ASSESSING REGIONAL INTEGRATION IN THE EURO-MEDITERRANEAN

A MULTI-DIMENSIONAL REGIONAL INTEGRATION

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ABOUT THIS STUDY

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The Euro-Mediterranean region brings together countries with different cultural backgrounds and economic, social and political realities that are each developing at a varying pace and integrating with variable geometry. The developments in the Euro-Mediterranean region during the last decade highlight a trend towards more fragmentation, which is widening. The COVID-19 crisis put further pressure on the region and fundamentally questioned the process of regional integration, with the enforcement of lockdowns and mobility restrictions and the overall disruption of global value chains.

In view of this context, the objective of this study is to propose a regional integration matrix to assess the regional integration process in the Euro-Mediterranean region. The remainder of the study is organised as follows: the first chapter discusses regional integration and its monitoring at a conceptual level, based on a survey of relevant academic literature. The second chapter builds on and updates the work done by the lead author providing a brief history of Euro-Mediterranean integration, before turning to the question of whether past initiatives have led to economic catch-up between lower and higher income countries in the region. The third chapter proposes the Regional Integration Matrix (RIM) to monitor regional integration in the Euro-Mediterranean.

The Regional Integration Matrix (RIM) builds on a multi-dimensional approach that integrates seven dimensions: governance, trade, FDI, finance, infrastructure, human mobility, higher education and research. It emphasises the role of complementarities, the variable geometry that goes beyond the usual geographical boundaries of the Euro-Mediterranean region. The Regional Integration Matrix (RIM) is accompanied with the Regional Integration Database (RID) which includes 86 indicators to assess the seven dimensions. This list of indicators is updated yearly and enlarged based on data availability.

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INTRODUCTION

The Euro-Mediterranean region brings together countries with different cultural backgrounds and economic, social and political realities that are each developing at a varying pace and integrating with variable geometry. To the north, countries have engaged in a deep integration process under the European Union (EU) and its progressive process of enlargement, which experienced a slowdown in the aftermath of the financial and economic crises, but was expected to continue with the anticipated accession of countries in the Western Balkans and association agreement negotiations with small states such as Monaco.

In 2020, the EU (particularly the southern part) was hit hard by the global COVID-19 pandemic and the drastic halt in economic activity whilst, at the same time, still grappling with a timid recovery from a prolonged period of economic crisis and budgetary austerity, dampened by a number of economic imbalances within the Union. In addition to that, the migratory pressures, which fuelled the upsurge of nationalist sentiment and the emergence of new political dividing lines, are being reinforced with the lockdowns, social distancing, mobility restrictions and a surge in waves of racism and discrimination. These dynamics not only contributed to a slowdown in the enlargement process and the start of disintegration with Brexit, but also to an increase in fiscal spending in response to the deadly global pandemic and to preserve jobs as a part of the recovery plan.

To the south, the integration process has largely lagged, in spite of several attempts to accelerate it (e.g. the Agadir Agreement). Since the Arab uprisings, countries witnessed disruptive political, social and economic hardships and transformations, further accelerated by the COVID-19 pandemic and the containment measures taken, leading to further fragmentation, poorer economic prospects and an increasing risk of uprisings. In Syria and Libya, protracted wars involving neighbouring countries, resulted in the disintegration of the countries' polities, societies and economies, with the ensuing mistrust and chaos which has destabilised the region as a whole, leading to a refugee crisis. This dynamic compromises any prospects of focussing on communalities, complementarities and fostering integration. Instead, it has highlighted differences and disunion. In Lebanon, the country is battling with compounded crises, ranging from political, economic and financial to environmental, social and humanitarian crises (see Ayadi and Challita[1] (2020)). Such a situation increases the prospects of internal destabilisation in a region that is already and continues to be in a heightened state of tension.

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[1]https://euromed-economists.org/download/lebanon-a-case-of-a-compounded-crisis-a-tris-path-for-the-phoenix-to-re-emerge-from-the-ashes/

The developments in the Euro-Mediterranean region during the last decade highlight a trend towards more fragmentation, which is widening. To complement the foresight analysis by Ayadi and Sessa (2013) [2], regional developments during the 2010-20 decade highlight that essential elements of the red transition have materialised and continue to prevail.

