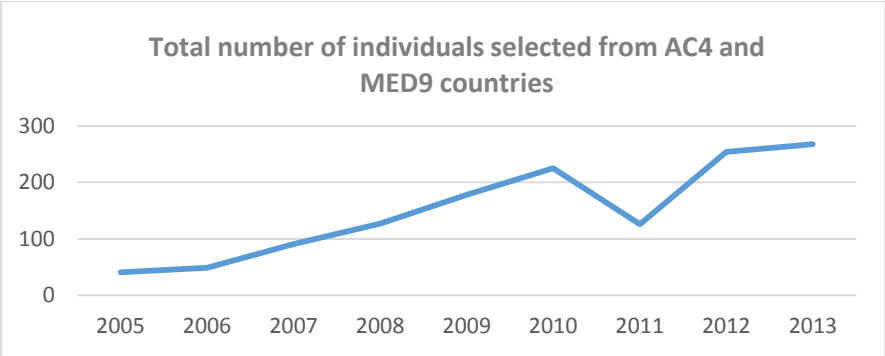
Source: *author's elaboration based on estimates of bilateral migration stocks provided by the United Nations (figure courtesy of Nadzeya Laurentsyeva – Centre for European Policy Studies)*

In the previous section of this study, a number of push factors of migration towards the European Union, among other destinations, were discussed, considering both the demand and the supply side of labour markets. The considerations concerning the demand side and, in particular, the crucial issue of skills mismatch, point to the importance of initiatives and reforms in the field of education for future prospects of economic catch-up in the Euro-Mediterranean region. Integrated education systems and labour markets at a regional level would provide young graduates with expanded economic opportunities, complementing the skills that ideally they should be equipped with as a result of reformed education systems at a national level. The demographic dividend experienced by Southern and Eastern Mediterranean countries with rapidly growing working age populations would compensate for the demographic penalty facing aging Northern and Southern European countries.

This is not only wishful thinking, as the still limited, yet increasing efforts to integrate education and research between countries across the region, attest. The European Union, taking stock of the success story of the Erasmus programme and similar partnerships in the process of European integration, opened a number of programmes to individuals coming from AC4 and MED9 countries. Among other initiatives, the Partnership for Research and Innovation in the Mediterranean Area was launched under the Horizon 2020 framework programme , with co-funding from the European Commission and participating countries in the region. The Union for the Mediterranean, which counts higher education and research amongst its priority areas, supported the creation of two Euro-Mediterranean Universities, among other networks and platforms in and for the region.

Figure ***21*** provides information on the number of Erasmus Mundus master students, doctorate candidates and scholars selected from AC4 and MED9 countries on a yearly basis between 2005 and 2015. The data shows that the number of individuals selected from the above countries registered a dramatic increase, growing from less than 50 in 2005 to more than 250 in 2015. Egypt stands out among partner countries, with a total of 67 individuals selected in 2013 and 100 in 2012.

Figure 21: Erasmus Mundus exchanges of master students, doctorate candidates and scholars



Source: *own elaboration based on Erasmus Mundus statistics`*

Conclusion

Overall, it can be concluded that several decades of Euro-Mediterranean cooperation did not translate into any substantial advancement in regional integration, except for some progress in trade liberalisation, which was nonetheless limited both in depth – tariff waiving without further harmonisation – and in scope – with not all sectors covered for the Southern and Eastern neighbourhood. It is not surprising that under these conditions, also considering the negative implications of the Great Recession and widespread instability in the aftermath of the Arab uprisings, that economic catch-up between poorer and richer countries in the Euro-Mediterranean region did not materialise.

The trade agreements concluded between countries in the region did not deliver the expected results. North-South agreements between the EU and individual MED8 countries failed to address the persistent and, in recent years, increasing trade deficits of several non-resource rich countries and to mobilise substantial FDI, which remained very low in the Euro-Mediterranean, as compared to benchmark regions. South-South agreements between MED9 countries and, to a minor extent, AC4 countries involved in accession negotiations, failed to enhance South-South integration and increase trade between the countries involved, which remains far below potential. This contributed to the current situation in the region, characterised by a spaghetti-bowl of trade agreements, rather than the progressive construction of a consistent Euro-Mediterranean Free Trade Area between comparable blocks of countries.

In today's world, where trade consists increasingly, if not intrinsically, in the emergence of value chains, the question of why the Euro-Mediterranean region, in bringing together developed and developing countries with impressive complementary differentials in terms of know-how and wages, demography as well as resource endowment, did not see the emergence of **regional value chains,** cannot be ignored. Further research should focus on the factors explaining the failure of the region to engage in mutually advantageous trade and investment relations, which are manifold and not so well understood. Here, we limit ourselves to point out that trade and investment agreements and related policies in the region did not contribute to the emergence of regional value

chains. This, notwithstanding geographical proximity, remains an important determinant of the emergence of global value chains, as in the case of the Germany-Poland and US-Mexico couplets.

In the future, regional trade agreements and investment policies should aim at creating the conditions for regional value chains to emerge, based on potential or existing similarities between countries in the region, while industrial policies should aim at enhancing the access of domestic firms and, in particular, small and medium sized enterprises, into these regional value chains. Given the changing nature of value chains themselves, education systems should be tailored in such a way to create resilient workers, that is, focusing on the development of transversal skills useful in several domains, rather than sector-specific skills that can be learned on the job. At the same time, vocational training programmes, focused on skills specific to given sectors or value chains, should be mainstreamed alongside other lifelong learning institutions to accompany the retraining and redeployment of workers in rapidly changing labour markets, in order for them to benefit from the opportunities offered by the mega trends. The role of public-private partnerships will be central in tailoring and funding such vocational training programmes and lifelong learning institutions, as it is likely that neither private businesses, nor public administrations, will have sufficient knowledge, incentive or means to ensure the provision of such services to workers.

SECTION 3: QUANTIFYING THE IMPACTS OF REGIONAL INTEGRATION ON YOUTH EMPLOYMENT

In the first two sections, we subsequently analysed the current state of affairs and the policies as regards to labour markets and regional integration schemes in the Euro-Mediterranean region, delving into the related literature where necessary.

First, we discussed the threats posed by labour markets unable to create sufficient employment opportunities, particularly for youngsters, women and, among those, graduates, in a context of population growth, shedding light on causes and consequences of persistently high unemployment rates, in particular for the youth. The causes include skill/education mismatches, rigid regulations and the limits of deregulation, the weight of the public sector and its influence of educational choices, as well as issues related to the persistence of certain socio-cultural norms. The consequences include discouragement of the unemployed and related high rates of NEETs across the region and increasing migratory flows, fuelled by youngsters lacking a perspective in their home countries and searching for opportunities in host countries.

Second, we defined the concept of regional integration, shed light on the different dimensions usually associated with it and, on this basis, provided an overview of the subsequent integration schemes launched between UfM countries and the resulting current status quo in regional integration in the Euro-Mediterranean region. The analysis highlighted that, if political and most particularly security concerns have been the main trigger of regional integration efforts, economic and most particularly trade liberalisation has been the core driver of Euro-Mediterranean integration. The European Union, building on a long lasting European integration process, played the role of catalyst in setting the ground for trade and economic integration in the region. Southern and Eastern Mediterranean countries did not achieve sufficient levels of integration to ensure a more balanced and coherent integration of markets between themselves and between the two shores of the Mediterranean. In this sense, South-South integration is to be considered as a precondition for overall regional integration efforts in the future, in order to be conducive to more satisfactory outcomes, most particularly in terms of employment.

Next, we quantify the impacts of regional integration on job creation using a Computable General Equilibrium (CGE) model.

In Mediterranean countries, job creation in general and for youth[20] in particular, depends on a multitude of factors including growth patterns, business culture, efficiency of financial system, market size, labour mobility, market frictions and imperfections, institutions and the quality of human capital.

[20] Youth in this report is defined as the 15 to 24 age group, as this is a widely accepted statistical convention. (See ILO and UN,1992.) Depending on the education system of the country and schooling years, it is relevant to extent the youth definition to cover a 15-29 or 15-34 age groups.

In our analysis we use a large-scale CGE model (see annexe 2 for description of the model) that includes all Mediterranean countries and endogenously computes their interaction in domestic and international markets and explicitly incorporates the mechanisms for activity and job creation.

Regional integration impacts the different economies according to their sectoral competitiveness, their openness to trade and their ability to adjust, by performing timely structural changes to their economy. The channel through which regional integration takes place is crucial regarding the outcome on economic activity and employment. The abolition of tariff barriers increases economic activity in the UfM region as a whole (since a market imperfection is removed) but not all sectors benefit. Countries that are already in the advanced process of integration will mainly have benefits from access to larger markets. Countries that are lagging behind in the process of regional integration will mainly benefit from de-risking their economies and from the adoption of more efficient production procedures.

Regional integration will increase both trade and capital flows. Increasing capital flows are expected to have a significant impact on employment in the region, as they provide the missing link between skilled employment and capital that is absent from certain sectors and countries. Youth employment benefits from regional integration, both by the increase of overall economic activity and also from the changes in production and institutions. The transition to an integrated economy results in the restructuring of production away from non-market services and low value added sectors, towards sectors that require high skilled labour. It should be noted that the focus of our analysis regards the implications of regional integration on the economy and youth employment in particular and doesn't investigate what is the optimum mix of policies to boost youth employment.

This section examines the implications for youth employment from regional integration and focuses on the conditions where Euro-Mediterranean integration can lead to youth employment. First, we present the methodological framework that has been used to assess youth employment creation; second, we describe the reference scenario as quantified by the GEM-E3-MED model, against which the performance of the regional integration scenario is evaluated and third, we present the assumptions and results of the regional integration scenario and the last part is the conclusion.

Methodology and data

In order to study the impact on the economy, employment and, in particular, the creation of youth employment on Euro-Mediterranean integration, the GEM-E3-MED model has been used. The GEM-E3-MED model is based on a detailed database of the EU-Med countries including detailed social accounting, bilateral trade, consumption and investment matrices for each of the countries included in the model. The GEM-E3-MED model is calibrated to a number of datasets, including GTAP (Input Output tables and bilateral trade), IEA (energy balances), UNFCCC (GHG emissions) and ILO (labour market data). A distinctive feature of the model is that it includes a detailed representation of the existing infrastructure on Mediterranean countries. The existing database is based on the latest available data (years 2011).

The data required for the calibration of the labour market and their associated sources are presented in Table 8. It should be noted that detailed data was not available for all countries and sectors. Table 32 in the annexe presents the data source which is available for each country.

Table 8: labour market data and sources

DATA	DATASET
Compensation of employees by skill	GTAP v9
Employment and Labour force by age	ILO statistics, EUROSTAT
Employment and Labour force by economic activity	ILO, UN, EUROSTAT, National statistical offices.

The GEM-E3-MED[21] model is a multi-regional, multi-sectoral, recursive dynamic Computable General Equilibrium (CGE) model that incorporates all economic agents, endogenous bilateral trade flows, an environmental module and an imperfect labour market representation that allows for involuntary unemployment. The model is able to capture the direct, indirect and induced[22] employment effects of policies. This is particularly important in calculating the net employment impact, as regional integration will induce a multitude of adjustments in the socioeconomic system of the different countries.

Scenario Definition

The analysis is based on the comparison of a Reference (business as usual) scenario where regional integration is gradual and very slow, with a scenario where policies and actions that lead to regional integration start in 2020 and conclude by 2025.

In the Reference scenario, quantified with the GEM-E3-MED model, it is assumed that policies in place continue throughout the projection period (2015-2040) without the inclusion of new and yet undecided policies. The reference scenario provides a "business as usual" outlook for the macro-economy, sectoral value added and the composition of employment over different sectors and ages. The quantification of the reference scenario builds upon the assumptions of zero output gap and sustainable GDP growth, which means that excess deficits or surpluses in the current account and public budget are reduced towards a balanced budget in the long term. In addition to that, investments in infrastructure and the composition of sectoral value added by country changes towards the patterns of more developed countries (i.e. increased total factor productivity in the economy as a result of upgraded infrastructure, increased energy efficiency, dematerialisation of the economy – transition towards a more service and high value added production structure, increasing labour productivity, as a result of upgrading human capital). These changes in the reference take place in a very shallow regional integration environment, where most of the existing trade barriers remain and the degree of process harmonisation among the regions is low.

[21] For a complete documentation of the model see Capros et al (2013).
[22] Direct refers to the job that is created/lost in the sector where the policy is targeted. Indirect refers to the job created/lost to other sectors that are linked via trade transactions to the targeted sector (i.e. through its intermediate consumption of goods and services) and induced is the job created/lost as a result of change of income of the consumers.

The country risk indicator that is introduced into the model, reflecting the uncertainty in investment, is calculated to take into account a wide range of critical factors including: i) the Ease of Doing Business, ii) Bonds Rates[23] and iii) Governance Indicator. The governance indicator is composed of: i) Voice and Accountability, ii) Political Stability and Absence of Violence/Terrorism, iii) Government Effectiveness, iv) Regulatory Quality, v) Rule of Law and vi) Control of Corruption. The country risk measurement and the governance indicator for the Reference scenario for each country are presente Table 9.

The **Regional Integration** scenario assumptions act in addition to the assumptions already included in the reference and refers to the:

i) Removal of tariffs and non-tariff barriers: Removal of all trade barriers in the EURO Mediterranean area and establishment of a free trade area.

ii) Risk reduction as a result of process and procedure harmonisation, improved investing environment and better governance: Investment risk reflecting uncertainty, hidden transaction costs, and long periods of project implementation are represented in the modelling as a shadow interest rate. Countries with poor institutional settings, low scores on doing business indicators and conflicts, present high shadow interest rates. Regional integration implies a termination of conflicts and a degree of process and institutional harmonisation which act in reducing the shadow interest rate. In the scenario examined with the GEM-E3-MED model, the shadow interest rates in the Euro-Mediterranean region tend to converge by 2040.

In particular, in the regional integration scenario, countries are assumed to gradually abolish all trade barriers gradually until 2025. This requires different efforts by countries, as the degree of trade integration in some countries is already high. In addition to the abolishment of trade barriers, the regional integration scenario involves the reduction of country risk, as a result of increased performance of countries in a number of critical issues such as the ease of doing business, improve debt sustainability and improvement of governance indicators. In our analysis, we adopt a country risk indicator that is composed of a multitude of factors and is in accordance with the concept of World Bank and OECD respective indicators.

Table 9 presents the risk index by country for the two scenarios examined (the reference scenario and the integration scenario). Comparing the country risk in the two scenarios, shows that regional integration lowers risk in all Mediterranean countries. It should be noted that this risk improvement is the main driver of increased investment, GDP, employment and, eventually, youth employment in the region (the results of the scenarios are presented and discussed in detail in the section ¡Error! No se encuentra el origen de la referencia.).

[23] The link between bond rates and shadow interest rates is provided in the annex.

Table 9: Country risk measurements in Reference and Regional Integration Scenario

		Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey
Reference scenario	**Governance Indicator**	0.05	-0.89	-0.37	-0.92	0.35	-0.10	-0.99	0.10	-0.23	-0.39	-0.41
	Voice and Accountability	0.16	-0.85	-0.11	-1.10	0.74	-0.78	-0.48	0.15	-0.66	0.19	-0.37
	Political Stability and Absence of Violence/Terrorism	0.36	-1.05	-0.45	-1.34	-1.12	-0.58	-1.72	0.13	-0.34	-0.87	-1.28
	Government Effectiveness	0.03	-0.51	-0.54	-0.76	1.38	0.14	-0.47	0.16	-0.06	-0.10	0.23
	Regulatory Quality	0.20	-1.17	-0.18	-0.80	1.27	0.05	-0.28	0.23	-0.17	-0.39	0.33
	Rule of Law	-0.36	-0.83	-0.29	-0.50	1.17	0.46	-0.79	0.03	-0.08	-0.05	-0.06
	Control of Corruption	-0.44	-0.68	-0.37	-0.56	0.89	0.26	-0.88	-0.09	-0.25	-0.11	-0.11
	Bond Rates	4.3%	5.0%	5.0%	5.0%	1.3%	4.3%	4.7%	4.3%	3.3%	4.0%	3.3%
	Long Term Rating	B1	B3	B3	B3	A1	B1	B2	B1	Ba1	Ba3	Ba1
	Country Risk Indicator	6.00	3.50	7.00	6.00	2.00	5.00	7.00	7.00	3.00	4.00	4.00
	Easiness of Doing Business	61.30	45.88	63.07	55.18	71.44	57.02	56.08	71.47	65.82	63.91	67.30
	Risk weighted Index	463	576	522	576	288	477	574	444	423	469	440
Scenario – Risk	**Governance Indicator**	0.63	-0.08	0.31	-0.11	0.87	0.51	-0.15	0.67	0.41	0.30	0.28
	Voice and Accountability	0.16	-0.85	-0.11	-1.10	0.74	-0.78	-0.48	0.15	-0.66	0.19	-0.37
	Political Stability and Absence of Violence/Terrorism	0.89	-0.16	0.29	-0.38	-0.21	0.19	-0.66	0.72	0.37	-0.03	-0.33
	Government Effectiveness	0.65	0.25	0.22	0.05	1.66	0.73	0.27	0.75	0.58	0.55	0.80

Regulatory Quality	0.77	-0.25	0.49	0.03	1.58	0.66	0.42	0.79	0.50	0.33	0.87
Rule of Law	0.36	0.00	0.41	0.25	1.50	0.97	0.04	0.65	0.57	0.59	0.58
Control of Corruption	0.29	0.11	0.35	0.21	1.30	0.82	-0.03	0.56	0.44	0.54	0.54
Bond Rates	4.0%	4.7%	4.7%	4.7%	1.3%	4.0%	4.3%	4.0%	3.0%	3.7%	3.0%
Long Term Rating	Ba3	B2	B2	B2	A1	Ba3	B1	Ba3	Baa3	Ba2	Baa3
Country Risk Indicator	5.85	3.35	6.85	5.85	2.00	4.85	6.85	6.85	2.85	3.85	3.85
Easiness of Doing Business	65.17	51.29	66.76	59.66	74.30	61.32	60.47	74.32	69.24	67.52	70.57
Risk weighted Index	396	488	447	489	241	407	486	380	352	393	365

Source: Own elaboration

The impact of the regional integration scenario on youth employment has been assessed in three steps: i) In the first step, trade barriers are removed and the impact on economy and employment is calculated, ii) in the second step, trade barriers remain in place but the investment risk is lowered and iii) In the third step, both actions are taken into account: Removal of trade barriers and risk improvement. This sequential quantification of regional integration makes it possible to identify the key mechanisms that drive economic and employment growth and to quantify separately the importance of trade barriers and investment risk. .

The next part of this section presents the current employment and economic status of the Euro Mediterranean countries and provides the results of the different scenarios simulated with the model.

All model simulations start from 2015. Table 10 presents the labour market data for 2015, where in all countries youth unemployment is high and ranges from 20 to 40% (excluding Bosnia and Herzegovina and Israel that present figures of 70% and 9% respectively). The drivers for youth unemployment are different by country and are described in detail in Section I of this study. It has been found that the main driver in most of the countries is skill mismatching (the market requires different skills from those that the educational system provides).