The COVID-19 crisis put further pressure on the region and fundamentally questioned the process of regional integration, with the enforcement of lockdowns and mobility restrictions and the overall disruption of global value chains.

In view of this context, the objective of this study is to propose a regional integration matrix composed of seven dimensions: governance, trade, FDI, finance, infrastructure human mobility, higher education and research to assess the regional integration process in the Euro-Mediterranean region. The remainder of the study is organised as follows: the first chapter discusses regional integration and its monitoring at a conceptual level, based on a survey of relevant academic literature. The second chapter builds on and updates the work done by Ayadi and Sessa (2017) providing a brief history of Euro-Mediterranean integration, before turning to the question of whether past initiatives have led to economic catch-up between lower and higher income countries in the region. The third chapter proposes the **Regional Integration Matrix (RIM)** to monitor regional integration in the Euro-Mediterranean and provides the preliminary assessments subject to data availability.

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[2] The authors devised a number of alternative scenarios that could play out in Euro-Mediterranean relations at the horizon 2030. Starting from a reference scenario (in 2010) that postulates a continuation of the trend of inter-governmentalisation of Euro-Mediterranean relations through bilateral agreements between the EU and individual non-EU countries, three scenarios can be envisaged: The "red transition" scenario foresees a progressive weakening and eventual failure of cooperation schemes in the region, leading to the emergence and multiplication of conflicts. The "green transition" scenario consists in full-fledged integration through the creation of a Euro-Mediterranean union, including but not limited to the establishment of a common/single market. The "blue transition" scenario foresees the shedding of the Euro-centred, enlargement-like policies for the integration of the region as a whole in favour of multilateral policies between distinct but related sub-regions over areas of shared interest and mutual benefit.
https://euromed-economists.org/download/scenarios-assessment-and-transitions-towards-a-sustainable-euro-mediterranean-in-2030/

REGIONAL INTEGRATION:
WHAT IT IS, WHY IT IS IMPORTANT AND HOW CAN IT BE MEASURED

In this chapter of the study, we delve into the literature on regional integration, in order to define core concepts and key dimensions and discuss both why pursuing regional integration is beneficial for countries and how to measure it, in such a way as to enable an appropriate evaluation of progress achieved by countries integrating. The first section focusses on defining regional integration at a conceptual level. The second section focuses on understanding regional integration empirically and why it is beneficial for countries to engage in it. The third section reviews literature on the monitoring of regional integration, concluding with an overview of the indicators most widely used.

REGIONAL INTEGRATION: DEFINITION AND DIMENSIONS

Regional integration can be defined as deepening and broadening interactions between diverse state and non-state actors, and the related dynamics of inclusion and exclusion across different dimensions. The definition is kept deliberately broad, in order not to enter into the details of the various concepts discussed in the literature on regional integration. For the reader interested in delving into the literature, Annexe 1 introduces and discusses the concepts of region, regionness, regionalisation and regionalism.

Regional integration is by no means a mono-dimensional linear process. Petit (2006) identified three broad dimensions of regional integration, based on the logic underpinning the interaction between state and non-state actors – economic, political and civilian. 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. The author also identified three types of transactions between countries – trade of goods and services, transfer of intangible non-marketed products, and financial flows. The result of his work is a useful framework for the analysis of regional integration (see Table 1).

Table 1: 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 the literature, what could be considered as specific sub-dimensions of economic, political or civilian integration are often singled out as additional, stand-alone dimensions of regional integration, as in the case of financial and security integration. This stems from the recognition that in most cases, countries prefer and/or prioritise one dimension of integration over another when integrating further, depending on the underpinning motivations and the conditions surrounding, the decision to do so. For example, financial crises have historically been a strong incentive for countries to integrate and manage systemic and global risks at a more regional governance level than at a national level. The same is true for security threats - another important trigger of regional integration between countries - which gave rise to the emergence of a large body of literature on the concept of regional security complexities.[3] More broadly, economic integration is often prioritised in real-world experiments because it is deemed easier to achieve than political or civilian integration.