Table 10: labour market in 2015

2015	Total (15 - 64)			Youth (15 - 24)			Share of Youth to Total		
	Labour Force (1000s)	Employment (1000s)	Unemployment rate	Labour Force (1000s)	Employment (1000s)	Unemployment rate	Labour Force	Employment	Unemployment
Albania	1187	984	17.1%	180	112	37.8%	15.2%	11.4%	33.5%
Algeria	12386	11023	11.0%	1866	1376	26.3%	15.1%	12.5%	36.0%
Bosnia and Herzegovina	1520	1121	26.3%	126	37	70.6%	8.3%	3.3%	22.3%
Egypt	30242	26359	12.8%	5252	3471	33.9%	17.4%	13.2%	45.9%
Israel	3724	3529	5.2%	593	538	9.3%	15.9%	15.2%	28.2%
Jordan	1957	1701	13.1%	335	221	34.0%	17.1%	13.0%	44.5%
Lebanon	2091	1954	6.6%	338	268	20.7%	16.2%	13.7%	51.1%
Montenegro	249	205	17.7%	26	16	38.5%	10.4%	7.8%	22.7%
Morocco	12311	11117	9.7%	2121	1689	20.4%	17.2%	15.2%	36.2%
Tunisia	4112	3489	15.2%	611	390	36.2%	14.9%	11.2%	35.5%
Turkey	29402	26392	10.2%	5450	4443	18.5%	18.5%	16.8%	33.5%
South Med[24]	66823	59172	11.4%	11116	7953	28.5%	16.6%	13.4%	41.3%
EU28	238514	215726	9.6%	22844	18196	20.3%	9.6%	8.4%	20.4%

Source: *own elaboration based on data ILO, EUROSTAT*

[24] South Med region includes Algeria, Egypt, Israel, Jordan, Lebanon, Morocco and Tunisia.

The Reference scenario

This section provides details of the reference scenario, as it has been quantified with the GEM-E3-Med model. The reference scenario provides an outlook on the socio-economic development of the Mediterranean countries under "business as usual" assumptions. This means that policies that are not yet decided aren't foreseen to be implemented in the future. Trade agreements, upgrade and expansion of infrastructure, labour productivity and public expenditures follow a "business as usual" approach. For countries that are currently in conflict, it is assumed that the conflict will be over by 2020 so that they can return to a path of growth.

In the reference scenario, it is assumed that current trade agreements and barriers remain in place throughout the projection period. Restrictions on labour mobility apply and there are no synergies on energy and environmental issues. Policies defined at national level are pursued. No process and institution harmonisation policies are envisaged, hence shadow interest rates reflecting investment risk apply.

Key socio-economic projections

The projection of GDP for each country is presented in Table 11. The GDP growth is driven by changes in population, labour productivity, total factor productivity and capital accumulation. In the long term, it is assumed that Euro-Mediterranean countries take action to correct fiscal and current account imbalances (i.e. lower public expenditures to reduce public deficits and improve competitiveness to reduce trade deficits).

In the reference projection, the majority of countries present high annual growth rates (higher than the World average). High growth rates are the result of increasing investment shares in GDP and improvement in balances of trade.

Table 11: GDP projection

% annual growth rates	2020	2025	2030	2035	2040
Albania	2.51	2.56	2.41	2.20	2.11
Algeria	3.77	3.27	2.65	2.01	1.67
Bosnia and Herzegovina	4.04	3.96	3.40	2.88	2.45
Egypt	4.22	4.18	4.15	3.85	3.56
Israel	4.28	4.12	4.07	3.81	3.68
Jordan	4.73	4.68	4.65	4.35	4.03
Lebanon	2.71	2.80	2.87	2.57	2.08
Montenegro	2.48	2.70	2.59	2.37	2.13
Morocco	3.26	3.76	3.87	3.53	3.26
Tunisia	4.13	4.33	4.36	3.81	3.31
Turkey	4.24	4.06	4.03	3.57	3.35
EU28	1.62	1.38	1.37	1.51	1.57

Source: *GEM-E3-MED*

Table 12 presents the annual growth rate of the labour force for each country of the Euro-Mediterranean region.

Table 12: labour force projection

% annual growth rates	2020	2025	2030	2035	2040
Albania	0.45%	-0.10%	-0.30%	-0.15%	-0.02%
Algeria	1.37%	1.03%	1.20%	1.36%	1.06%
Bosnia and Herzegovina	-0.59%	-0.67%	-0.91%	-0.91%	-1.12%
Egypt	1.99%	1.88%	2.08%	2.11%	1.81%
Israel	1.43%	1.56%	1.63%	1.56%	1.32%
Jordan	2.18%	1.55%	1.91%	2.13%	1.88%
Lebanon	1.09%	-1.22%	-0.69%	0.19%	0.27%
Montenegro	0.08%	0.00%	0.00%	-0.08%	-0.40%
Morocco	1.46%	1.13%	1.11%	1.05%	0.82%
Tunisia	0.85%	0.60%	0.64%	0.72%	0.62%
Turkey	1.37%	0.98%	0.89%	0.78%	0.58%
EU28	0.11%	-0.19%	-0.19%	-0.02%	-0.02%

Source: *based on ILO estimates*

The estimates for the labour force have been taken from the ILO. Jordan and Egypt present the highest growth rates among the Euro-Mediterranean. Low or negative labour force growth rates are in line with population declining projections. In the cases where labour force annual growth rates are lower than annual growth rates of GDP, this indicates an improvement in labour force productivity.

Unemployment rates (presented in Table 13) are reduced over time, as a result of increasing economic activity in the region and the restructuring of economies towards more labour intensive activities (sectoral production is moving towards market services). The improvement in labour productivity reduces labour costs and increases the competitiveness of the countries, leading to higher volume of sales and exports.

Table 13: unemployment rates

	2020	2025	2030	2035	2040
Albania	14.9%	12.3%	11.8%	11.3%	10.8%
Algeria	11.5%	9.9%	9.4%	8.9%	8.4%
Bosnia and Herzegovina	24.9%	23.7%	22.6%	21.4%	20.2%
Egypt	10.5%	9.5%	8.4%	7.4%	6.4%
Israel	6.4%	5.3%	4.9%	4.4%	4.0%
Jordan	13.5%	11.4%	10.9%	10.4%	9.9%
Lebanon	7.2%	7.0%	6.4%	6.0%	5.8%
Montenegro	17.6%	16.9%	16.3%	15.6%	15.0%

Morocco	10.7%	8.5%	8.0%	7.5%	7.0%
Tunisia	14.4%	12.7%	12.2%	11.7%	11.2%
Turkey	10.8%	10.4%	9.9%	9.4%	8.9%
EU28	9.5%	9.5%	9.0%	8.5%	8.0%

Source: *GEM-E3-MED*

Youth unemployment rates are the highest in the Mediterranean countries of North Africa (24% in 2012, ILO). As was explained in the first section, the main factor affecting youth unemployment in these countries is skill mismatching[25]. Under "business as usual" assumptions, the causes that lead to skill mismatching (i.e. poor links of the educational system with the labour market) remain until the end of the reference projection period, as no mechanism or corrective policy is envisaged. This structural problem is reflected in the decreasing ratios of youth employment to total employment (Table 14).

Table 14: ratio of youth employment to total employment

	2015	2020	2030	2040
Albania	11.4%	10.1%	9.8%	9.8%
Algeria	12.5%	10.0%	10.1%	10.3%
Bosnia and Herzegovina	3.3%	3.9%	3.6%	3.4%
Egypt	13.2%	12.3%	12.6%	12.6%
Israel	15.2%	15.3%	15.6%	15.7%
Jordan	13.0%	12.7%	13.0%	13.2%
Lebanon	13.7%	11.5%	13.1%	14.3%
Montenegro	7.8%	7.8%	7.6%	7.5%
Morocco	15.2%	13.3%	13.2%	13.4%
Tunisia	11.2%	9.6%	9.6%	9.6%
Turkey	16.8%	16.0%	16.0%	16.1%
EU28	8.4%	8.4%	8.3%	8.3%

Source: *GEM-E3-MED*

Table 15 presents the annual growth rates of production for key economic activities for the Euro-Mediterranean countries. From a sectoral point of view, it is the manufacturing and mainly the service sectors that increase their production significantly over the 2015-2040 period. The share of communication, business and financial services in total value added, increases in all Euro-Mediterranean countries over the 2015-2040 period. It should be noted, that market services and manufacturing are characterised by high labour intensities.

[25] The unemployment rates for persons with tertiary-level education are among the highest in the world

Table 15: sectoral production

% annual growth rate (2015-2040)	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	1.28	2.40	2.41	3.68	3.54	4.19	3.54	1.85	2.26	1.94	1.67	0.35
Energy	2.16	1.16	2.69	3.98	3.23	4.65	2.74	2.42	2.26	2.73	2.75	0.81
Chemical Products	1.62	3.95	2.20	4.48	2.78	4.89	3.07	1.91	3.52	4.27	3.88	1.15
Other energy intensive	1.31	2.78	1.79	3.82	2.26	4.27	2.42	1.55	2.31	3.42	3.46	0.89
Electric Goods-Other Equipment goods	0.57	3.24	1.04	4.32	1.52	5.10	2.17	0.81	3.43	3.66	3.62	0.95
Transport equipment	0.21	2.54	0.31	4.47	0.41	5.17	0.62	0.26	3.84	4.53	4.23	1.37
Consumer Goods Industries	1.72	2.64	2.28	2.92	2.84	4.30	2.77	2.00	2.66	2.97	2.17	1.22
Textiles and Clothing	1.00	6.08	1.36	3.35	1.71	3.18	2.3	1.18	1.89	2.94	2.81	-1.32
Construction	1.94	1.62	2.84	3.84	3.74	3.49	2.81	2.39	2.11	3.35	3.62	1.14
Transport	2.08	2.54	3.09	3.26	4.10	4.42	2.28	2.58	2.40	2.39	3.64	1.44
Communication	1.41	3.56	2.73	3.96	4.06	4.15	2.81	2.07	2.80	2.99	3.66	1.49
Business-Financial Services	1.94	2.75	2.75	3.25	3.55	4.10	2.67	2.34	2.45	3.45	3.3	1.74
Public Services	3.13	2.63	3.23	5.08	3.32	3.83	2.12	3.18	3.35	4.5	4.63	1.16
Recreational and other services	2.07	2.36	2.99	3.21	3.91	3.85	2.95	2.53	3.03	3.33	3.15	1.83

Source: *GEM-E3-MED*

The exact production mix projected for each economy clearly impacts the outlook for sectoral employment, which moves almost in parallel with sectoral activity. The allocation of youth employment over the different sectors, shows how labour market specificities, gender issues, human capital features and differences in business environment affect youth employment in the different Euro-Mediterranean countries. In certain countries, youth employment is mainly concentrated in agricultural related activities and in the public sector.

Table ***16:*** presents which sectors currently attract/require youth workers for each Euro-Mediterranean country. The table shows how many young persons will be employed in a particular type of activity, if the particular activity increases its employment by 100 persons.

Table 16: Youth employment requirements by sector* (for each 100 workers in a sector how many are in the age of 15-24)

2015	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	20	25	4	24	11	26	27	10	22	17	17	6
Energy	1	7	1	9	6	10	11	1	9	10	9	4
Chemical Products	4	26	2	25	15	27	28	4	23	21	23	8
Other energy intensive	4	25	2	24	14	26	28	4	22	21	22	8
Electric Goods-Other Equipment goods	4	25	2	25	14	26	28	4	23	21	23	8
Transport equipment	4	26	2	26	15	27	29	4	23	22	24	8
Consumer Goods Industries	4	25	2	18	14	26	27	4	22	20	22	8
Textiles and Clothing	4	24	2	23	14	25	26	4	21	20	21	8
Construction	5	18	2	17	14	19	20	5	16	15	16	8
Transport	4	8	2	8	17	8	9	4	7	7	19	9
Communication	4	8	2	8	18	9	9	4	7	7	9	10
Business-Financial Services	13	5	6	5	19	5	10	13	4	7	9	11
Public Services	7	11	3	10	14	11	12	7	9	9	24	8
Recreational and other services	11	11	5	10	7	11	12	11	10	9	24	4

Source: *GEM-E3-MED*

** This table shows that for every 100 jobs in a sector how many will be occupied by personnel aged 15-24 (in %). This is based on UN data.*

The share of young people in total employment of a sector changes over time, as a result of upgrading human capital features (i.e. creation of new skills), correcting for fiscal imbalances where appropriate (i.e. reducing the public sector size) and by the expansion of sub-sectoral activities that present high ratios of youth employment (i.e. telecommunication, on-line shops etc.). Table 31 in Annexe I shows how these sectoral shares have evolved in 2040 in a reference context. In the Reference scenario, the policies to reduce trade deficits and the increased investment in infrastructure, deliver an average annual GDP growth rate of 3.71% for the region and result in

the reduction of the unemployment rate by 3.7 percentage points (i.e. from 11.4% to 7.7%). Table 17 presents the projection of youth unemployment rates until 2040. In all Euro – Mediterranean countries examined, youth unemployment rates decline over time, driven by the increase in economic activity but also by the decrease in participation rates, as a result of increasing participation of schools and universities.

Table 17: Youth Unemployment rate in the Reference scenario

	2015	2020	2025	2030	2035	2040
Albania	38%	34%	32%	29%	27%	25%
Algeria	26%	27%	25%	23%	22%	20%
Bosnia and Herzegovina	71%	62%	59%	56%	53%	50%
Egypt	34%	31%	28%	25%	22%	19%
Israel	9%	12%	11%	10%	8%	7%
Jordan	34%	34%	32%	30%	27%	25%
Lebanon	21%	23%	20%	17%	14%	11%
Montenegro	38%	36%	35%	33%	32%	31%
Morocco	20%	22%	20%	18%	16%	14%
Tunisia	36%	35%	33%	31%	29%	28%
Turkey	18%	20%	19%	18%	17%	16%
EU28	20%	20%	19%	19%	18%	17%

Source: *GEM-E3-MED*

The youth jobs created in the Reference scenario are presented in Table 18. In certain countries, such as Albania, Bosnia and Herzegovina, and EU28, the decline from 2015 jobs is the result of declining population and labour force (Table 12).

The overall additional youth jobs to 2015 (excl. EU28) is 4.360.000, a large number of which are the jobs created in Egypt.

Table 18: Additional to 2015 youth jobs created in the Reference scenario

1000s persons	2020	2025	2030	2035	2040
Albania	-8	-8	-9	-9	-10
Algeria	-208	-101	5	112	218
Bosnia and Herzegovina	6	2	-1	-5	-8
Egypt	199	702	1204	1707	2210
Israel	34	99	163	228	292
Jordan	18	51	84	117	150
Lebanon	-33	-16	1	18	36
Montenegro	0	0	0	0	-1

Morocco	-122	5	133	260	388
Tunisia	-36	-21	-6	9	24
Turkey	54	306	557	809	1061
EU28	9	-249	-413	-431	-449

Source: *GEM-E3-MED*

Table 19 presents the youth employment by economic activity in the year 2040. The key sectors that present the highest employment are construction, business services and agriculture.

Table 19: Youth Employment by economic activity in Reference Scenario

1000s persons in 2040	Albania	Algeria	Bosnia and	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	54	209	6	923	5	23	48	1	717	62	669	210
Energy	1	71	0	63	9	10	25	0	36	16	91	189
Chemical Products	0	41	1	167	35	42	6	0	75	21	87	559
Other energy intensive	2	67	1	683	39	26	8	0	104	18	169	1024
Electric Goods-Other Equipment goods	0	33	2	117	65	16	4	0	104	24	180	1186
Transport equipment	0	21	1	22	7	1	4	0	47	7	51	529
Consumer Goods Industries	0	53	1	407	13	27	29	0	169	17	181	509
Textiles and Clothing	1	74	0	774	9	28	7	0	201	40	201	347
Construction	6	409	1	624	63	47	6	0	167	51	561	1211
Transport	2	25	0	242	36	21	10	1	80	16	296	808
Communication	1	13	0	129	30	8	7	0	10	3	28	504
Business-Financial Services	19	140	1 0	641	33 7 11	19	96	6	81	58	871	6782
Public Services	10	437	4	434	3	52	33	2	208	80	1479	3214
Recreational and other services	5	2	2	456	69	50	21	4	76	1	641	674
Total	102	1594	29	5681	830	371	304	15	2077	414	5504	17747

Source: *GEM-E3-MED*

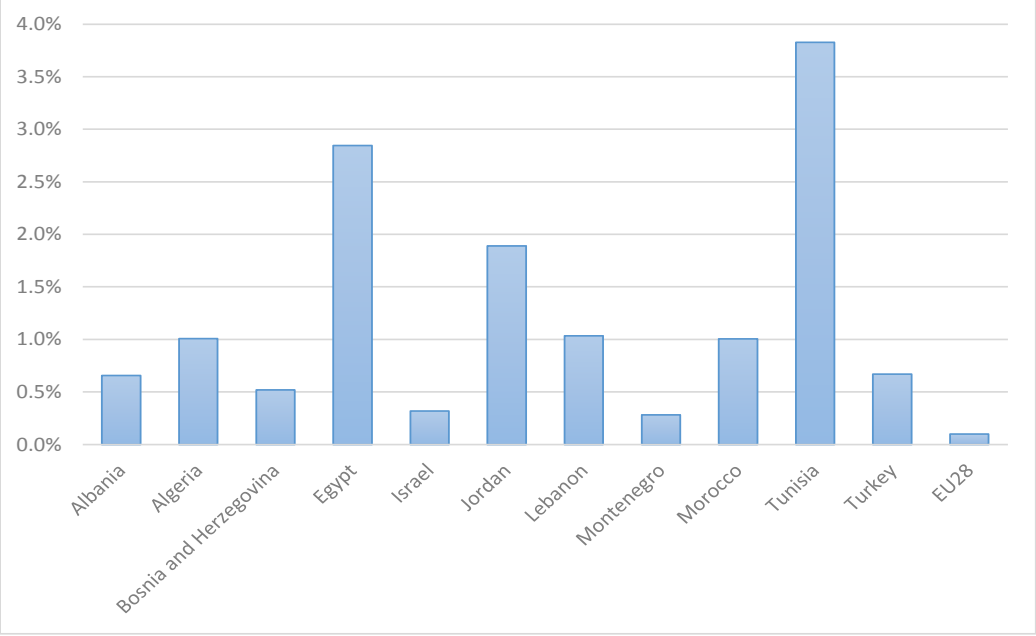
The Regional Integration Scenario

The key determinants for creation of youth employment in a regional integration scenario relate to how the economic sectors are affected by the integration, according to their openness to trade[26] and competitiveness[27] and to their labour characteristics (labour Intensity of the sector, skills requirements, age structure etc.). The properties of human capital are also crucial determinants of youth creation (i.e. are skills available to meet the requirements of new jobs). In addition, regional integration requires skills that are acquired through schooling, hence the labour force participation rates in the age range 15-24 are expected to decrease.

Trade Barriers

A Euro-Mediterranean integration that is based on the removal of trade barriers increases the income of the region by 0.2% over the 2015-2040 period. The impact is not uniform across countries but, clearly, the removal of trade distortions improves economic efficiency. The result on GDP is the net effect of a multitude of adjustments that take place in national economies. Countries whose sectors are protected and are not competitive still gain from the integration process (indirectly through the overall boost in economic activity and its impact on households disposable income) but not as much as compared with countries whose companies have been already exposed to competition (both in their domestic and international markets) and, hence, increase their market share.. Figure 22 presents the additional GDP to the reference GDP[28] that is going to be generated (in % changes) if regional integration is by means of trade barrier removal.

Figure 22: cumulative GDP (2015-2040) – Regional Integration (trade barriers) - % changes from reference



Source: *GEM-E3-MED*

[26] Imports plus Exports to total production
[27] Relative prices of same commodities
[28] The changes refer to cumulative GDP. That is the GDP generated over the entire 2015-2040 period in the reference scenario, compared to the GDP that is generated for the same period in the regional integration scenario.