[3] Buzan (1991) defined regional security complexities as groups of states whose primary concerns link together sufficiently closely that their national securities cannot realistically be considered apart from one another, emphasising the importance of interdependence in regional integration.

A large part of the literature on regional integration focuses on economic integration, partly in an effort to analyse real-world experiments of regional integration, most of which revolve around economic integration and most particularly trade liberalisation between partner countries.

Annexe 1 reviews existing literature supporting or contesting the existence of a positive link between regional integration and economic growth, which remains the main argument for countries to further integrate their economies.

In an early, seminal contribution to the debate among scholars, Bela Belassa (1961) proposed a model of regional integration in five subsequent steps, consisting basically in progressive economic integration – free trade area, customs union, common market, economic and monetary union, and only last of all, political union. The EU is an emblematic illustration of this particular way to proceed and the same modus operandi was retained in the Euro-Mediterranean partnership, built around the progressive waiving of tariff and non-tariff barriers to trade. As we shall see further on, virtually all frameworks for Euro-Mediterranean cooperation implemented over time, encompassed the three above-mentioned dimensions of regional integration – economic, political and civilian, or people-to-people contacts in EU jargon – but in most if not all of these frameworks, a substantial share of the funds was allocated to economic integration.

MONITORING REGIONAL INTEGRATION: APPROACHES AND INDICATORS

After discussing the definition and dimensions of regional integration, we turn to the question on how to monitor progress in the latter. The number of indicator systems for the monitoring of regional integration increased hand-in-hand with the number of regional integration initiatives launched around the world and the academic literature on the topic has followed suit. In this section, we review this literature and conclude by providing an overview of the most widely used indicators that will inform the selection of those to be used in the monitoring of Euro-Mediterranean integration.

An important source of literature on the monitoring of regional integration is the United Nations University Institute on Comparative Regional Integration Studies (UNU-CRIS), a research institute established in 2001 as part of the broader network of the United Nations University (UNU). The Institute, whose specific mission is to foster a better understanding of regional integration through comparative research, published a number of seminal books and working papers [4] focussed on the monitoring of regional integration.

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[4] In the book *Assessment and Measurement of Regional Integration,* De Lombaerde (2010) discussed methodological issues related to the design and organisation of systems for the monitoring of regional integration, providing amongst other things an overview of

In addition to the above, UNU-CRIS launched, in collaboration with the United Nations Regional Economic and Social Commissions (UNESCWA, UNESCAP, UNECLAC, UNECA, UNECE) and the United Nations Conference on Trade and Development (UNCTAD), a series of global reports on regional integration, with the explicit ambition to become a reference point for scholars and policy makers interested in its monitoring. The fourth report published is particularly interesting for the purpose of this study, as it focuses on indicator-based systems for the monitoring of regional integration, discussing technical and governance aspects, and best practices, based on the comprehensive review of existing systems in the regions where there has been implementation[5] (see De Lombaerde and Saucedo, 2017).

Table 2 presents an overview of the key indicators used for the monitoring of regional integration in three regions – Europe, Africa and Asia. The indicators are classified according to what we consider to be key dimensions of the regional integration process. These indicators are broken down in six dimensions: Trade, FDI, Finance, Labour, Governance and Infrastructure and range from integration, openness, and importance indicators, to symmetry, compliance and participation indicators, to name a few, depending on the philosophy underlying the integration process (economic, political, civilian and/or security oriented).

available indicators and tools. The author proposed a conceptual framework encompassing different aspects of regional integration that can be monitored individually or comprehensively, i.e. actors, structural factors, implementation, institutionalisation, interdependence and effects, usually referred to as outcomes. In the book *The Regional Integration Manual: Quantitative and Qualitative Methods*, De Lombaerde et al. (2011) assembled a set of both quantitative and qualitative tools for the systematic monitoring of regional integration intended for policy-makers and other practitioners. The working papers published by the Institute focused on the monitoring of specific dimensions such as trade integration (Iapadre and Tironi, 2009) or broader economic integration (Capannelli, Lee and Petri, 2009), or regions, such as the EU (König, 2015).