Table 20 presents the total employment and young employment created by removing trade barriers in 2040. Removing trade barriers increases total employment in the region by 1.726.000 and youth employment by 238.000 in 2040, as compared to the reference scenario.

Table 20: Aggregate employment and youth employment creation of Regional Integration (trade barriers)

2040	Reference		Scenario: Trade Barriers			
	Employment	Youth Employment	Employment		Youth Employment	
			change from reference		change from reference	
	1000s persons	1000s persons	in 1000s persons	in %	in 1000s persons	in %
Albania	1053	102	5.8	0.5%	0.7	0.7%
Algeria	15303	1594	129.0	0.8%	18.1	1.1%
Bosnia and Herzegovina	982	29	4.8	0.5%	0.2	0.6%
Egypt	46172	5681	809.9	1.8%	103.3	1.8%
Israel	5187	830	11.8	0.2%	1.8	0.2%
Jordan	2844	371	43.0	1.5%	5.3	1.4%
Lebanon	1933	304	16.6	0.9%	3.3	1.1%
Montenegro	208	15	0.5	0.2%	0.0	0.3%
Morocco	15103	2077	272.7	1.8%	51.2	2.5%
Tunisia	4331	414	89.6	2.1%	10.1	2.4%
Turkey	33671	5504	136.6	0.4%	26.8	0.5%
South Med.	90873	11271	1372.6	1.5%	193.1	1.7%
EU28	216033	17747	206.1	0.1%	17.6	0.1%

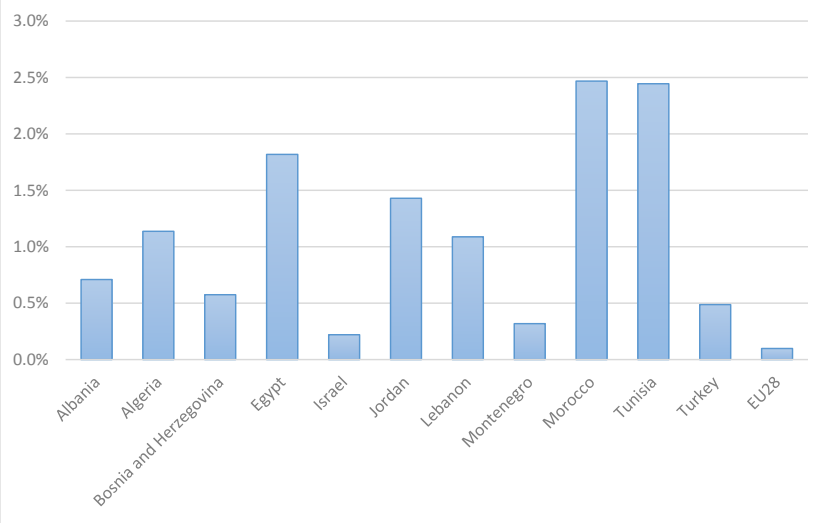
Source: *GEM-E3-MED*

Figure 23 shows the impact on aggregate youth employment from trade integration. Table 21 presents economic activity additional to the reference workers that the removal of trade barriers will bring. As trade barriers are different by activity and country, the results are mixed. Protected industries, like consumer goods in Egypt, may reduce their activity and employment. In almost all cases, employment increases in the services and construction sectors.

Table 21, the The removal of trade barriers also benefits the generation of youth employment. As presented in Table 22, youth employment increases from reference scenario levels in most economic activities by 2040.

Table *22* the change from reference in employment and youth employment by economic activity and by country is respectively presented. The main sectors that benefit (i.e. increase in total sales) from trade integration are equipment goods, consumer goods and services. Each sector has a different labour intensity and age employment requirements.

Figure 23: Aggregate youth employment creation Regional Integration (Trade barriers) (% change from reference, 2040)



Source: *GEM-E3-MED*

Table 21 presents economic activity additional to the reference workers that the removal of trade barriers will bring. As trade barriers are different by activity and country, the results are mixed. Protected industries, like consumer goods in Egypt, may reduce their activity and employment. In almost all cases, employment increases in the services and construction sectors.

Table 21: Employment by economic activity in Regional Integration (Trade barriers) – change from reference

1000s persons in 2040	Albania	Algeria	Bosnia and Herzegovin	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	2.5	21.4	1.6	-17.8	1.5	3.6	2.9	0.18	224.3	1.2	-130.1	63.8
Energy	0.4	10.4	0.3	18.9	-0.9	1.1	1.9	0.06	-1.6	2.5	3.0	-21.3
Chemical Products	0.7	14.1	0.8	69.7	7.3	7.5	1.4	0.15	-4.2	2.9	-0.1	2.8
Other energy intensive	0.0	-2.0	0.1	219.5	1.7	0.6	-0.2	-0.03	1.5	2.0	17.4	-15.6
Electric Goods-Other Equipment goods	-0.4	-5.9	0.1	23.8	-6.8	3.6	-0.6	-0.05	8.3	4.9	-7.0	-37.0

Transport equipment	-0.2	-3.9	-0.1	0.2	-0.7	0.1	-0.4	-0.04	-2.2	1.1	7.1	-7.3
Consumer Goods Industries	1.5	27.2	1.5	405.6	0.7	-6.5	3.3	0.28	9.5	5.4	1.1	100.1
Textiles and Clothing	-0.4	-7.3	-0.4	147.8	1.5	-0.7	-0.8	-0.10	21.3	7.2	46.7	-27.3
Construction	0.5	17.0	0.2	49.8	0.8	3.6	0.2	0.02	6.9	7.9	21.0	10.3
Transport	0.3	3.2	0.1	119.7	0.6	4.2	0.8	0.05	-7.2	4.4	15.0	6.5
Communication	0.1	1.1	0.1	42.4	0.5	1.5	0.5	0.00	-2.8	1.6	3.6	4.0
Business-Financial Services	1.4	35.7	1.6	317.1	1.0	6.6	7.6	0.27	7.9	28.7	124.4	75.9
Public Services	-0.9	17.9	-1.4	121.0	2.1	13.5	-0.7	-0.35	2.6	19.6	12.7	37.6
Recreational and other services	0.1	0.1	0.2	103.5	2.8	4.3	0.7	0.07	8.2	0.1	21.9	13.6
Total	5.8	129.0	4.8	809.9	11.8	43.0	16.6	0.51	272.7	89.6	136.6	206.1

Source: *GEM-E3-MED*

The removal of trade barriers also benefits the generation of youth employment. As presented in Table 22, youth employment increases from reference scenario levels in most economic activities by 2040.

Table 22: youth employment by economic activity in Regional Integration (trade barriers) – change from reference

1000s persons in 2040	Albania	Algeria	Bosnia and	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	0.4	4.3	0.1	-3.3	0.1	0.7	0.7	0.01	40.6	0.2	-16.9	3.2
Energy	0.0	0.8	0.0	1.9	-0.1	0.1	0.3	0.00	-0.2	0.3	0.3	-0.9
Chemical Products	0.0	4.1	0.0	18.5	1.3	2.1	0.5	0.01	-1.1	0.7	0.0	0.3
Other energy intensive	0.0	-0.6	0.0	56.5	0.3	0.2	-0.1	0.00	0.4	0.4	4.2	-1.4
Electric Goods-Other Equipment goods	0.0	-1.7	0.0	6.2	-1.1	1.0	-0.2	0.00	2.1	1.1	-1.7	-3.3
Transport equipment	0.0	-1.1	0.0	0.1	-0.1	0.0	-0.1	0.00	-0.6	0.2	1.8	-0.7
Consumer Goods Industries	0.1	7.5	0.0	-76.8	0.1	-1.7	1.2	0.01	2.4	1.2	0.2	8.8
Textiles and Clothing	0.0	-1.9	0.0	36.2	0.2	-0.2	-0.3	0.00	5.1	1.5	10.7	-2.3
Construction	0.0	3.4	0.0	9.1	0.1	0.7	0.0	0.00	1.2	1.2	3.6	0.9
Transport	0.0	0.3	0.0	9.7	0.1	0.4	0.1	0.00	-0.6	0.3	3.1	0.7
Communication	0.0	0.1	0.0	3.6	0.1	0.1	0.1	0.00	-0.2	0.1	0.4	0.4
Business-Financial Services	0.2	1.9	0.1	15.3	0.2	0.3	1.0	0.03	0.4	2.0	12.1	9.1

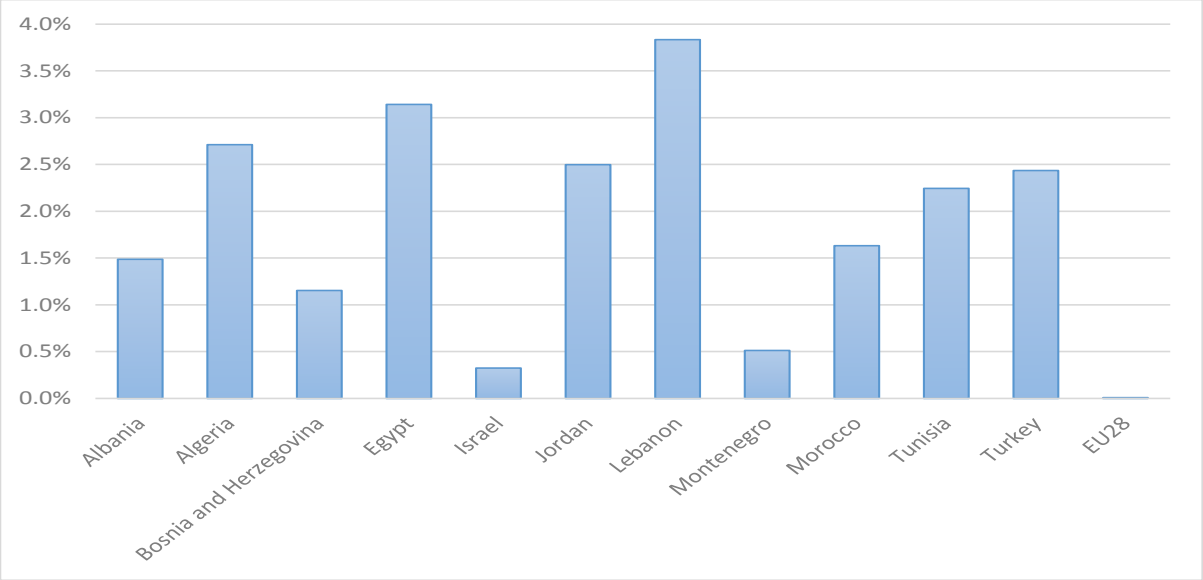
Public Services	0.0	1.1	0.0	6.7	0.2	0.8	-0.1	-0.02	0.1	0.9	2.4	1.7
Recreational and other services	0.0	0.0	0.0	19.6	0.4	0.9	0.2	0.01	1.5	0.0	6.6	1.1
Total	0.7	18.1	0.2	103.3	1.8	5.3	3.3	0.05	51.2	10.1	26.8	17.6

Source: *GEM-E3-MED*

Process harmonisation and risk

In the case where regional integration is based on the harmonisation of processes, improvement and harmonisation of institutions and increasing political stability, all parties involved benefit. Euro partners enjoy the benefits of access to larger markets and higher demand for their products (supported by higher incomes in other Mediterranean countries) whereas Mediterranean partners enjoy the benefits from investment de-risking, investment efficiency and FDIs. Figura 24 presents the change from reference in GDP by country when investment risk is reduced.

Figure 24: GDP (cumulative 2015-2040) - Regional Integration (Risk)



Source: *GEM-E3-MED*

This scenario of economy de-risking offers by far the best prospects for youth employment. This is attributed to the high economic activity, as compared to the reference that this scenario entails, but is also due to structural changes implied in the scenario. In particular, capital inflows and increasing efficiency of investments create the necessary capital stock that can be better aligned with existing skilled labour (which otherwise remains unexploited). That is, industries start to develop and operate in stable economic and political environments, taking advantage of the labour force already available in the region. Increasing FDI and building adequate capital stock is a key factor that addresses a main market imperfection causing youth unemployment: the excess supply of skilled labour, as compared to limited capital resources.

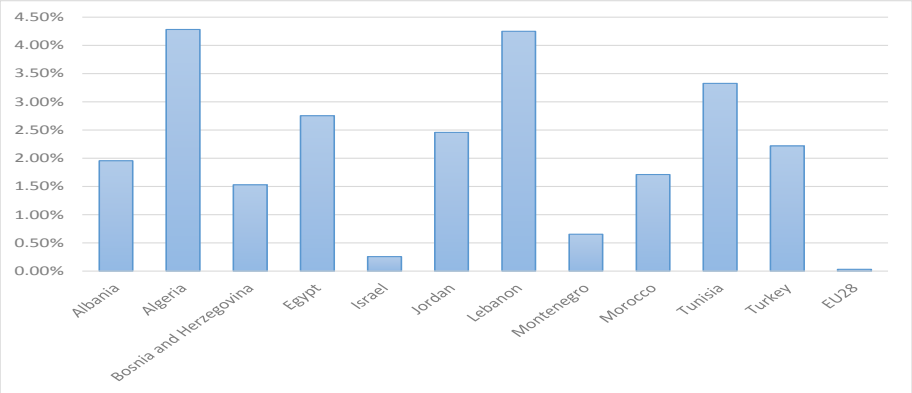
Table 23 presents the additional to the reference total and youth employment. Total employment increases by 2.914.000 persons in 2040 in the entire region and youth employment increases 428.000 for the same period.

Table 23: Aggregate employment and youth employment creation of Regional Integration (Risk)

2040	Reference		Scenario: Risk			
	Employment	Youth Employment	Employment		Youth Employment	
			change from reference		change from reference	
	1000s persons	1000s persons	in 1000s persons	in %	in 1000s persons	in %
Albania	1053	102	21.7	2.1%	2.0	2.0%
Algeria	15303	1594	374.6	2.4%	68.3	4.3%
Bosnia and Herzegovina	982	29	18.0	1.8%	0.4	1.5%
Egypt	46172	5681	1251.9	2.7%	156.4	2.8%
Israel	5187	830	10.6	0.2%	2.1	0.3%
Jordan	2844	371	58.8	2.1%	9.1	2.5%
Lebanon	1933	304	58.3	3.0%	12.9	4.2%
Montenegro	208	15	1.9	0.9%	0.1	0.7%
Morocco	15103	2077	195.6	1.3%	35.5	1.7%
Tunisia	4331	414	91.6	2.1%	13.8	3.3%
Turkey	33671	5504	781.4	2.3%	122.1	2.2%
South Med.	90873	11271	2041.4	2.2%	298.1	2.6%
EU28	216033	17747	49.7	0.0%	5.5	0.0%

Source: *GEM-E3-MED*

Figure 25: Aggregate youth employment creation Regional Integration (Risk) (% change from reference, 2040)



Source: GEM-E3-MED

Table 24 presents the change in employment from the reference scenario in 2040 by economic activity. The increase of FDI and construction of capital benefit activities, which are related to investments such as construction and equipment goods, increase their employment levels. The lower risk and the stable economic and political environment motivate additional investments, increasing the need for financial resources which boost Business and Financial activities.

Table 24: Employment by economic activity in Regional Integration (Risk) – change from reference

1000s persons in 2040	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	6.1	14.8	3.2	74.3	0.3	4.3	4.6	0.06	25.6	11.1	116.4	-1.7
Energy	3.8	73.1	3.1	47.4	0.3	2.7	10.8	0.67	7.9	10.1	36.9	-7.3
Chemical Products	-0.1	0.7	0.6	4.8	1.2	5.1	0.2	0.00	4.7	2.5	9.1	-1.3
Other energy intensive	1.3	15.5	1.8	109.0	2.6	3.3	1.6	0.16	21.5	4.6	32.9	10.1
Electric Goods-Other Equipment goods	0.4	8.2	1.9	4.9	4.1	2.6	0.9	0.13	24.0	5.4	53.2	18.0
Transport equipment	0.2	4.7	0.8	2.1	0.5	0.1	0.6	0.06	8.5	1.6	11.5	10.4
Consumer Goods Industries	-0.2	-2.9	0.2	-19.9	0.0	4.1	1.7	-0.05	-8.1	1.0	-3.3	-1.4
Textiles and Clothing	0.4	3.9	0.3	-1.7	0.1	4.0	0.3	-0.01	9.6	5.3	17.6	-7.7
Construction	13.2	255.2	11.3	445.5	8.0	4.1	21.6	2.26	87.2	37.5	381.8	2.3
Transport	0.8	2.5	0.2	-20.7	-0.3	1.8	2.2	0.09	-3.6	0.6	-8.8	6.7
Communication	0.4	1.5	0.2	5.6	-0.4	1.9	1.6	0.00	1.0	0.7	-0.3	0.3
Business-Financial Services	0.7	29.4	1.5	577.1	1.6	5.8	18.3	0.08	36.1	12.0	154.5	18.0
Public Services	-5.9	-32.0	-7.6	12.4	-3.8	16.4	-8.4	-1.82	-7.9	-1.0	-15.3	2.6
Recreational and other services	0.5	0.1	0.6	10.9	-3.6	2.6	2.4	0.27	-10.8	0.1	-4.9	0.8
Total	21.7	374.6	18.0	1251.9	10.6	58.8	58.3	1.90	195.6	91.6	781.4	49.7

Source: *GEM-E3-MED*

Changes from reference in the youth employment by economic activity and by country are presented in Table 25. The main sectors contributing to the increase of youth employment are construction, business and financial services.

Table 25: Youth Employment by economic activity in Regional Integration (Risk) – change from reference

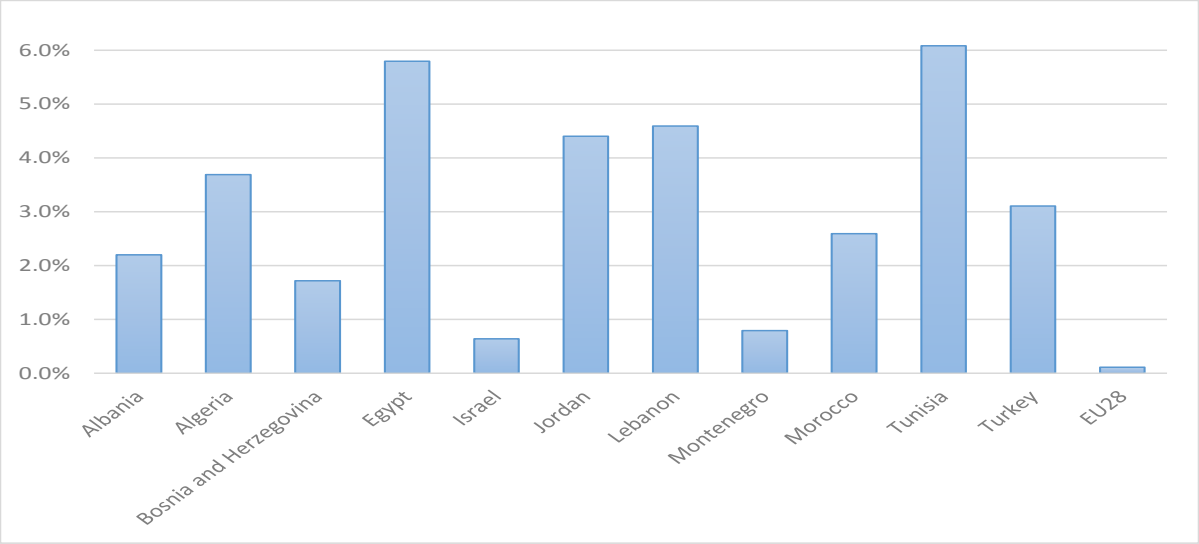
1000s persons in 2040	Albania	Algeria	Bosnia and ...	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	1.0	3.0	0.1	13.7	0.0	0.8	1.2	0.00	4.6	1.5	15.1	-0.1
Energy	0.1	6.0	0.0	4.7	0.0	0.3	1.5	0.01	0.8	1.1	3.4	-0.3
Chemical Products	0.0	0.2	0.0	1.3	0.2	1.4	0.1	0.00	1.2	0.6	2.3	-0.1
Other energy intensive	0.1	4.3	0.0	28.1	0.4	0.9	0.6	0.01	5.4	1.0	7.9	0.9
Electric Goods-Other Equipment goods	0.0	2.3	0.0	1.3	0.7	0.7	0.3	0.01	6.2	1.2	12.9	1.6
Transport equipment	0.0	1.4	0.0	0.6	0.1	0.0	0.2	0.00	2.3	0.4	2.9	1.0
Consumer Goods Industries	0.0	-0.8	0.0	-3.8	0.0	1.1	0.6	0.00	-2.0	0.2	-0.8	-0.1
Textiles and Clothing	0.0	1.0	0.0	-0.4	0.0	1.0	0.1	0.00	2.3	1.1	4.0	-0.7
Construction	0.8	50.9	0.3	81.6	1.3	0.8	5.5	0.12	15.7	5.8	65.4	0.2
Transport	0.0	0.2	0.0	-1.7	-0.1	0.2	0.2	0.00	-0.3	0.0	-1.8	0.7
Communication	0.0	0.1	0.0	0.5	-0.1	0.2	0.2	0.00	0.1	0.1	0.0	0.0
Business-Financial Services	0.1	1.5	0.1	27.8	0.3	0.3	2.4	0.01	1.7	0.8	15.1	2.2
Public Services	-0.2	-1.9	-0.2	0.7	-0.3	1.0	-0.6	-0.08	-0.4	0.0	-2.9	0.1
Recreational and other services	0.1	0.0	0.0	2.1	-0.5	0.5	0.6	0.03	-2.0	0.0	-1.5	0.1
Total	2.0	68.3	0.4	156.4	2.1	9.1	12.9	0.10	35.5	13.8	122.1	5.5

Source: *GEM-E3-MED*

Trade barriers, process harmonisation and risk

This section presents the results of the combined impact of the removal of trade barriers, the harmonisation of processes, and increasing political stability. The impact on GDP and on youth employment is presented in Figure 26 and Figure 27 respectively. The cumulative over (2015-2040) GDP in the Euro-Mediterranean region increases from reference by 0.5%. This increase is attributed to the economic efficiency that the removal of trade barriers entails and to the increase in investments that are driven by economic stability and de-risking of the economy.

Figure 26: GDP (cumulative 2015-2040) - Regional Integration (Trade barriers & Risk)



Source: *GEM-E3-MED*

Table 26 presents the additional to the reference employment generated in the regional integration scenario. The aggregate impact on total and youth employment is 3,835,000 and 570,000 additional jobs respectively, from reference in 2040. .

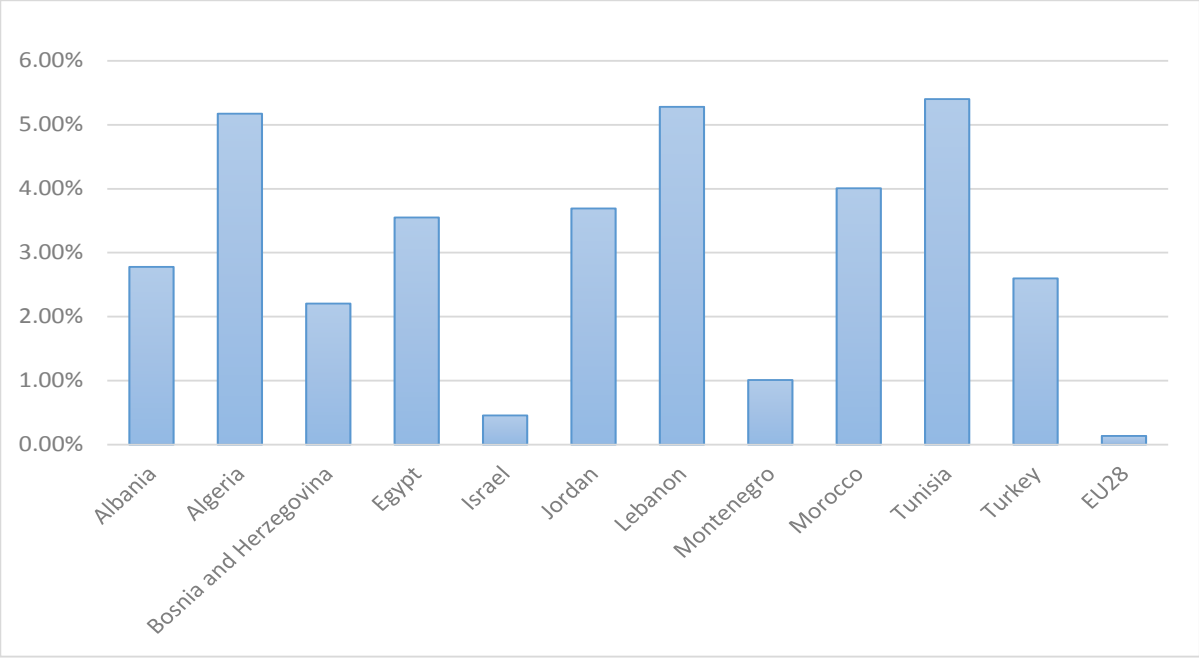
Table 26: Aggregate employment and youth employment creation Regional Integration (Trade barriers & Risk)

2040	Reference		Scenario: Trade Barriers & Risk			
	Employment	Youth Employment	Employment		Youth Employment	
			change from reference		change from reference	
	1000s persons	1000s persons	in 1000s persons	in %	in 1000s persons	in %
Albania	1053	102	29.1	2.8%	2.8	2.8%
Algeria	15303	1594	476.6	3.1%	82.5	5.2%

Bosnia and Herzegovina	982	29	24.2	2.5%	0.6	2.2%
Egypt	46172	5681	1622.9	3.5%	201.6	3.5%
Israel	5187	830	21.5	0.4%	3.8	0.5%
Jordan	2844	371	96.0	3.4%	13.7	3.7%
Lebanon	1933	304	74.8	3.9%	16.0	5.3%
Montenegro	208	15	2.6	1.2%	0.2	1.0%
Morocco	15103	2077	441.6	2.9%	83.2	4.0%
Tunisia	4331	414	165.2	3.8%	22.4	5.4%
Turkey	33671	5504	880.7	2.6%	142.9	2.6%
South Med.	90873	11271	2898.6	3.2%	423.2	3.8%
EU28	216033	17747	264.3	0.1%	23.9	0.1%

Source: *GEM-E3-MED*

Figure 27: Aggregate youth employment creation Regional Integration (Trade Barriers & Risk) (% change from reference, 2040)



Source: *GEM-E3-MED*

Table 27 and Table 28 present the changes from reference in total and youth employment by economic activity and by country. In almost all activities, total and youth employment increases from the reference scenario levels. The largest impact on sectoral youth employment comes from the improvement in the investment environment, hence the main sectors contributing to the increase of youth employment are construction, business and financial services.

Table 27: Total Employment by economic activity in Regional Integration (Trade barriers & Risk)

1000s persons in 2040 (in addition to reference scenario)	Albania	Algeria	Bosnia and	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	9.0	33.2	5.1	28.3	1.8	8.0	7.4	0.24	251.6	11.2	-21.2	62.2
Energy	4.4	83.6	3.5	64.4	-0.7	3.6	12.8	0.76	5.5	11.8	37.9	-30.6
Chemical Products	0.6	13.7	1.4	64.5	8.5	12.4	1.6	0.14	-0.5	4.9	8.1	0.2
Other energy intensive	1.3	11.7	2.0	284.2	4.3	3.7	1.3	0.13	21.4	5.8	49.8	-6.0
Electric Goods-Other Equipment goods	0.0	1.1	2.0	23.4	-2.9	6.3	0.1	0.07	30.7	10.3	43.5	-22.0
Transport equipment	-0.1	0.3	0.7	1.2	-0.2	0.2	0.2	0.02	5.3	2.5	17.9	2.9
Consumer Goods Industries	1.1	22.1	1.7	-442.9	0.7	-2.8	4.8	0.21	0.6	6.1	-2.8	100.9
Textiles and Clothing	0.0	-4.8	-0.1	100.3	1.6	2.9	-0.6	-0.12	27.3	12.0	63.6	-36.5
Construction	14.1	271.6	11.7	483.3	8.8	7.1	22.1	2.31	93.0	44.8	402.6	13.5
Transport	1.2	4.9	0.4	60.7	0.2	5.4	3.0	0.14	-13.4	3.4	2.6	13.5
Communication	0.6	2.2	0.3	27.9	0.1	3.2	2.1	0.00	-2.2	2.1	2.8	4.7
Business-Financial Services	2.1	54.4	3.0	758.0	2.2	11.5	25.2	0.32	39.2	34.5	266.7	100.4
Public Services	-5.9	-17.5	-8.2	89.0	-1.9	28.1	-8.2	-2.03	-12.8	15.6	-4.9	44.7
Recreational and other services	0.7	0.2	0.8	80.6	-0.9	6.4	3.0	0.37	-4.1	0.1	14.1	16.4
Total	29.1	476.6	24.2	1622.9	21.5	96.0	74.8	2.55	441.6	165.2	880.7	264.3

Source: *GEM-E3-MED*

Table 28: Youth Employment by economic activity in Regional Integration (Trade barriers & Risk)

1000s persons in 2040 (in addition to Reference scenario)	Albania	Algeria	Bosnia and	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	1.5	6.7	0.2	5.2	0.2	1.5	1.9	0.0	45.5	1.5	-2.8	3.1
Energy	0.1	6.8	0.0	6.4	-0.1	0.4	1.8	0.0	0.5	1.3	3.5	-1.2
Chemical Products	0.0	3.9	0.0	17.1	1.5	3.4	0.6	0.0	-0.1	1.1	2.0	0.0
Other energy intensive	0.1	3.3	0.0	73.2	0.7	1.0	0.5	0.0	5.4	1.3	12.0	-0.5
Electric Goods-Other Equipment goods	0.0	0.3	0.0	6.1	-0.5	1.7	0.1	0.0	7.9	2.3	10.6	-2.0
Transport equipment	0.0	0.1	0.0	0.3	0.0	0.1	0.1	0.0	1.4	0.6	4.5	0.3

Consumer Goods Industries	0.1	6.1	0.0	-83.8	0.1	-0.7	1.7	0.0	0.2	1.3	-0.7	8.8
Textiles and Clothing	0.0	-1.3	0.0	24.5	0.3	0.7	-0.2	0.0	6.6	2.5	14.5	-3.1
Construction	0.8	54.2	0.3	88.5	1.4	1.4	5.6	0.1	16.8	7.0	69.0	1.2
Transport	0.1	0.4	0.0	4.9	0.0	0.5	0.3	0.0	-1.1	0.2	0.5	1.4
Communication	0.0	0.2	0.0	2.3	0.0	0.3	0.2	0.0	-0.2	0.1	0.3	0.5
Business-Financial Services	0.3	2.9	0.2	36.6	0.5	0.6	3.3	0.0	1.9	2.4	26.0	12.0
Public Services	-0.2	-1.1	-0.2	5.0	-0.2	1.6	-0.6	-0.1	-0.7	0.7	-0.9	2.1
Recreational and other services	0.1	0.0	0.0	15.3	-0.1	1.3	0.8	0.0	-0.8	0.0	4.3	1.3
Total	2.8	82.5	0.6	201.6	3.8	13.7	16.0	0.2	83.2	22.4	142.9	23.9

***Source**: GEM-E3-MED*

Concluding remarks

In the Reference scenario, where regional integration is limited but countries take action to reduce public budget deficits, improve their trade balance and upgrade their infrastructure, the youth unemployment rate reduces from 25.7% in 2015 to 17.6% in 2040. The Euro-Mediterranean regional integration has a net positive impact on youth employment, which is increased throughout the simulation period.

Depending on the degree and type of regional integration, the net additional jobs for youth in the non-Euro countries ranges from 221,000 persons in the case of removing trade barriers, to 423,000 in the case of institution and process harmonisation during the analysis period. The net additional jobs for total employment in the non-Euro countries range from 1,520,000 persons where trade barriers are removed, to 2,864,000 in the case of institution and process harmonisation during the same period.

The full integration (both removal of trade barriers and the improvement of institution and process harmonisation) accounts for 570,000 additional jobs for youth and 3,835,000 jobs in total, during the period of analysis.

The impact from process harmonisation, institutional improvement and investment de-risking is found to provide the best prospects in terms of youth employment job creation. This is mainly due to: i) The positive impact on overall economic activity (lowering the investment risk supports economic growth better than removing tariff barriers) and ii) Alignment of skilled labour with capital. Increasing the capital stock allows the utilisation of skilled labour. In certain countries and sectors, a key driver for youth employment is skill mismatching, with high unemployment rates in youngsters with tertiary education.

The potential actions that countries can take in order to deliver sustainable GDP growth and permanent jobs for the youth, refer to process harmonisation and on de-risking of their economies. In particular, in reducing technical barriers to trade that are not compatible with WTO rules, improve ease of doing business, improve regulatory quality and increase political stability. Timely upgrade of human capital is necessary, so as to prepare the skills that are required for an integrated economy. These skills need to match the requirements of the key sectors that are expected to contribute to youth employment. These are business and financial services, construction and energy intensive industries.

SECTION 4: QUALITATIVE SCENARIOS, LONG-TERM CHALLENGES AND ROAD MAP FOR A YOUTH EMPLOYMENT FRIENDLY SCENARIO IN THE EURO-MEDITERRANEAN

In the previous three sections, we have discussed conditions and challenges, as regards to labour markets in the Euro-Mediterranean region. We analysed the status quo as regards to economic integration and we quantified the impact of a deep regional integration scenario for a given set of economic sectors, on employment and youth employment in particular.

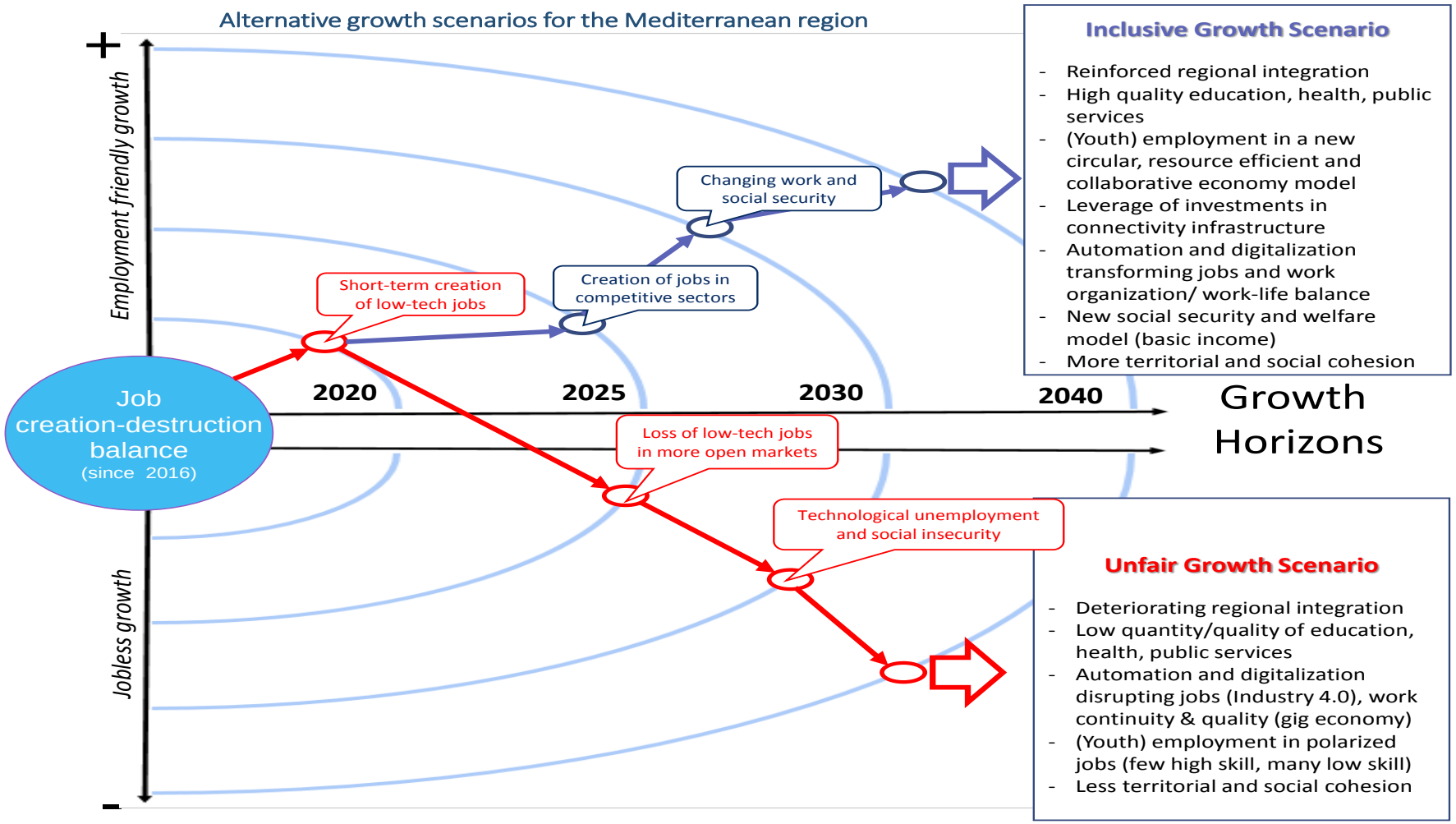
In this section, we discuss two scenarios for the Mediterranean region, the first encompassing a reinforced regional integration and youth employment friendly growth scenario, that is, inclusive growth, the second deteriorating regional integration prospects and, eventually, a jobless growth scenario (in the medium to long term). This methodological choice is based on the uncertain path that countries in the region are engaging in, resulting from the internal tensions suffered by the European Union and the quest by political leaders to move towards a two-speed European Union, which will certainly reshape the institutional settings and economic structures going forward. In the Southern and Eastern parts of the Mediterranean, uncertainties are looming as a result of security and political tensions and the lack of economic integration between partner countries.

Qualitative scenarios

To build up contrasting scenario storylines, an analysis of global trends and features and their repercussions for the Mediterranean region is undertaken, using the balance between job creation and destruction at different horizons as a guiding criteria. The scenarios are scrutinised mainly for their capacity to create new jobs, which will create new opportunities for the youth to enter the labour market, beyond what is offered to them in the traditional economic sectors, while destroying old jobs, that is, cutting employment in the traditional sectors due to the loss of competitiveness, at the different growth horizons. In this way, it is possible to consider in the scenario narratives the effects of short term (until 2020) and medium to long-term (2025, 2030, 2040) technological progress and regional integration dynamics, underlying the job creation and destruction in the Mediterranean region.

The features of the two contrasting scenarios are shown in bullet points in Figure 28 below.

Figure 28: main features of alternative growth scenarios



As regards to technological progress, the growing maturity and convergence of digital technologies is a global phenomenon likely to have far-reaching impacts everywhere by 2030-40 on productivity, income distribution, well-being and the environment. These impacts will vary across industries, countries and sections of the workforce[29]. The intensity and direction of these impacts – and especially the related differentials between regions of the world – is uncertain, but can be influenced by **anticipatory industrial policies**.