[5] Three other publications are particularly interesting for our purposes, insofar as they provided an overview of existing indicator systems for the monitoring of regional integration. De Lombaerde, Pietrangeli and Weeratunge (2008) opted for a comprehensive approach and reviewed both academic and institutional initiatives, conceptual and applied systems, quantitative and qualitative indicators, covering the following various aspects of the indicator system, i.e. conceptual frameworks, variables and categories, aggregation and weighting procedures. Walkenhorst (2013) focussed on indicators used for the monitoring of trade integration, distinguishing between three types of indicators: those measuring compliance with commitments, those measuring outcomes at an aggregate level, and those measuring specific trade cost components. More recently, Gesellschaft fur Internationale Zusammenarbeit (2015) overviewed currently existing monitoring and evaluation approaches and systems for the measurement of progress in regional integration, focussing only on applied systems and largely on the economic dimension. The report highlights how the majority of the systems analysed focus on measuring compliance with provisions established in regional agreements rather than "real" regional integration process, which would require the confection of indicators to show growing convergence and interdependence between integrating countries.

Table 2: Overview of key indicators for the monitoring of regional integration used in Europe, Africa and Asia

	TRADE	FDI	FINANCE	LABOUR	GOVERNANCE	INFRASTRUCTURE
EU Index of Integration Effort (http://www.eu-index.uni-goettingen.de/?page_id=231)	*Openness indicators:* ➢ Sum of intra-European imports and exports of goods (% GDP) ➢ Sum of intra-European imports and exports of services (% GDP) *Importance indicators:* ➢ Sum of intra-European imports and exports of goods (% of total trade in goods) ➢ Sum of intra-European imports and exports of services (% of total trade in services)	*Openness indicators:* ➢ Sum of intra-European stocks (inward and outward) of FDI (% GDP) *Importance indicators:* ➢ Sum of intra-European stocks (inward and outward) of FDI (% of total FDI)	*Homogeneity indicators:* [6] ➢ Real GDP per capita at current prices (2005=100, in PPP) ➢ Implicit tax rate on capital; [7] ➢ Implicit tax rate on consumption [8] ➢ Gross government debt (% GDP) ➢ Long-term interest rates (10-year government bonds) ➢ Purchasing power standards (EU-15 = 1) *Symmetry indicators:* [9] ➢ Government net borrowing (deficit) ➢ Harmonised index of	*Openness indicator:* [10] ➢ European employees (% total employees) *Importance indicator:* ➢ European employees (% total foreign employees) *Homogeneity indicator:* ➢ Labour costs per hour [11] *Symmetry indicator:* ➢ Unemployment rate	**Participation indicators:** ➢ Schengen participation (Yes = 100; No = 0) ➢ EMU membership (EMU = 100; ERM II = 50; flexible exchange rates towards EMU = 0) *Compliance indicators:* ➢ Infringement proceedings of the EC (pre-litigation) ➢ Completed infringement proceedings via ECJ in i) single market, ii) environment and consumer protection, iii) remaining sectors	

[6] Homogeneity indicators are computed in relation to the respective EU average.
[7] Tax revenues on private property and company profits in relation to total profit and investment income of private households and companies.
[8] Consumption tax revenues in relation to private consumption spending.
[9] Symmetry indicators are expressed in % change to the previous quarter, trend and seasonally adjusted and computed in pair-wise correlation to EU quarterly average.
[10] All indicators for labour are using ILO definitions
[11] Wage costs and payroll costs for the manufacturing sector and for companies with 10 or more employees, in PPP.

			consumer prices ➤ Real GDP at current prices (2005=100)			
Africa Regional Integration Index (https://www.integrate-africa.org/rankings/dimensions/)	*Trade integration:* ➤ Level of customs duties on imports ➤ Share of intra-regional goods exports (% GDP) ➤ Share of intra-regional goods imports (% GDP) ➤ Share of total intra-regional goods trade (% total intra-REC[12] trade) *Productive integration:* ➤ Share of intra-regional intermediate goods exports (% total intra-regional exports goods) ➤ Share of intra-regional		*Financial and macroeconomic integration:* ➤ Regional convertibility of national currencies ➤ Inflation rate differential (based on the Harmonized Consumer Price Index)	*Free Movement of People:* ➤ Ratification (or not) of REC protocol on free movement of persons ➤ Proportion of REC member countries that are members whose nationals do not require a visa for entry ➤ Proportion of REC member countries whose nationals are issued with a visa on arrival		*Regional infrastructure:* ➤ Infrastructure Development Index: transport electricity, ICT, water and sanitation ➤ Proportion of intra-regional flights ➤ Total regional electricity trade (net) per capita ➤ Average cost of roaming

[12] REC stands for Regional Economic Communities. The index covers eight RECs: Community of Sahel–Saharan States (CEN–SAD), Common Market for Eastern and Southern Africa (COMESA), East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development (IGAD), Southern African Development Community (SADC), and Arab Maghreb Union (UMA).

	intermediate goods imports (% total intra-regional imports goods) ➢ Merchandise Trade Complementarity Index.[13]					
ASEAN Economic Integration Brief (https://asean.org/asean-economic-community/aec-monitoring/asean-economic-integration-brief/)	*Trade dimension:* Total trade in goods (US$ million): ➢ Intra-ASEAN trade (% total trade in goods) ➢ Extra-ASEAN trade (% total trade in goods) ➢ Total exports ➢ Total imports Total trade in services (US$ million): ➢ Total exports ➢ Total imports	*Investment dimension:* Total FDI inward flows (US$ million): ➢ Intra-ASEAN (% total inflows) ➢ Extra-ASEAN (% total inflows)	*Economy dimension:* ➢ GDP at current prices (US$ billion) ➢ GDP per capita (US$) ➢ Real GDP growth (%) ➢ Inflation rate, average (%)	*Socio-demography dimension:* ➢ Population (thousands) ➢ Urban population (%) ➢ Adult literacy rate (%) ➢ Unemployment rate (%) ➢ Life expectancy (years)	*Institutional dimension:* ➢ Population (thousands) ➢ Urban population (%) ➢ Adult literacy rate (%) ➢ Unemployment rate (%) ➢ Life expectancy (years)	*Connectivity dimension:* ➢ Internet subscribers per 100 persons ➢ Cellular phones per 100 persons Tourists arrivals (thousands): ➢ Intra-ASEAN ➢ Extra-ASEAN

Source: own elaboration

[13] Total absolute value of the difference between share of imports and share of exports of a member state in a REC.

EURO-MEDITERRANEAN INTEGRATION: A SHORT HISTORY

In this chapter, we propose a brief account of the past evolution and present status quo of Euro-Mediterranean integration. The first section reviews previous works having assessed the evolution of Euro-Mediterranean integration, or its state of affairs at a given point in time, or in one specific dimension. The second section overviews the subsequent initiatives for Euro-Mediterranean integration launched over time. The third section turns to the question of whether these subsequent initiatives have led to economic catch-up between partner countries. Altogether, this chapter will enable us to substantiate the claim that Euro-Mediterranean integration has been pursued so far with a Euro-centred approach, as a result of the EU being the only actor in the position to drive and to finance regional integration efforts.

PREVIOUS ASSESSMENTS OF EURO-MEDITERRANEAN INTEGRATION

Euro-Mediterranean integration is a process dating back to several decades. If, on the one hand, its overall aims remained fairly consistent over time, on the other hand its scope and approach have changed quite substantially. Ayadi and Sessa (2017) provide a comprehensive historical account of the evolution of Euro-Mediterranean integration since the earliest regional integration initiatives, an exercise previously undertaken by Ayadi and Sessa (2013) and Ayadi and Gadi (2013; 2011).

In their assessments, most authors focussed on one specific dimension of regional integration, often the economic one. Schäfer (2007) assessed the cultural dimension of the Euro-Mediterranean partnership on the tenth anniversary of its launching. Brach (2007) did the same for the economic and financial dimensions. De Wulf et al. (2009) looked into the impact on trade of Association Agreements signed between the EU and individual Southern and Eastern Mediterranean countries. The authors provided a comprehensive analysis of the then status quo in economic integration in the region, but recognised that it was premature to assess the potential of the agreements, which had come into force only a few years earlier. Other authors focussed on specific issues, using available empirical data. Péridy and Roux (2012) addressed the question of why the Euro-Mediterranean partnership failed to deliver important trade gains. Campaniello (2014) investigated whether further economic integration and trade liberalisation in the region could be an effective policy to mitigate migration flows. Rahmouni and Debbiche (2017) opted for a country focus and evaluated the effect of the partnership on FDI inflows in Tunisia.