Box 2: Technology and Growth narratives

Two narratives have emerged in the economic literature on technology, growth and distribution.

On the one hand, technological advances are thought to raise productivity and, thus, output per person, resulting in higher standards of living as an overall effect, despite some transitional costs, as particular jobs become obsolete. This optimistic narrative puts the focus on the manifold positive effects of technology besides the displacement of workers. These effects include making workers more productive, raising demand for their services — for example, mapping software makes taxi (and now Uber) drivers more efficient – and rising incomes, in turn generating demand for all sorts of outputs and, hence, labour.

On the other hand, a more pessimistic narrative gives greater attention to the losers of technological advancement (see for example Sachs and Kotlikoff, 2012, Ford, 2015 or Freeman, 2015). Part of the increasing inequalities registered in many advanced economies in recent decades may result from technological pressure. The computer revolution reduced relative demand in developed economies for jobs involving routinised work (physical or mental) – think bookkeeper or factory line worker. Because computers, combined with a smaller number of generally more skilled workers, have been able to produce the goods previously associated with these jobs, relative wages for people with fewer skills have fallen in many countries. This trend is also seen in the less advanced economies.

In any case, robotisation combined with the digitalisation of the economies will magnify these impacts, as attested to the transformation the global economy is currently undergoing, that may deliver very different outcomes, partly depending on the policies that will be put in place at a regional and global level.

We start with the more pessimistic narrative. By 2030-40, firms will be predominantly digitalised, enabling product design, manufacturing and delivery processes to be highly integrated and efficient. The internet of things, big data analytics, artificial intelligence and machine learning tools will enable the emergence of smart machines that will be increasingly adjustable through sensor technologies, cheap computing power and real-time use of algorithms. As a matter of fact, the decreasing cost of computing power and other advances in digital technologies are already disrupting labour markets[30]. Advances in machine learning and artificial intelligence will continue to expand the capabilities of task automation and a large portion of the workforce will

[29] For a discussion see Danish Agency for Science, Technology and Innovation (2016)
[30] See Brynjolfsson, E. and A. McAffee (2012) and Organisation for Economic Cooperation and Development (2015)

be made redundant and need to be retrained. Hyper-scalability of business ventures will intensify competition and lead to frequent radical job-shifts across the globe. Structural unemployment will become a permanent feature of most national economies even in the developed world[31]. We will see the rise of the so-called "gig economy", in which an increasing number of workers have to perform a variety of different part-time jobs[32]. Even worse, it is now possible to conceive a "jobless model" of growth, where robots eventually definitively disrupt human labour.

Assuming robots are almost perfect substitutes for human labour, the good news is that output per person rises. The bad news is that inequality worsens, for several reasons. First, robots increase the supply of total effective (workers plus robots) labour, which drives down wages in a market-driven economy. Second, because it is profitable to invest in robots, there is a shift away from investment in traditional capital, such as buildings and conventional machinery. This further lowers the demand for those who work with that traditional capital. [33]

Both the good and bad news intensify over time. As the stock of robots increases, so does the return on traditional capital (warehouses are more useful with robot shelf stockers). Eventually, therefore, traditional investment picks up, too. This, in turn, keeps robots productive, even as the stock of robots continues to grow. Over time, the two types of capital grow together until they increasingly dominate the entire economy. All this traditional and robot capital, with diminishing help from labour, produces more and more output. And robots are not expected to consume, just produce. So there is more and more output to be shared among actual people. However, wages fall, not just in relative terms but absolutely, even as output grows.

So, who buys all the higher output? The owners of capital do. In the short run, higher investment more than counterbalances any temporary decline in consumption. In the long run, the share of capital owners in the growing pie - and their consumption spending - is itself growing. With falling wages and rising capital stocks, (human) labour becomes a smaller and smaller part of the economy. This is what we could call a "pure model of jobless growth".

A more plausible scenario departs from the theoretical assumptions of perfect substitutability between robots and workers, along with a small increase in robot efficiency. It is more realistic, at least for now, to assume that robots and human labour are close but not perfect substitutes, that people bring a spark of creativity or a critical and, thus, crucial human touch. At the same time, robot productivity can be assumed to increase, not just a little but dramatically over a span of a couple of decades. With these assumptions, the forces mentioned before are still at play – robot capital tends to replace workers and drive down wages and, at first, the diversion of investment into robots dries up supplies of traditional capital that help raise wages. The difference, though, is that the special talents humans provide become increasingly valuable and productive, as they combine with this gradually accumulating traditional and robot capital. Eventually, this increase in labour productivity outweighs the fact that the robots are replacing humans and wages as well as output rise.

[31] For a discussion see European Political Strategy Center (2016)
[32] See Danish Agency for Science, Technology and Innovation (2016)
[33] See Berg, A., Buffie, E.F., Zanna, L. (2016)

A less pessimistic growth scenario is obtained by further relaxing the assumptions about robots substituting human labour and recognising another important element - that not all labour is the same. It is actually plausible that even sophisticated machines combined with advanced artificial intelligence will not replace humans for all jobs. A more realistic model of how robotisation and digitalisation transforms the economy divides all workers into two categories, which we call "skilled" and "unskilled". By skilled, we mean that workers are not close substitutes of robots; rather, robots may increase their productivity. By unskilled, we mean that they are very close substitutes. Thus, our skilled workers may not be the traditionally highly educated; they may be those with creativity or empathy, or manual capabilities, which is particularly hard for future robots to match.

What happens in this scenario, when robot technology becomes cheaper? As before, output per person grows and the share of overall capital (robots plus traditional) rises. Now, though, there is an additional effect; the wages of skilled workers rise relative to those of the unskilled - and absolutely. Why? Because these workers are more productive when combined with robots. Imagine, for example, the greater productivity of a designer who now commands an army of robots. Meanwhile, the wages of the unskilled collapse, both in relative and in absolute terms, even over the long run. Inequality now increases for two fundamental reasons. Capital receives a greater share of total income but, in addition to that, wage inequality worsens dramatically, since productivity and real wages paid to skilled labour increase steadily. But low skilled workers wage a lonely battle against the robots and lose badly. Ultimately, this is the logic of technological progress underpinning the "unfair growth scenario" shown at the bottom of Figure 28.

How is possible to let the economy shift towards a more employment friendly and inclusive growth scenario, represented at the top of Figure 28? **The answer is not a luddite reaction, i.e. struggling against technological progress, but embracing it with new education, industrial and social policies**. These initiatives should aim to increase the employability of the human capital on one side – in particular, augmenting the competences and skills to better work in a digitalised and increasingly automated world. And on the other side, to change the organization of work and social welfare, easing inclusion and sustainable living for the new kind of "networked" workers in the digital economy.

However, in this scenario, increasing employability and changing the way working is organised will be not enough to solve employment and social challenges. Even if the quality of human capital will reduce substitutability and increase the complementarity with robots for an (increased) share of high skilled workers, the introduction of robots will continue to depress average wages for a long time and the capital share will rise. There will be the need to ensure sufficient aggregate demand, as buying power is going to be increasingly concentrated, to address the social and political challenges associated with low wages and high inequality, and to deal with the implications of lower wages when it comes to workers' ability to pay for health care and education and invest in their children. In all the scenarios discussed so far, we have assumed that income from capital remains highly unequally distributed. But the increase in overall output per person implies that everyone could be better off if income from capital is redistributed. The advantages of a basic income, financed by capital taxation, become obvious and this is a key feature we add in the inclusive growth scenario.

So, in this scenario an inherently disruptive, data-driven economy will continue to disrupt established businesses and markets. However, with the global recovery still sluggish, business and policy leaders will increasingly need to harness these forces to facilitate structural shifts to a stronger and more sustainable economic and environmental future. New investment programmes and regulations will aim at facilitating employability and the shift to new jobs and more flexible organisation of work, while greater productivity of the economy will allow the introduction of new forms of social security. These will include more flexible social insurance mechanisms that come to terms with a changing labour market, forms of child benefits to foster intergenerational equality of opportunities and, for all adult people, forms of basic income complementing existing social transfers rather than replacing them. Widespread introduction of household or individual basic income and lifetime social budgets for education, health and skills of each citizen, mediated through similar technology networks, will be the key to innovating social welfare in the digital age[34]. The benefits of higher productivity growth will be better shared in the economy, with an increasing number of people earning from entrepreneurial and creative activities and a reduction of the working hours for permanent employees in the most productive companies, without reduction of their wages. Greater free time will be also converted into more time being devoted to voluntary work in the social economy and/or civic activities[35].

Long-term challenges and roadmap for a youth employment friendly scenario

Focusing now on regional dynamics in the Euro-Mediterranean area, technological progress and drivers of global competitiveness will also contribute to shape future regional development scenarios. The ideal scenario for the Euro-Mediterranean region would be - thanks to enhanced industrial cooperation programmes between Northern and Southern shores, i.e. a truly Mediterranean co-development strategy - to climb the ladder of global value chains, expanding the market of horizontal nodes of production and distribution (resource mercantilism) and, at the same time, reinforcing vertical hubs of value creation (innovation mercantilism).

This is illustrated in Figure 29 below.

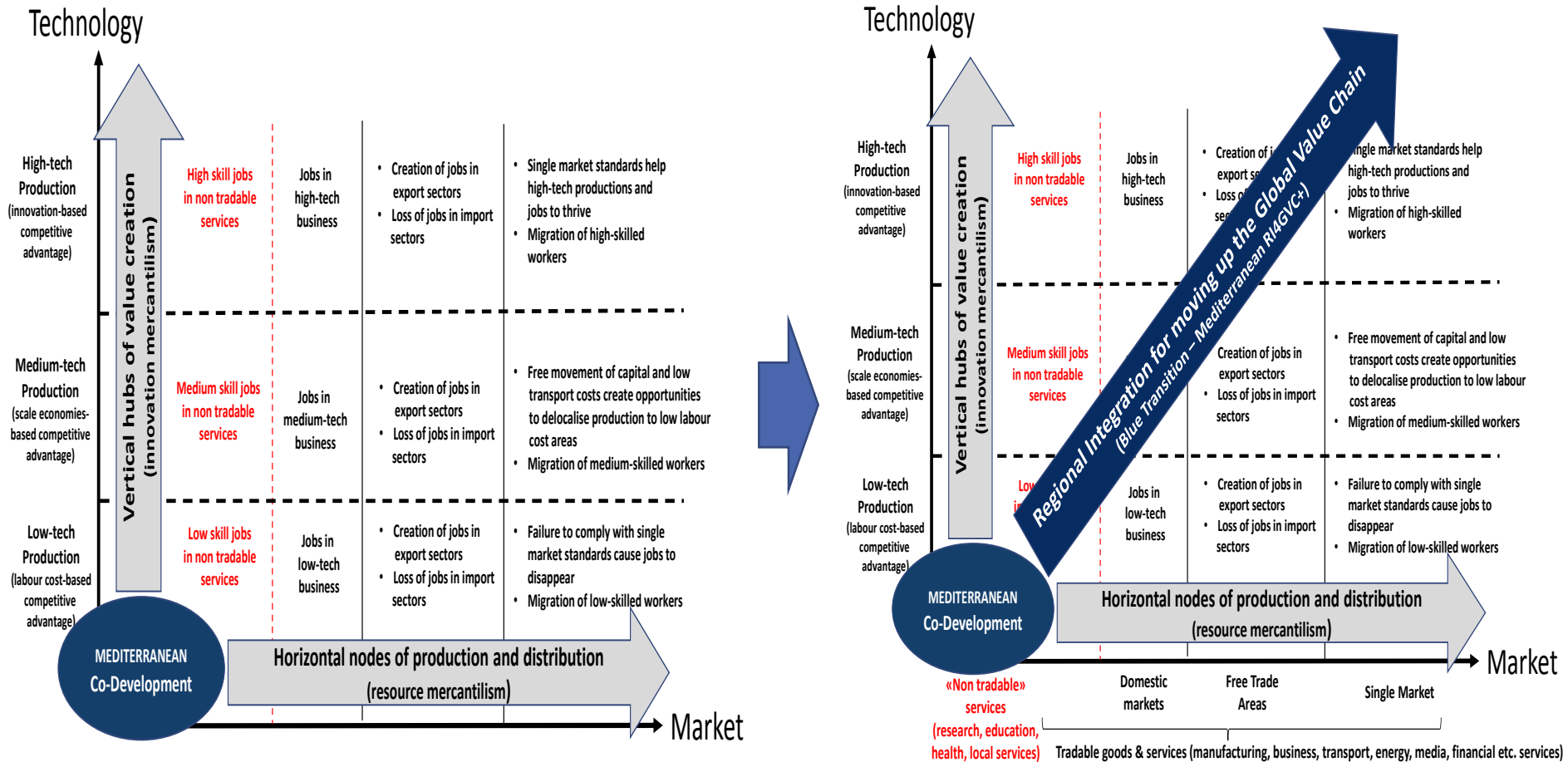
The figure shows the market dimension on the horizontal axis and low, medium and high technology production on the vertical axis. In principle, the nature of competitive advantages on the global market changes with the level of technology: competitiveness is primarily based on fast and dynamic innovation in the high-tech sectors, on scale economies and price competition in the more mature middle-tech sectors and on low labour costs in the low-tech sectors. As for the market dimension, a distinction is made between the "non tradable sectors" (education, health, welfare, other public services) and tradable goods and services. Until recently, only the latter was open to competition – with goods and services traded on domestic and international markets – although technology is changing this very fact, also enabling new forms of competition in services that, to this point, were considered "non tradable". In the figure, we represent different levels of market integration: non tradable

[34] See Madelin (2016).
[35] A consequence of introducing a basic income could be a rise in entrepreneurial activity, as people may feel secure enough to embark on risky ventures in the volatile digital economy and in beneficial voluntary activities that create value for society or the environment. See Forget (2011).

services (delivered locally) and goods and services traded on domestic markets (protected markets), in free trade areas including several national markets, up to full integration of several national economies into one single market.

The grid in the figure shows the typology of impacts expected on job creation or losses if different levels of integration are achieved in the Mediterranean, depending on the low, medium or high-tech specialization of national production structures. In the Free Trade Area form of integration, job creation/loss impulses are mediated by the competitive advantages of the export/import industries in which labour is employed. In the single market option, direct delocalization of productions and migration flows (e.g. brain drain/gain) may enter more significantly into the picture.

Figure 29: value creation and market dynamics underlying job creation and destruction



The main assumption underlying our vision is that stepping up the position of the Mediterranean countries would require a **reinforced regional integration,** using a multi-layered smart specialization strategy (local and transnational), encompassing a comprehensive and novel infrastructure, innovation and industrial policy agenda. This should be a **North-South and South-South co-development strategy** covering the whole Mediterranean and implemented across several sectors: transport, energy and de-carbonization, water, digital economy, blue economy, sustainable urban development) and strengthened cooperation on education, employment and young employability programmes and social agenda issues (e.g. youth and women empowerment).

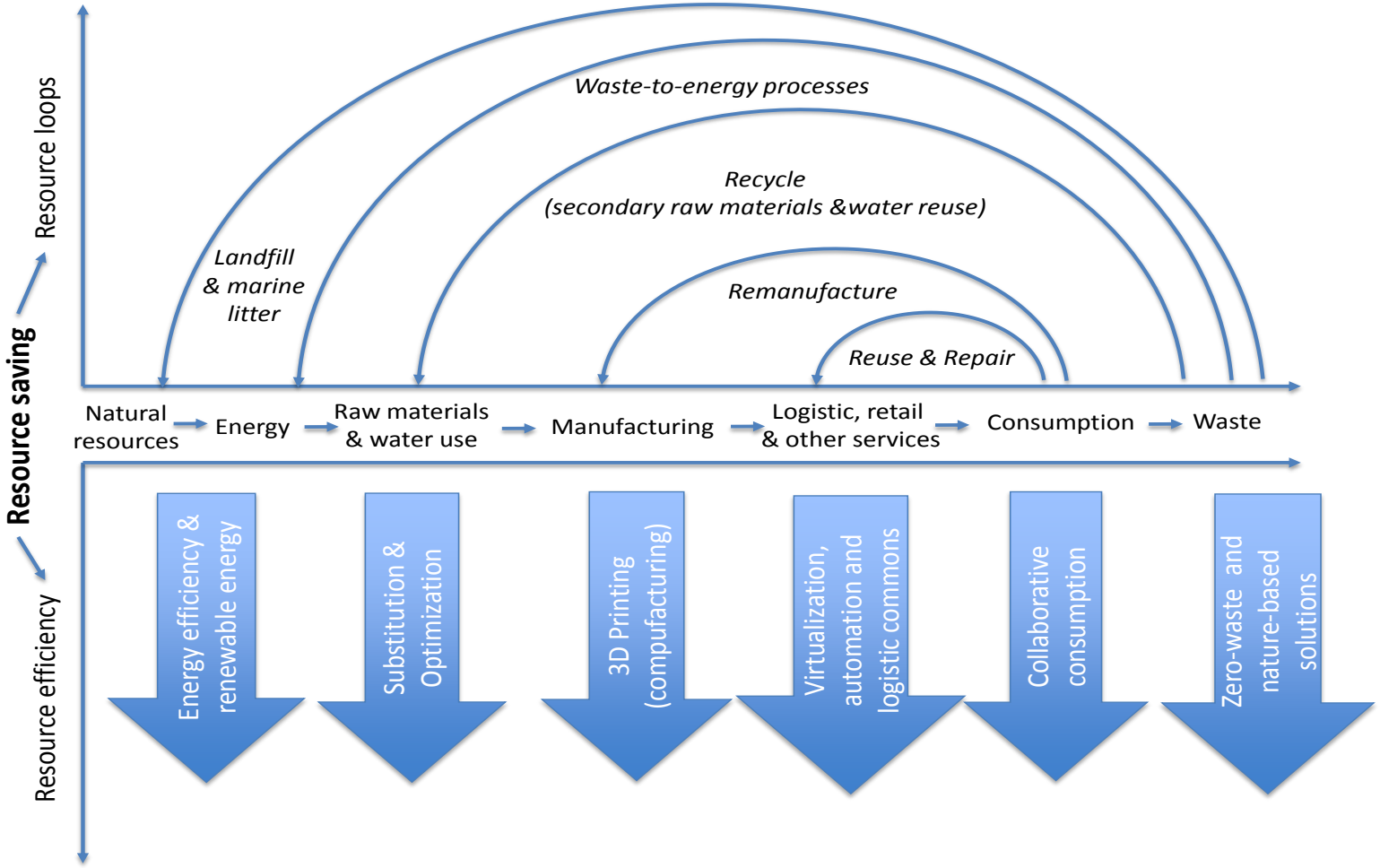
To inspire such a (youth)employment-friendly strategy, we suggest imagining a paradigm shift to a **model of circular and resource efficient economy** in the Mediterranean.

To help define a model of circular and resource efficient economy, we use a working definition of "resource saving" as the sum of two elements: a) any improvement in the efficiency of a single production or consumption process in the value chain (resource efficiency); b) the reuse or recycling of a resource for more than one production of consumption cycle (resource loops).

This working definition underpins a model of circular and resource efficient economy, illustrated in Figure 30 below. The elements shown in the diagram are as follows:

- In the middle, the linear value chain of the "take, make and dispose system": 1) economic exploitation of natural resources (land, oceans); 2) depleting energy resources (fossil fuels); 3) extraction and use of raw materials and water; 4) manufacturing of goods; 5) logistic and retail distribution of goods and other services; 6) consumption of households and government; 7) waste management and disposal.
- On the top, circular activities of restoration and reuse or recycling of goods, waste or energy and the disposal of residual waste back in the land or ocean environment.
- On the bottom, key mechanisms that – individually or combined – promise to radically change the resource efficiency of the production and consumption system: 1) greater reliance on energy efficiency improvements and renewable energy sources; 2) substitution of old with new materials and optimisation of resource utilisation; 3) 3D printing (also named additive manufacturing, or "info-facturing" or "compufacturing"; 4) virtualisation as a consequence of increasing digitalisation of products and automation of processes (Artificial Intelligence); 5) collaborative consumption; 6) new zero-waste (bio-)production processes and nature-based solutions.

Figure 30: A model of circular and resource efficient economy



In this economic model, industrial policies and innovation are concentrated on closing resource loops in the production and consumption systems (top area in the diagram) and in achieving a radical improvement in the resource efficiency of single steps of the production and consumption chain (bottom area of the diagram). In this new paradigm, production and consumption sectors shift away from the "take, make and dispose" system by designing and optimising products for multiple cycles of disassembly and reuse. Waste is reduced or eradicated, not just from manufacturing processes, but systematically, throughout the various life cycles and uses of products and their components. The diffusion of eco-design practice makes products more durable and easier to repair, upgrade or remanufacture. For products that cannot be remanufactured, refurbished, or upgraded, companies harvest the components and recycle them at local facilities. Another source of circular value creation is to take a product or component and diversify its reuse more widely across the value chain, redistributing the materials so they can substitute for inflows of virgin ones somewhere else. Since restoration is the default assumption in the new circular economy, the role of consumer is replaced by that of user. While in a buy-and-consume economy the goal is to sell the product, in the circular economy model, the aspiration might be to rent it out to ensure that its materials are returned for reuse.

A key catalyst for enabling a circular economy model to become real would be establishing de-facto standards for materials to be circulated in the economy. Standards can be introduced gradually, starting from four categories of materials at different stages of maturity: 1) "golden oldies", including well established recyclables (e.g. glass, metals, paper, PET); 2) "high potentials" – e.g. PP, PR and other polymers – that did not have systematic reuse solutions; 3) "rough diamonds", including by-products of manufacturing processes (e.g. carbon dioxide, concrete, food waste); 4) "new blockbusters", including innovative materials that support fully restorative usage cycles (e.g. bio-based material and 3D printing).

By achieving tipping points that bring major streams of materials back into the system, at high volume and quality levels, the end result of this model of circular economy will be closing materials loops, through established regional markets and value chains. The benefits potentially achievable with the diffusion of a new model of circular economy in regional markets are huge:

- **Net materials savings**. For instance, on a global scale, the net savings from materials reached $1 trillion a year. In the European Union alone, the annual savings for durable products with moderate lifespans reached $630 billion. The benefits are highest in the automotive sector ($200 billion a year), followed by machinery and equipment.
- **Mitigated supply risks**. Applied to steel consumption in the automotive, machining and transport sectors, a circular transformation has achieved global net materials' savings equivalent to between 110 million and 170 million metric tons of iron ore a year. Such a shift has reduced demand-driven volatility in these industries.
- **Innovation potential**. Redesigning materials, systems and products for circular use is a fundamental requirement of a circular economy and, therefore, has represented a giant innovation opportunity for

companies, even in product categories that are not normally considered innovative, such as the carpet or building industries.

- **Job creation**. By some estimates, the remanufacturing and recycling industries already accounted for about one million jobs in Europe and the United States in 2013. The shift to a more circular industrial model affects the structure and vitality of labour markets, in particular by increasing local employment opportunities, especially in entry-level and semi-skilled jobs.

A broader paradigm shift to a circular economy model involves not only a restructuring of the existing industrial global value chains and the rise of "regional value loops", but a deeper change to the production and consumption system and society everywhere. This transition should be pushed by radical productivity gains enabled by new technologies and pulled by anticipatory societal policies that are needed to manage institutional, organizational, social and cultural changes across the whole spectrum of our societies. The transition is possible by employing the distinct approaches represented in the bottom part of Figure 30, either individually or in combination:

- **Transition to a low-carbon economy** with radical energy efficiency improvements across every sector of the economy, the wide diffusion of smart electricity grids and decentralised production and trade of energy from renewable sources, the wide diffusion of electric cars and Grid To Vehicles (G2V) storage capabilities, the use of renewable energy from biomasses, of waste heat and of combined heat and power technologies (CHP) in district heating networks (DHN).
- **Use of new advanced (nano- and bio-)materials in production and consumption processes and Internet of Things (IoT) based optimisation**. The guiding principle for substitution is to consider every resource a company uses in its core products and every resource customers use or consume and, then, to look for higher-performing and less expensive, less risky, or less scarce materials that might work as substitutes. But new resources are not simply replacements for the current bill of materials. Substitution might instead deliver superior overall performance (qualitative improvement)[36]. Another way for companies to boost the productivity of existing resources will be to optimise their use by applying IoT solution - for instance, asking themselves: What expensive assets could be integrated with software and sensors? Which pieces of equipment are used only for a small portion of the time? What energy-intensive equipment is active without performing a function? This could be construction equipment, shipping containers that go back empty, or simply planes circling airports waiting for congestion to clear. All lend themselves to Internet of Things (IoT) solutions that optimise routing, timing, loading, or sharing.
- **Advent and diffusion of additive manufacturing as the dominant production mode**. This differs from conventional centralised manufacturing in several important ways (Rifkin, J. 2014): a) the software does all the work, which is why it is more appropriate to think of the process as "info-facture" rather than "manufacture"; b) the software is open source and the elimination of intellectual property protection also significantly reduces the costs of printing products; c) subtractive processes are substituted by additive

[36] For instance, a much richer understanding of materials science at the nanoscale level, combined with advanced computer-processing power, will help to catalyse a broad revolution in surface properties, absorption characteristics, and optical and electrical properties. Substitution will even extend to food production, e.g. with the production of animal-free milk and other products, like eggs.

info-facturing processes, which greatly increases resource efficiency; d) production is less capital-intensive and more flexible, easing tailored instead of mass production; e) production can more easily be supported by decentralised IoT and energy infrastructure, allowing info-facturers to be anywhere and quickly move to where there is an IoT infrastructure to connect to. In this new production context, more and more prosumers will make and use simple products at home, as they will use local 3D printers, powered with green electricity harvested from renewable energy onsite or generated by local producer cooperatives. Small- and medium-sized 3D business, info-facturing more sophisticated products, will likely cluster in local technology parks to establish an optimum lateral scale. Homes and workplaces will no longer be separated by lengthy commutes.[37]

- **Virtualisation, automation**: To understand "virtualisation" create a list of physical objects or products that you no longer own or use, even though they were an everyday part of your life just five or ten years ago. For many people, that list might well include traditional calculators, paper calendars, cameras, alarm clocks, or photo albums. All of these have been rendered virtual by smartphone technology. Virtualisation means moving activities out of the physical world or simply not doing things, because they have been automated—and both challenge business models[38]. Several years ago, it would have been hard to imagine ordinary alarm clocks going virtual. Now, what is next? Could everyday items like eyeglasses, keys, money and wallets soon disappear in the same way? Do cars and trucks need drivers? Should drones deliver packages? Can IBM's Watson and other expert systems provide better and safer maintenance advice in industrial settings? Work, too, is becoming more virtual, as people increasingly use online media and virtual private networks to connect productively without needing an office (see box 3 below).
- **Logistic commons**: Another key development of the circular and resource efficient model of economy is the transformation of logistic. In a IoT based global logistic system, all physical products would need to be embedded in standardised modular containers that could be transported across all logistic networks, at continental, regional and local level. The containers would need to be equipped with smart tags and sensors for identification and sorting. The entire system, from warehousing to transport to end users, would need to operate by the same standard technical protocols, to assure easy passage from one point to another. In the new open logistic commons system, conventional private point-to-point and hub-and-spoke transport would give way to distributed, multi-segment, intermodal transport.[39] The technology to build up this new logistic commons system is already available. What is needed is the acceptance of universal standards and protocols and a "logistic commons" business model to manage regional, continental and global logistic systems.

[37] To make 3D printing a truly local, self-sufficient process requires that the feedstock used to create the filament is abundant and locally available. Currently, some experimental 3D printers use cheap paper as feedstock, with this paper feedstock costing a mere 5 per cent of previous feedstocks. Other feedstocks being introduced – e.g. melted sand or plastics – are even cheaper, reducing the costs of materials to near zero.

[38] Companies struggle to embrace virtualisation because they do not want people to stop doing things that generate revenue, which always seems to drop more than costs do when activities move into the virtual realm. For instance, car companies do not want people to drive less, but that is what is happening in developed countries.

[39] Instead of one driver handling the entire load from the production centre to the drop off and then heading to the nearest location to pick up a shipment designated for delivery on the way back home, the delivery would be distributed. The first driver might deliver the shipment to a hub close by and then pick up another trailer and shipment and head back home. A second driver would pick up the shipment and deliver it to the next hub down the line, whether it be a truck port, railyard, or airport, until the entire shipment arrived at destination.

- **Collaborative consumption**: The notion of "collaborative economy" (also named "sharing economy" or "peer-to-peer" economy) is evolving. Currently, the notion refers to a variety of rapidly emerging business models, where activities are facilitated by online platforms that create an open marketplace for the temporary use of goods or services often provided by private individuals.[40] Collaborative economy transactions frequently do not involve a change of ownership and can be carried out for profit or not-for-profit. Collaborative platforms have already penetrated several sectors of the economy, particularly service sectors and, in the circular and resource efficient model of the economy, can become the dominant form of consumption, in particular in five sectors: 1) tourism and peer-to-peer accommodation; 2) peer-to-peer transportation (shared mobility); 3) online skills, comprising the exchange of households and professional services; 4) collaborative finance (crowdfunding). The main drivers for the diffusion of the collaborative economy are Internet technology – as it provides the basis for developing online platforms and for linking them with service providers and purchasers – and societal drivers such as population density – as increasing population density within cities provides the basis for a critical mass of resources and suppliers to support online markets for localised services.
- **Zero-waste productions and nature-based solutions**: Zero Waste refers to waste management and planning approaches which emphasise waste prevention, as opposed to end-of-pipe waste management. It is a whole systems approach that aims for a massive change in the way materials flow through society, resulting in no waste. Zero waste encompasses more than eliminating waste through recycling and reuse; it focuses on restructuring production and distribution systems to reduce waste. In this respect, zero waste is more of a goal or ideal rather than a hard target, as it provides guiding principles for continually working towards eliminating wastes. The most promising zero-waste processes emerge from imitating how natural processes and ecosystems work. "Nature-based solutions" are actions which are inspired by, supported by, or copied from nature. They have tremendous potential to be energy and resource-efficient and resilient to change, but to be successful they must be adapted to local conditions.

[40] The collaborative economy involves three categories of participants: (i) service providers who share assets, resources, time and skills — these can be private individuals offering services on an occasional basis ('peers') or professional service providers; (ii) users of these services; (iii) collaborative economy platforms that connect providers with users and facilitate transactions between them, also ensuring the quality of these transactions e.g. through after-sale services (handling complaints), insurance services, etc.

Box 3 – Virtualisation, automation and the future of work and globalisation

Virtualisation and automation impacts are challenging the traditional work arrangements and labour market regulations. Advanced technologies are increasingly pervasive; they are not only used to substitute routine production services, but also in-person services that usually have to be provided personally because the human touch is essential to it. These include retail sales workers, hotel and restaurant workers, nursing-home aides, child-care workers, home health care aides, flight attendants, physical therapists and security guards, among many others. Moreover, e-commerce is eroding physical retail shops and jobs and, now, even commercial driving is threatened by driverless cars and trucks.

All in all, what is striking is how quickly the combination of digital technologies with huge network effects is pushing the ratio of employees to customers to extraordinary lows. For instance, when Instagram was sold to Facebook for about $1 billion in 2012, it had thirteen employees and thirty million customers. Contrast this with Kodak, which had filed for bankruptcy a few months before. In its prime, Kodak had employed 145.000 people. The ratio continues to drop. When Facebook purchased WhatsApp for $19 billion in early 2014, WhatsApp had fifty-five employees serving 450 million customers. So, digitisation does not require many workers. It is possible to sell a new idea to hundreds of millions of people without needing many, if any, workers to produce or distribute it.

Moreover, we are faced not just with labour-replacing technologies but with knowledge-replacing technologies. The combination of advanced sensors, voice recognition, artificial intelligence, big data, text mining and pattern-recognition algorithms is generating smart robots capable of quickly learning human actions and even of learning from one another. A revolution in life science is also under way, allowing drugs to be tailored to a patient's particular condition and genome. These trends can eventually even lead to massive replacement of many symbolic analysts – i.e. the more skilled and creative professionals whose competence was thought to be irreplaceable by intelligent machines (think for instance at Massive Open Online Courses – MOOC – in the education sector, or mobile health applications, making obsolete costly medical devices run by medical technicians).

Where this will end? The key point is that when more and more can be done by fewer and fewer people, the profits from such productivity gains will go to an ever-smaller circle of executives and owner-investors, leaving the rest with less and less money to buy what can be produced, because a large mass of people will either be unemployed or in low-paying jobs. The economic model that predominated through most of the twentieth century – mass production by many for mass consumption by many – no longer holds and it seem to be substituted by a model of unlimited production by a handful for consumption by whoever can afford it. The underlying problem is not the

number of jobs – they are reduced by advanced technologies – but the allocation of income and wealth.

One way to create a more inclusive economy is to introduce new market rules that cause wealth eventually to revert to the public domain and be used to finance investments as well as new solidarity schemes, such as a minimum guaranteed income for all citizens.[41] *Whatever the chosen way, we would need to create a future in which robots do most of the work and people reap the benefits. This is, in particular, the vision of Robert Reich (Reich, R. 2015), a scholar well seated in the most advanced economy, the US. And it starts to be shared more widely in advanced economies under the pressure of structural unemployment and middle class income and wealth shrinking (e.g. experiment of basic incomes are currently on-going in some European countries, namely Finland).*

But what about the growing middle class in the emergent and increasingly leading economy of China, India and other emergent countries? People there do not hold the same concerns of the American and European middle class, quite the contrary. Similarly, their vision of the future would not be the same.

As the global economy is increasingly connected and interdependent, delivering societal and environmental impacts across the planet, we need to enlarge the vision to consider how the current virtualisation and automation trends and the digital economy can deliver a new wave of globalisation as well (although protectionist instincts are growing in USA and Europe, globalisation is evolving and the instinct for an open society too).

In this respect, Richard Baldwin (Baldwin, R. 2016) has recently provided an elegant model of how globalisation has evolved from the past "great divergence" – when shrinking trade costs mostly favoured the national competitive advantages of the Western countries – towards the "great convergence" driven by the diffusion of information technology, the reduction of transaction costs in moving not only goods, but also ideas and knowledge and the advent of Global Value Chains as a new form of globalisation since the beginning of the '90s.

When thinking about the future of globalisation, Baldwin's argument is that the third separation cost, after those of moving goods (whose reduction ignited the first globalisation wave) and moving ideas (the trigger of the GVCs globalisation wave), is the cost of face-to-face interactions, i.e. the cost of moving people: further revolutionary IT development is also now promising to drastically reduce this separation cost, triggering again a new globalisation wave different from those of the past. Really good ICT is creating reasonable substitutes for in-person meetings. It is possible, then, to envision a "virtual

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presence revolution" based on high-quality video and audio systems on both ends of what can be thought as the telephone wire.[42] *When such systems become much cheaper and more mobile, they could significantly reduce the costs associated with moving people, e.g. reducing the need for specialists and managers to remote factories and offices (of course, in person meetings will continue, but the number of meetings could be greatly reduced). Tele-robotics is another important trend. After all, moving people is not just about people-to-people meetings, it is also about people-to-machine interactions. If virtual presence technology were combined with human-controlled robots of the type used today in operating rooms, technicians could conduct inspections or undertake repairs from remote locations.*

All in all, these emergent trends may have important impacts on future migration patterns, eitherregional and rural-urban. Tele-robotics would allow workers based in developing nations to provide labour services inside developed nations without actually being there. Call it "virtual immigration" or telecommuting for manual workers. However, the remote provision of labour services is likely to flow both ways. The general trend would be for low-skilled workers from developing nations to telecommute to rich nations and high-skilled workers from rich nations to telecommute to developing nations. Advanced telepresence could do the same for brain workers living in developed nations, making it much easier to coordinate the provision of brain power over great distances. Given the vast North-South salary differences that exist for engineers, designers, accountants, lawyers, publishers etc., the ability to fractionalise the production in specialised tasks could lead to a great deal of "virtual offshoring".

Summing up, the next radical change in globalisation is likely to involve workers in one nation undertaking service tasks in another nation – tasks that today require physical presence. This would entail a monumental change in the current GVCs offshoring logic. In manufacturing sectors, rather than sending production stages abroad to take advantage of lower cost labour, the labour would telecommute to factories that remained in advanced economies. For service sectors, the impact is likely to be even more revolutionary. Non-traded services would become tradeable, as really cheap, reliable and ubiquitous virtual presence technology and tele-robotics would break the necessity for service providers and service buyers to be physically in the same place at the same time. Rich nation service workers could find themselves in direct wage competition with poor nation workers providing their labour services remotely. On the other hand, this challenge to rich nation workers would be an opportunity for poor nation workers, leading to a more inclusive global economy.

[42] High-quality video allows a much better reading of faces and the result would be much more information being passed among participants than is possible with audio and standard video conferencing today. A next step already being tested is "holographic videoconferencing", which projects real-time, three-dimensional holographic images of people (along with audio) in a way that makes it seem as if the remote person is right next to you.

As mentioned above, a model of circular and resource efficient economy could inspire a strategy for regional integration of economies on the Northern and Southern shores of the Mediterranean in the years and decades to come. This may help to address, with a coherent approach, a number of challenges that are now more or less addressed in existing policy agendas of the Union for the Mediterranean, namely in the field of energy[43], digital economy[44], industrial cooperation[45] and the blue economy[46]. Another overarching Union for the Mediterranean agenda that could take inspiration from the circular and resource efficient model is the one currently addressing the whole topic of regional cooperation and planning.[47]

In this respect, it is important to note that although the situation in the Mediterranean area is becoming increasingly challenging and uncertain, this is also opening a new window for opportunities and scenarios that until few years ago – maybe only months ago – was almost heretic to consider. The current tensions – financial, political and, last but not the least, migration pressure from the South – are definitively disrupting the "business as usual" trend of European integration, which prevailed since the fifties. Now, a new EU model of integration is emerging and will continue to be reshaped with the new opposing trends in the EU.

A "two speeds" project seems to be emerging in the EU, with the north and continental EU countries with higher industrial productivity and lower youth unemployment free to continue with strong single market integration, boosting their competitiveness on the global market. This should be coupled with a differentiated and more progressive industrial policy in the Mediterranean, with radical reform both in the industrial policy of the North Mediterranean countries and of EU neighbourhood policies, to assist the South-East Mediterranean countries development.

In this new approach, the Northern shore Mediterranean countries will be free to adopt – and share with the Southern shore Mediterranean countries – a new, progressive industrial policy aimed at an employment friendly co-development of the Mediterranean region, addressing the common challenge of presently unsustainable youth unemployment levels. This new industrial policy could be the backbone of a new Euro-Mediterranean regional integration where the North and South needs will be better balanced (the so-called "blue transition" in Ayadi and Sessa, 2013).