PAST EVOLUTION OF EURO-MEDITERRANEAN INTEGRATION

In this section of the chapter, the historical account of integration schemes in the Euro-Mediterranean region, prepared by Ayadi and Sessa (2017), is summarised and used as a basis to identify relevant sub-regions to be considered in the monitoring exercise. In their publication, the authors grouped countries in the region into three blocks, based on the current, Euro-centred geometry of integration schemes. These blocks remain useful to structure the overview of the evolution of integration schemes in the region and to better understand the underlying philosophy, as led by the European Union, to enhance partnership and cooperation around its geographical borders.

The three blocks retained in the historical account summarised here were EU28, AC4 and MED9, whereas EU28 referred to EU Member States, AC4 referred to countries having status of candidates or potential candidates for EU accession (namely Albania, Bosnia and Herzegovina, Montenegro and Turkey) and MED9 referred to Southern and Eastern Mediterranean countries.

Table 3 below presents an historical overview of the various cooperation frameworks and integration schemes involving the three blocks of countries, specifying which dimensions of regional integration these encompassed. The table provides synthetic, yet comprehensive information about what the different schemes foresaw de jure, but requires some substantiation concerning the progress achieved de facto, in order to shed light on the imbalance between an integrated northern shore and a fragmented southern one, as mentioned in the introduction of this study.

EU28 countries come together in the EU, a unique economic and political union resulting from a lengthy yet steady process of rule-based integration. The idea of a united Europe came from the necessity to achieve peace and prosperity in a continent battered by the two World Wars, an eminently political aim, but integration was pursued predominantly through economic means. Today, the EU is 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 goods, services, money, people and data to move freely. EU28 countries have common policies in areas crucial to the future prospects of Euro-Mediterranean integration, such as trade[14].

AC4 countries, as candidates or potential candidates for EU accession, share a commitment to the adoption and implementation of the acquis communautaire, the body of common rights and obligations of the EU, and have made several steps in the direction of its adoption as they engaged further in the pre-accession agenda. On the other hand, the enthusiasm of the EU towards further enlargement, as well as its attractiveness for third-party countries, reduced with

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[14] If achieved, the process of the UK's exit from the EU, initiated after a referendum in June 2016, will bring the block to 27 Member States.

the economic crisis and ensuing political one. This might ultimately lead to a change of direction in the integration prospects of AC4 countries.

MED9 countries come together in the League of Arab States, which was founded in 1945 in response to concerns related to colonial divisions of territory in the aftermath of the Second World War, and has remained focussed on protecting the sovereignty of its Member States ever since. This prevented any substantial advancement in both political and economic integration, in spite of several attempts to enforce a free trade area, with the launching of the Greater Arab Free Trade Area in 1998, and the signature of the Agadir Agreement in 2004. The latter agreement is far-reaching, as it foresees the dismantling of tariffs and the approximation of legislation in virtually all economic sectors, including agriculture. But it has not delivered on its expectations so far.

Table 3: History of cooperation and integration frameworks involving EU28, AC4 and MED9 countries

YEAR	FRAMEWORK	TYPE	UFM COUNTRIES INVOLVED	DIMENSIONS COVERED
1945-present *1958*[15] *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. In this sense, 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*[16] *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.
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.

[15] The colours indicate the years of the subsequent enlargements of the League of Arab States and the countries concerned.

[16] 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.