The possibility of the Northern Mediterranean countries introducing a differentiated new industrial policy, making a new deal with the South-East Mediterranean countries for the co-development of the region within the next two decades, will depend on the introduction – as a result of a "two speeds EU pact" with the EU continental countries – of a clear principle:

[43] UfM Ministerial Declaration on Energy, Rome on 1 December 2016
[44] UfM Ministerial Meeting on the Digital Economy, 30th September 2014, Brussels. Final Declaration
[45] UfM Ministerial Meeting on the Euro-Mediterranean industrial cooperation, 14th February 2014, Brussels. Final Declaration.
[46] UfM Ministerial Conference on Blue Economy, 17 November 2015, Brussels. Draft Declaration. The "blue economy" includes the set of human activities depending on the sea and/or underpinned by land-sea interactions in the context of sustainable development, i.e. industrial and service sectors such as aquaculture, fisheries, blue biotechnologies, coastal and maritime tourism, shipping, ship-building/repair, ports, ocean energy and marine renewable energy, including offshore wind, which are among the main traditional and emerging economic maritime sectors in the Mediterranean Sea basin.
[47] UfM Ministerial Meeting on Regional Cooperation and Planning. 2 June 2016. Dead Sea. Jordan.

All the activities falling under the industrial policy mandate should be temporarily exempted (say, for a period of five years) from current EU competition rules, from State aid restrictions and from Single Market regulations.

A set of principles for a new industrial policy has been proposed by Pianta, Lucchese and Nascia (2016). The list of principles, reproduced below, is a fair starting point to consider a similar list of guiding principles for a new Euro-Mediterranean industrial policy at the core of the regional integration vision:

- **Achieving static efficiency.** A key concern of economic policy is that, in a short-term perspective, given available resources are efficiently used. This means that capital and labour should not be left unemployed and should be directed towards activities that are more productive; that domestic production capacity and potential demand be brought closer together. In the cases of market failures, where market mechanisms are inadequate and private profit-making firms cannot operate efficiently (as in the case of natural monopolies), the principle of efficiency requires that public policy makes sure, through a variety of possible forms of public intervention, including direct provision, that the goods and services needed by society are effectively produced.
- **Achieving dynamic efficiency.** When a longer-term perspective is considered, resources are not 'given' anymore and the key economic question for industrial policy is how they could be expanded through research, innovation, investment, education and acquisition of new competences and skills. Public action can support dynamic efficiency through the growth of national industries with strong learning and productivity growth, able to sustain international competitiveness and high-wage permanent employment. As a result of these principles, industrial policy has to select economic activities where such potential for efficiency improvement and desirable growth exist. By its very nature, therefore, industrial policy has to target economic activities that are being encouraged to emerge and expand.
- **Designing appropriate technologies.** The direction taken by technological change is the result of private and public R&D programme of firms' innovation and organisational change in the context of broader social behaviour that includes the role of workers, consumers and citizens. Socially unacceptable results of technological change have to be rejected and industrial policy should encourage technological change that is ecologically sustainable and employment friendly, avoiding systematic labour replacement by machines and the model of extreme robotisation associated with the Industry 4.0 project. Industrial and innovation policy should direct technological change towards market and non-market activities of greater public interest, including specific areas identified as key targets for industrial policy. In the context of the opportunities offered by Information and Communication Technologies, technological change should also increasingly take the form of a social, cooperative and open process, expanding the sharing of knowledge in non-market forms.
- **Reducing the role of finance.** Industrial change in recent decades has been dramatically affected by the power of finance to shape business priorities, in particular through the 'shareholders value' principle. The pursuit of short-term financial gains has encouraged mergers and the break-up of firms, plant closures and stock buy-backs and has reduced the resources available in firms for R&D, innovation and investment, accelerating industrial decline in most European countries. A new industrial policy should be part of broader regulations that limit financial activities and reorient business practices, favouring productive investment

rather than financial speculation and clearly discourage the excessive compensation of top managers and a highly unequal distribution of rewards.

- **Supporting employment.** Industrial policy has to be designed so that its outcomes are employment friendly. The new economic activities that are developed have to be characterised by a high intensity of skilled labour, high knowledge and learning processes and the possibility of paying high wages. As Europe's industrial structures evolve from 'old' activities with stagnating demand, low productivity, high international competition and stagnating wages to 'new' dynamic activities, industrial policy should accompany and orient this process of structural change. Particular attention should be given to the protection of workers, avoiding excessive job losses, reallocating and retraining workers hit by such a transition and assuring adequate income and social protection for those losing jobs.
- **Improving ecological sustainability.** The seriousness of the ecological crisis and of climate change means that all policies (most notably, the policy aiming to reshape production structures) must give top priority to the improvement of the ecological sustainability of the activities that are developed. Sustainability requires that changes take place in parallel in supply structures, as well as in consumption, with a move towards a consumption pattern that is more sober, responsible, sustainable and locally sourced.
- **Assuring a fair distribution of benefits.** The distribution of the benefits from industrial policy should be the subject of an open, democratic debate. Experience shows that, in the new 'Schumpeterian' activities characterised by new technologies, organisations and markets, most benefits go to new firms in the form of high profits (often associated with a temporary monopoly), while old firms disappear. Workers of the former tend to obtain a smaller share of the functional income distribution which, nonetheless, allows faster than average wage growth. Workers at the disappearing firms are the losers in this process, as they lose jobs, income and security. The benefits of industrial policy also include the possibility of lower prices for the resulting goods and services to citizens, consumers and to other firms buying intermediate inputs for their production. Plans for industrial policy should also include consideration of these dimensions.
- **Supporting an even development of countries and regions.** All the issues discussed above take place in space: in specific countries, regions, cities and localities. Market processes lead to an increasing polarisation between 'centre' and 'periphery', between areas concentrating economic strength and areas hit by marginality and decline. A more even geographical distribution of economic activities is required by basic principles of social justice and solidarity, by the need to grant equal opportunities for employment and progress and, by definition, by the principle of environmental sustainability. The industrial actions designed on the basis of the principles listed above should, therefore, aim for a more even development of European countries and regions, assuring convergence of economic, social and environmental conditions within the whole region.
- **Practicing democracy and diffusing power.** Market processes lead to greater industrial concentration and to the extension of opaque connections between economic and political power, thus reducing democratic spaces. A key principle of a progressive industrial policy is, therefore, the use of public action for opening up new spaces for democratic practices in the deliberation of common priorities, decision making processes and in action aimed at reshaping economic activities. The institutions of the new industrial policy, their forms

of governance and the procedures they adopt, including the involvement of social forces, will have to be informed by the principles of democratic participation, representation and power diffusion.

These guiding principles should be discussed in a high level ministerial between the countries of the UfM.

It is also important to focus on specific areas that the new Euro-Mediterranean industrial policy should consider as key targets, taking the model of a circular and resource efficient economy as a source of inspiration for more operational but, at the same time, strongly anticipatory policies. These targets should be discussed in a high level ministerial between the countries of the UfM.

The targets of this new policy for the region will develop a new constructive dynamic, which will boost investment, regional projects and infrastructure development. This will create a multiplier effect in terms of economic growth and job creation.

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ANNEXES

ANNEXE I: YOUTH EMPLOYMENT COEFFICIENTS (2040)

Table 29: sectoral requirements of youth employment

2040	Albania	Algeria	Bosnia and	Egypt	Israel	Jordan	Lebanon	Montenegro	Morocco	Tunisia	Turkey	EU28
Agriculture	17	20	3	18	9	19	26	7	18	13	13	5
Energy	2	8	1	10	7	10	14	1	10	11	9	4
Chemical Products	5	29	2	27	17	28	37	4	26	23	25	9
Other energy intensive	5	28	2	26	17	27	36	4	25	22	24	9
Electric Goods-Other Equipment goods	5	28	2	26	17	27	36	4	26	22	24	9
Transport equipment	5	29	2	27	17	28	38	4	27	23	25	9
Consumer Goods Industries	5	27	2	19	16	26	35	4	25	21	24	9
Textiles and Clothing	5	27	2	24	16	26	34	4	24	21	23	8
Construction	6	20	2	18	16	19	25	5	18	16	17	9
Transport	5	9	2	8	20	8	11	4	8	7	20	11
Communication	5	9	2	8	20	9	12	4	8	7	10	11
Business-Financial Services	15	5	6	5	22	5	13	12	5	7	10	12
Public Services	4	6	2	6	9	6	8	5	5	5	19	5
Recreational and other services	21	21	5	19	15	20	26	12	19	16	30	8

Source: *GEM-E3-MED*

** This table shows for every 100 jobs created in the particular sector how many will be occupied by personnel aged 15-24 (in %).*

ANNEXE II: BOND RATING AND INTEREST RATES

Table 30: Moody's bond rating and shadow interest rates

Moodys	Scale
Aaa	0.00%
Aa1	0.33%
Aa2	0.67%
Aa3	1.00%
A1	1.33%
A2	1.67%
A3	2.00%
Baa1	2.33%
Baa2	2.67%
Baa3	3.00%
Ba1	3.33%
Ba2	3.67%
Ba3	4.00%
B1	4.33%
B2	4.67%
B3	5.00%
Caa1	6.00%
Caa2	7.00%
Caa3	8.00%
Ca	9.00%
C	10.00%

Source: *authors' assumptions*

ANNEXE III: SHORT GEM-E3-MED DESCRIPTION

The GEM-E3-MED model is a multi-regional, multi-sectoral, recursive dynamic Computable General Equilibrium (CGE) model that incorporates all economic agents, an environmental, endogenous bilateral trade flows, discrete representation of power producing technologies and an imperfect labour market representation that allows for involuntary unemployment. The GEM-E3-MED model is based on a detailed database on the EU-Med countries, including detailed social accounting, bilateral trade and consumption and investment matrices for each of the countries included in the model. A distinctive feature of the model is that it includes detailed representation of the existing infrastructure on Mediterranean countries. The existing database is based on the latest available complete dataset which is GTAPv9 (year 2011). The GEM-E3-MED model provides a detailed sectoral disaggregation. The model is designed to simulate economic development by sector influenced by investment in infrastructure and human capital, governance developments and risk perception, population changes and trade liberalisation among others. The model covers the major aspects of public finance, including all substantial taxes, social policy subsidies, public expenditures and deficit financing. The GEM-E3-MED model is global and it can simulate the different complex economic, trade, energy, migration, transport, environment and public policies up to 2030. The runs are at user-specified time intervals (usually at 5-year time steps).

Firms' behaviour

Domestic production is defined by branch and it is assumed that each branch produces a single product which is different from any other product in the economy. Production functions in the *GEM-E3-MED* are of the Constant Elasticity of Substitution (CES) type and exhibit a nested separability scheme, involving capital (K), labor (L), energy (E) and materials (M). The top level of the CES nest defines capital and Labour-Energy-Materials bundle input substitutability. Firms operate in a perfect competition environment and maximise their profits subject to their production function. The solution of the firms' optimisation problem consists of the optimal demands for each production factor. The derived demand and the unit cost functions determine the firms demand for production factors and its product supply.

Each producer (represented by an activity) is assumed to maximize profits, defined as the difference between revenue earned and the cost of factors and intermediate inputs. Profits are maximised, subject to a production technology. Domestic production is defined by branch. Each branch is assumed to produce a single good which is differentiated from any other good in the economy and is supplied to the market for this good.

The optimal production behaviour can be represented in the primal or dual formulation. Their equivalence, under certain assumptions, can be easily verified with the theory of production behaviour and is illustrated with the following formulations (CES functions are used, but any other form would lead to the same qualitative results).

The primal formulation is given by:

$$XD_i = \sum_j \left[\delta_{i,j}^{\frac{1}{\sigma}} \cdot X_{i,j}^{\frac{\sigma-1}{\sigma}} \cdot e^{-(1-\sigma)\cdot tpj\cdot t} \right]^{\frac{\sigma}{\sigma-1}}$$

$$X_{i,j} = XD_i \cdot \delta_{i,j} \cdot \left(\frac{P_i \cdot e^{-(1-\sigma)\cdot tpj\cdot t}}{PX_{i,j}} \right)^{\sigma}$$

$$P_i \cdot XD_i = \sum_j PX_{i,j} \cdot X_{i,j} \qquad (zero\ profit\ condition)$$

Where: P : is the output price of domestic production, δ are scale factors for the production factors (intermediate consumption, energy, capital and labour), PXi,j is the price of the factor j and σ is the substitution elasticity. The last factor *tpj* in the equation reflects the technical progress that is embedded in the production factors (tpj is the rate of technical progress embedded in production factor j).

The dual formulation is given by:

$$P_i = \sum_j \left[\delta_{i,j} \cdot PX_{i,j}^{1-\sigma} \cdot e^{-(1-\sigma)\cdot tpj\cdot t} \right]^{\frac{1}{1-\sigma}}$$

$$X_{i,j} = XD_i \cdot \delta_{i,j} \cdot \left(\frac{P_i \cdot e^{-(1-\sigma)\cdot tpj\cdot t}}{PX_{i,j}} \right)^{\sigma}$$

$$P_i \cdot XD_i = \sum_j PX_{i,j} \cdot X_{i,j} \qquad (zero\ profit\ condition)$$

It can be proved, that under constant returns of scale, the two formulations are exactly the same. In the GEM-E3 model, there is an additional constraint, namely that in the short term (i.e. within the period) the amount of available capital is fixed. This breaks the assumption about constant returns of scale and the supply side of production reflects decreasing returns of scale. In both formulations, an equation for the equality between desired and existing capital is added and one of the (j+1) equations (j derived demand functions and the zero profit condition) is redundant:

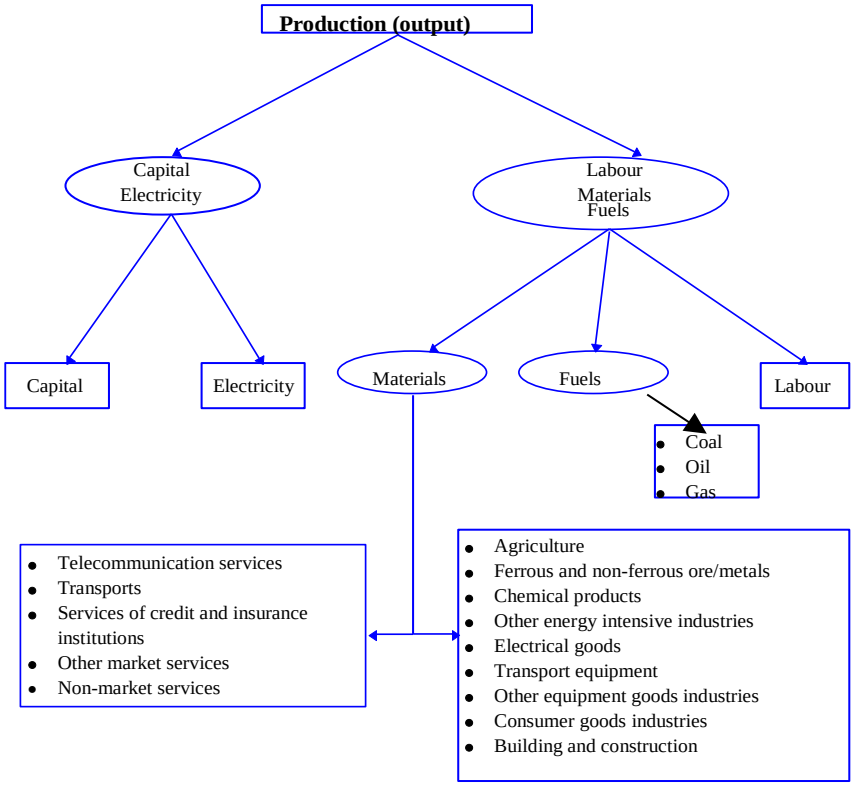
- Either the demand of capital is redundant and the zero profit condition serves to compute the rate of return on capital, the equilibrium on the good market determining the price of the good
- Either the zero profit equation is suppressed and the equilibrium on the capital determines the rate of return on capital.

Here, it is easy to prove that the primal and dual formulation will also lead to the same solution.

At the first level, production splits into two aggregates, one consisting of capital stock and the other of labour, materials, electricity and fuels. At the second level, the latter aggregate is further divided in their component parts.

The dual formulation is used and the long term unit cost function is of the nested CES type with factor-augmenting technical change, i.e. price diminishing technical change.

Figure 31: production structure



Household

In the GEM-E3-MED model, there is one representative household by region. Household behaviour is derived through a two stage utility optimisation problem. The consumer utility function is a LES (Linear Expenditure System) and has, as arguments, the consumption of goods, subsistence minima of consumption, leisure and subsistence minima of leisure. Households, as depicted at the SAM, receive income from the production factors, according to their ownership (directly or indirectly from the enterprises), from other institutions and transfers from the rest of the world. In an opposite direction, the household expenditure model includes income payments for taxes, savings, consumption and transfers to other institutions.

The household behaviour is based on an inter-temporal model of the household sector with two stages. In the first stage, the households decide each year on the allocation of their expected resources between present and future consumption of goods and leisure, by maximising over their entire life span an inter-temporal utility function subject to an inter-temporal budget constraint defining total available resources. It is assumed that at the end of life they will have no savings left. The utility function has, as arguments, consumption of goods and leisure. The utility function has, as arguments, consumption of goods and leisure. The general specification of the first stage problem, with a period separable Stone-Geary utility function, can be written as follows:

$$\max U(q(t)) = \int_{t=0}^{\infty} e^{-\delta t} \cdot u(q(t))dt \ , \ where \ u(q(t)) = \beta \cdot \log(q(t) - \gamma)$$

Where:

q(t): is a vector of two commodity flows (in our case consumption and leisure) and δ: is the subjective discount rate of the households.

The maximisation is subject to the following inter-temporal budget constraint, where *w* represents the total wealth the households expect for their lifetime, including the value of their total time resources y(t) (leisure and work time).

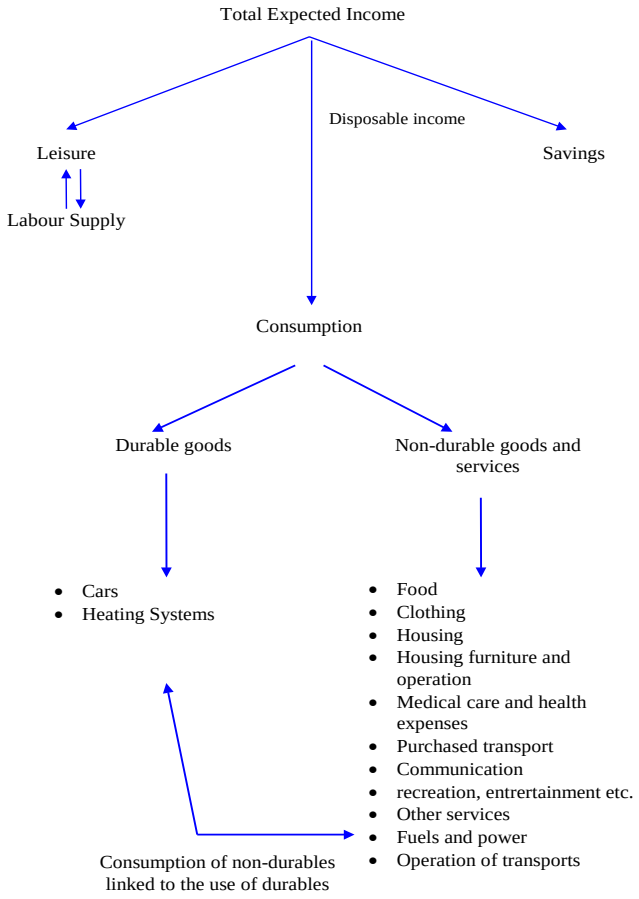
$$\dot{w}(t) = r \cdot w(t) + y(t) - p' \cdot q(t)$$

Although this problem can readily be solved[48] it is often easier to solve its discrete approximation[49].

In the second stage, households allocate their total consumption expenditure between expenditure on non-durable consumption categories (food, culture etc.) and services from durable goods (cars, heating systems and electric appliances).

The general form that is described above is being depicted with a nesting scheme as it is appeared below:

Figure 32: The consumption structure of the GEM-E3 model



[48] For a detailed presentation of the derivation of the demand functions using optimal control see C. Lluch (1973). The results obtained are identical to the ones presented below.
[49] A similar formulation can also be found in Jorgenson et. al (1977).

In each period, households modelled through one representative consumer for each country, allocate in the first stage their total expected income between consumption of goods (both durables and non-durables) and services, leisure and savings.

Investment

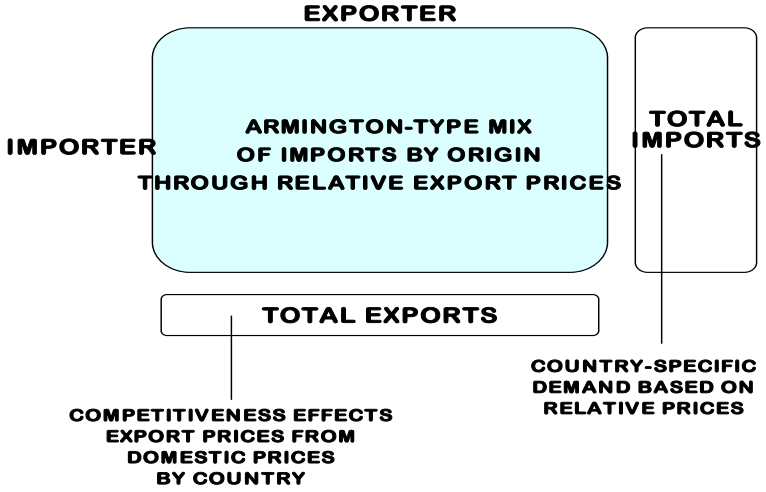
The demand for capital for the following year, which fixes the investment demand of firms, is determined through their optimal decision on factor inputs for the following year within the framework described above. The optimal long-term cost of derived capital is according to Ando-Modigliani formula. The comparison of the available stock of capital in the current year with the desired one, determines the volume of investment decided by the firms. Since capital is fixed within each period, the investment decision of the firms only affects their production frontier in the next period. The investment demand of each branch is transformed into a demand by product, through fixed technical coefficients, derived from an investment matrix by product and ownership branch. This, together with the government investments which are exogenous in GEM-E3-Med, constitutes the total demand for investment goods.

Trade

The Armington assumption is used in GEM-E3-Med according to which demand for products (final or intermediate) is allocated between domestic products and imported products. In this specification, branches and sectors use a composite commodity which combines domestically produced and imported goods, which are considered as imperfect substitutes. Demand for imports is allocated across imported goods by country of origin. Bilateral trade flows are thus treated endogenously in GEM-E3-MED. The optimal demand for domestic and imported goods is obtained by employing the Shephard's lemma. Import demand is allocated across region of origin using a CES functional form. The model ensures that the balance of trade matrix in value and the global Walras law are verified in all cases.

Bilateral duties are included in the model and are derived from the GTAP database. The model bilateral trade parameters are calibrated to represent trade agreements and non-tariff barriers.

Figure 33: trade matrix



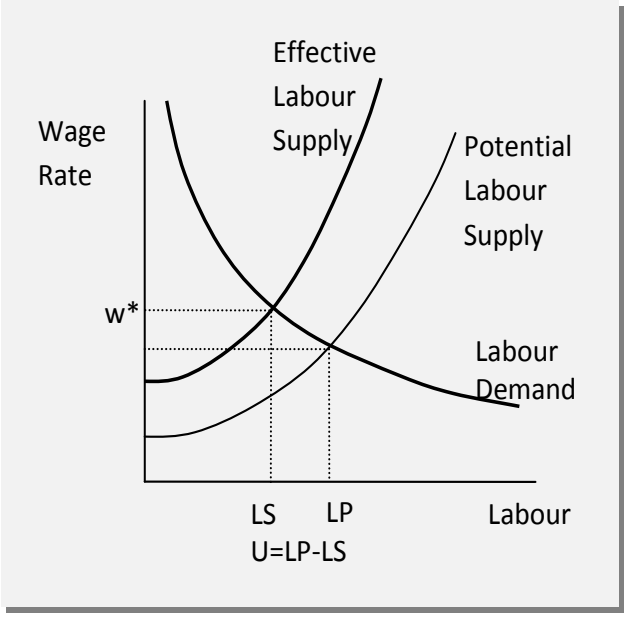
GEM-E3 employs a nested commodity aggregation hierarchy, in which branch 's total demand is modelled as demand for a composite good or quantity index Y, which is defined over demand for the domestically produced variant XXD and the aggregate import good IMP. At the next level, demand for imports is allocated across imported goods by country of origin. Bilateral trade flows are, thus, treated endogenously in GEM-E3.

Labour Market

Typical CGE models adopt a market equilibrium approach for the modelling of the labour market. The wage rate is derived from balancing labour supply with labour demand. Potential labour supply derives from utility maximisation of households and labour demand derives from profit maximisation of firms depending on relative prices of factors and factor productivities. This approach corresponds to the perfect labour market postulate and has been extended by introducing the equilibrium unemployment mechanism.

The GEM-E3-MED model represents rigidities and imperfections in the labour market, which shifts utility-derived labour supply to the left and upwards. Wages drive the balancing of the shifted labour supply with labour demand. Thus, involuntary unemployment arises as a result of the distorted labour market equilibrium. It is assumed that, due to labour market imperfections and frictions, employees enjoy a wage premium (a wage rent) on top of the wage rate that would correspond to equilibrium between potential labour supply and labour demand. The wage rate premium leads to a displacement to the left of the potential labour supply curve. The displaced supply curve corresponds to effective labour supply.

Figure 34: Illustration of equilibrium unemployment



The balancing of labour demand with effective, rather than potential, labour supply implies that equilibrium unemployment is determined as the difference between potential and effective labour. This is illustrated in the

figure above, which shows unemployment U as the difference between potential equilibrium labour LP and effective labour equilibrium LS, corresponding to wage rate w* which includes the wage rent reflecting market imperfections. As the model identifies skilled and unskilled labour, there are two different labour supply curves and, hence, two respective wages and unemployment rates. The general specification of the labour supply curves are given by eq 1. They are empirically estimated[50] for each country of the model.

$$w = a + \left(\frac{1}{u}\right)^{b} \qquad [1]$$

Youth employment is calculated through fixed coefficients on sectoral employment. Once the model endogenously calculates the impact on employment by skill of alternative policies, then by using fixed factor sectoral coefficients the impact on employment by different age groups is calculated. That is, for each country and sector a coefficient matrix is used to decompose total employment, to employment by age groups. This coefficient matrix is based on statistics available by the UN. Once these coefficients are projected in reference, they do not change in counterfactual scenarios.

Table 31: Long term elasticities of wages to unemployment

Country	Period	Elasticity	Youth (15-24)
Algeria	2000-2011	-0.1031	-0.1192
Egypt	2002-2010	-0.1212	-0.1598
Israel	2000-2013	-0.0961	-0.0532
Jordan	2004-2012	-0.2599	-0.3253
Lebanon	2001-2012	-0.1946	-0.4785
Morocco	2002-2011	-0.1797	-0.1496
Tunisia	2004-2012	-0.4413	-0.5763

Source: *own estimation*

Environment

The objective of the environment module is to represent the effects of alternative environmental policies on the global economy, namely on sectoral activity, employment, welfare etc. The aim of the introduction of an environment module is to enable the analysis in the following directions:

- Integrated analysis and impact assessment of environmental and energy policies at a European or global scale
- Representation of a larger set of environmental policy instruments at different levels: standards, taxes, tradable permits (international, national and sectoral)
- Detailed assessment of alternative climate change mitigation policies, enabled by a thorough representation of emission trading markets

[50] Empirical estimations have been performed by the research team.

The module concentrates on three major environmental problems:

(i) global warming

(ii) problems related to the deposition of acidifying emissions Integrated analysis of different environmental problems: simultaneous analysis of global warming and acid rain policy

(iii) Comparison between a source or a receptor oriented approach: damage valuation versus uniform emission reductions

(iv) ambient air quality linked to acidifying emissions and tropospheric ozone concentration

Hence, energy related emissions of CO_2, NOx, SO_2, VOC and particulates, which are the main source of air pollution, are considered. NOx is almost exclusively generated by combustion process, whereas VOCs are only partly generated by energy using activities (refineries, combustion of motor fuels[51]). For the problem of global warming, CO_2 is responsible for 60% of the radiative forcing (IPCC, 1990). The GEM-E3-MED environment module addresses all GHGs (CO_2, CH_4, CFC, and N_2O) to provide a better analysis of climate change policies.

The environment module contains two sub-modules:

- a "behavioural" module, which represents the effects of different policy instruments on the behaviour of the economic agents (e.g. additive "end-of-pipe" and integrated "substitution" abatement).
- a "state of the environment" module, which uses all emission information and translates it into deposition, air-concentration and damage data. This sub-module was constructed making use of existing information or using results of other EC-projects like the ExternE. Depending on the version of the model, there is feedback to the behaviour modules.

There are three mechanisms of emission reduction in the GEM-E3 –MED model:

1. End-of-pipe abatement (where appropriate technologies are available)
2. Substitution between fuels and/or between energy and non-energy inputs
3. Emission reduction due to a decrease of production and/or consumption

The dual formulation of the GEM-E3-MED model eases the incorporation of changes in economic behaviour due to emission or energy based environmental policy instruments. The costs of environmental policy requirements are added to the input (and consumption) prices. Intermediate demand is derived from the unit cost function which takes these extra costs into account. Similarly, the demand of households for consumption categories is derived from the expenditure function, which is the dual of the utility function. Hence, the additional policy constraint is easily reflected in prices and volumes.

The model takes into account the trans-boundary effects of emissions through transport coefficients, relating the emissions in one country to the deposition/ concentration in the other countries. For secondary pollutant as tropospheric ozone, it implies considering the relation between the emissions of primary pollutants (NOx emissions and VOC emissions for ozone) and the level of concentration of the secondary pollutants (ozone).

[51] Other important sources of VOCs are the use of solvents in the metal industry and in different chemical products but are not considered here.

Welfare measure

The quantification of the effects of a policy scenario on GDP, trade, production and the relative prices is done with the computation of the percentage change of the latter from the reference scenario. However, the same cannot apply to household welfare, where the welfare functions consist of ordinal sizes and their summing up (between different households/countries) or the computation of their change from the reference scenario are not possible.

The approach adopted in most of the applied general equilibrium models, regards the use of the monetary utility function, which measures the nominal income that the consumer needs for a given price vector, in order to be at the same welfare level with a different income level and a price vector. With this measure it is possible to quantify the effects on welfare of alternative policy scenarios. The specific measure used in the model is that of equivalent variation in welfare.

ANNEXE IV: DATA AVAILABILITY

Table 32: data availability

	2015				
	Total Labour Force	Total Employment	Total Youth Labour Force	Total Youth Employment	Employment by economic activity
Albania	(1)	(1)	(1)	(1)	(3)
Algeria	(1)	(1)	(1)	(1)	(3)
Bosnia and Herzegovina	(1)	(1)	(1)	(1)	(3)
Egypt	(1)	(1)	(1)	(1)	(3)
Israel	(1)	(1)	(1)	(1)	(2)
Jordan	(1)	(1)	(1)	(1)	(3)
Lebanon	(1)	(1)	(1)	(1)	(3)
Montenegro	(1)	(1)	(1)	(1)	(2)
Morocco	(1)	(1)	(1)	(1)	(2)
Tunisia	(1)	(1)	(1)	(1)	(3)
Turkey	(1)	(1)	(1)	(1)	(2)

(1) ILO, (2) UN, (3) Not available

ANNEX V: REGIONAL PROGRAMMES FUNDED WITHIN THE FRAME OF THE EUROPEAN NEIGHBOURHOOD POLICY

PROGRAMMEME	SNAPSHOT	PROGRAMMEME	SNAPSHOT
PRIVATE SECTOR, TRADE AND INVESTMENT			
Euro-Mediterranean Network for Economic Studies **EMNES**	2015-2018 2,45 M EUR	Support to Business and Investment Partnership in Southern Mediterranean **EUROMED INVEST**	2014-2016 5 M EUR
Support to Economic Research, Studies and Dialogue **FEMISE**	*2005-2019 2,5 M EUR*	Enhancement of the Business Environment in Southern Mediterranean	2014-2016 12 M EUR
Euro-Mediterranean Trade and Investment Facilitation Mechanism **EUROMED TIFM**	2014-2017 1,5 M EUR	Support to Regional Trade Integration - Agadir Agreement	2014-2017 4 M EUR
Fast-Start EBRD Support to Southern and Eastern Mediterranean Countries	2011-2017 15 M EUR	Fostering EU Policy Implementation through Public-Private Partnership Project Preparation - **MED 5P INITIATIVE**	2013-2017 5 M EU
INFRASTRUCTURE			
Technical Assistance to the Mediterranean Urban Projects Finance Initiative **UPFI**	2012-2017 2,5 B EUR	Sustainable Urban Demonstration Projects **SUDEP**	2014-2018 10,5 M EUR
Southern Neighbourhood Advisory Programmeme for the Transport Sector **SNAP-T**	2013-2016	Euro-Mediterranean Road, Rail and Urban Transport Regional Programmeme	2011-2016 4 M EUR
EMPLOYMENT AND EDUCATION			
Social Entrepreneurs Exchange and Development in the Euro-Mediterranean - **SEED EUROMED**	2014-2017 277.000 EUR	Euro-Mediterranean Young Entrepreneurs **EMYE**	2015-2016 562.000 EUR
Networks of Mediterranean Youth **NET-MED YOUTH**	2014-2016 8,8 M EUR	Euro-Mediterranean **YOUTH IV**	2010-2016 11 M EUR
Governance for Employability in the Mediterranean **GEMM**	2013-2019 2 M EUR	Euro-Mediterranean **CONNECT III**	2011-2016 9,3 M EUR
ERASMUS+	2014-2020 14,7 B EUR	**MOSHARKA**	2012-2016
Promotion of Policies for Equality in the Euro-Mediterranean Region **MEDEQUALITY**	2014-2017 976.311 EUR	Spring Forward for Women	2012-2016 8,2 M EUR
POLITICAL DIALOGUE AND SECURITY			
Euro-Mediterranean Political Research and Dialogue for Inclusive Policymaking	2015-2019 1,254 M EUR	Regional Communication Programmeme - Phase II **OPEN NEIGHBOURHOOD**	2015-2019 18,2 M EUR

EUROMESCO			
Strengthen Democratic Reform in the Southern Neighbourhood II	2015-2017 7,370 M EUR	EU Partnership for Peace - Middle East Projects **EU-PfP**	5 to 10 M EUR
Information and Training Seminars for Euro-Mediterranean Diplomats	2012-2016 1 M EUR	Euro-Mediterranean **POLICE IV**	2016-2020 5 M EUR
Regional Approach to National Integrity Systems Assessments in European Southern Neighbourhood	2014-2016	Euro-Mediterranean Statistical Cooperation **MEDSTAT IV**	2016-2019 4,7 M EUR
ENVIRONMENT			
Shared Environmental Information System **ENI SEIS**	2016-2020	Maritime Safety and Pollution Prevention **SAFEMED III**	2013-2016 3 M EUR
Switching to Sustainable Consumption and Production in the Mediterranean **SWITCH-MED**	2012-2016 20 M EUR	Regional Sustainable Energy Finance Facility **SEMED**	2013-2020 141,7 M EUR
Support for Climate Change Mitigation and Adaptation **CLIMA SOUTH**	2013-2017 5 M EUR		

Source: *own elaboration*

ANNEXE VI: REGIONAL PROGRAMMES FUNDED OR LABELLED BY THE UNION FOR THE MEDITERRANEAN

PROGRAMMEME	SNAPSHOT	PROGRAMMEME	SNAPSHOT
PRIVATE SECTOR, TRADE AND INVESTMENT			
Euro-Mediterranean Development Centre for MSMEs **EMDC**	2013-2015 5,4 M EUR	EUROMED Invest Promotion and Observatory **EMIPO**	3,4 M EUR
Agadir SME Programmeme	2017-2019 4,35 M EUR	Economic Development through Inclusive and Local Empowerment **EDILE**	2015-2018 2,9 M EUR
Promoting Financial Inclusion via Mobile Financial Services **MOBILE FINANCE**	2014-2015 1.340.000 EUR	Governance and Financing in the Mediterranean Water Sector	2013-2016 2.5 M EUR
Growing and Scaling SMEs **CEED GROW**	2015-2017 1 M EUR	Regional Platform for the Development of Cultural and Creative Industries and Clusters	2014-2018 300.000 EUR
INFRASTRUCTURE			
OPTIMED	2016-2019 37,35 M EUR	LOGISMED Training Activities **LOGISMED-TA**	2013-2018 6,6 M EUR
Motorway of the Sea Turkey-Italy-Tunisia	2014-2037 478 M EUR	Trans-Maghreb Motorway Axis Central Section Morocco-Tunisia	2015-2020 670 M EUR
EMPLOYMENT AND EDUCATION			
Mediterranean Initiative for Jobs **Med4Jobs**	2014 onward	**YouMatch** – Toolbox Project	2016-2018 1,05 M EUR
Developing Youth Employability and Entrepreneurial Skills **Maharat MED**	2015-2018 3.852.528 EUR	Mediterranean Entrepreneurship Network	2015-2018 6.800.000 EUR
High Opportunity for Mediterranean Executive Recruitment **HOMERe**	2015-2016 709.400 EUR	Generation Entrepreneur	2015-2018 3,4 M EUR
Women Empowerment for Inclusive and Sustainable Development	2015-2017 4.525.000 EUR	Higher Education on Food Security and Rural Development	2015-2018 1,2 M EUR
Eastern Mediterranean International School **EMIS**	2015-2019 11.832.336 EUR	New Chance Mediterranean Network **MedNC**	2015-2019
Skills for Success Employability Skills for Women	2014-2015 700.000 EUR	Young Women as Job Creators	2013-2015 650.000 EUR
Euro-Mediterranean University **EMUNI**	2008 onward	Euro-Mediterranean University of Fez **UEMF**	2015 onward

ENVIRONMENT			
Mediterranean Water Knowledge Platform	2013-2016 9,525 M EUR	SEMed Private Renewable Energy Framework **SPREF**	2015-2018 836 M EUR
UfM Energy University Schneider Electric	Online project 6 M EUR	UfM Energy Platforms	2015 onward
Plastic Busters for a Mediterranean Free from Litter	2016-2020 8,8 M EUR	Capacity Building Programme on Water Integrity in the MENA Region	2014-2018 2.302.000 EUR
Networking CSOs in the Mediterranean through Environment and Water Issues **BLUEGREEN MED-CS**	2014-2017 2.855.900 EUR	Mediterranean RESCP POST RIO+20	2015-2019 8,9 M EUR
CIVIL AFFAIRS			
Women's Right to Health **WORTH**	2016-2020 4,16 M EUR	Developing Women Empowerment	2015-2018 1,5 M EUR
Women of the Mediterranean **WOMED**	2015-2018 820.000 EUR	Forming Responsible Citizens to Prevent School Violence	2015-2018 759.249 EUR

Source: *own elaboration*