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, protect the environment, finance regional actions, advocate for human rights and support of societal participants in relation with SMEs.
1995-2008 *1998*[17] *2000* *2002*	**Barcelona Process**	**Regional**	**EU18**[18] (Austria, Belgium, *Croatia*, *Cyprus*, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, *Malta* Netherlands, Portugal, Spain, United Kingdom), **AC1** (Turkey) **and MED8** (Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Tunisia)	The Barcelona Process was an initiative aimed at enhancing economic integration and political and civilian dialogue between countries in the 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 social, cultural and human partnership (civilian dimension).
2004-present *2004* *2005* *2006*	**European Neighbourhood Policy** (ENP)	**Bilateral**[19]	**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, focussed on the stabilisation of the Euro-Mediterranean region in political, economic and security related terms. It focusses on three sets of joint priorities, each of them covering a wide number of areas of cooperation: 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, environmental and civilian dimensions of regional cooperation in the Euro-Mediterranean region.

Source: Ayadi and Sessa (2017)

[17] 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.

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

[19] 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.

As we argued before, the EU has been playing a catalyst role in the region when it comes to integration schemes *between* EU28, AC4 and MED9 countries. The Global Mediterranean Policy and the Renovated Mediterranean Policy followed a largely aid-for-trade approach, consisting of aid provision of aid in exchange for the waiving of tariffs. The so-called Barcelona Process was launched in 1995 to streamline a more comprehensive approach, but a few years later the bilateral dimension of Euro-Mediterranean relations, already predominant, was further reinforced with the launching of the European Neighbourhood Policy (ENP) in 2004. The objective of the latter was to avoid the emergence of new dividing lines between an enlarged European Union and its neighbouring countries, but its bilateral nature arguably contributed to the reproduction of dividing lines between neighbouring countries themselves. In reaction to this, the EU announced that regional initiatives would be strengthened and deeper cooperation with regional organisations was envisaged in the latest revision of the policy in 2015, whilst the introduction of the concept of "neighbours of neighbours" reflected the intention not to create new dividing lines beyond the neighbourhood (European Commission, 2015). However, the cornerstone of the revision was the introduction of reinforced differentiation between partner countries, which further reinforced the bilateral nature of the policy.

Annexe 2 provides an overview of regional programmes currently being implemented under the ENP.

The Union for the Mediterranean (UfM) was launched in 2008 to revamp the Barcelona Process and, with it, the regional dimension of Euro-Mediterranean relations. UfM Member States are provided with a platform for regional cooperation and dialogue, most notably by means of ministerial conferences that include all relevant stakeholders, on issues of common concern. The overall allocation of funds under the Euro-Mediterranean Partnership was shifted towards concrete initiatives in six priority areas. These areas consist of business development and employment, social and civil affairs, higher education and research, transport and urban development, water, environment and the blue economy, and energy and climate action.

Annexe 3 provides an overview of on-going initiatives funded or labelled by the UfM.

The European Neighbourhood Policy and the Union for the Mediterranean are the only two *comprehensive* regional policy frameworks involving UfM countries. The latter are also involved in a variable geometry of regional or multilateral initiatives on *specific* areas of cooperation.

Annexe 4 highlights selected multilateral conventions on environmental and economic issues involving UfM countries, e.g. protection of the maritime environment or prevention of double taxation. For a more complete mapping, information should be retrieved from the relevant databases on international treaties and agreements and analysed in a systematic manner, using

the appropriate policy analysis techniques. Such an exercise falls outside the scope of this study, but would certainly prove useful in order to provide a complete picture of regional policy coordination between UfM countries.

EURO-MEDITERRANEAN INTEGRATION AND ECONOMIC CATCH-UP

In their paper, Ayadi and Sessa (2017) also provided an analysis of economic catch-up between the EU and its partners in the region. This is important to consider, insofar as an EU-centred integration process would make sense from the perspective that it leads to economic catch-up between lower income countries in the region and higher income member states of the EU. Petit (2006) explained, at a theoretical level, dynamics through which lower income countries catch-up, as they integrate with higher incomes counterparts. Higher income countries, with high productivity and production costs, tend to invest their savings in lower income countries in order to benefit from low production costs. These investments result in productivity gains in lower income countries and, therefore, higher rates of economic growth, whilst in higher income countries the margin of profit increases, thanks to lower production costs. Hence, economic catch-up materialises through knowledge transfer and related productivity gains, whilst the effects on employment depend on the intensity of labour in the sectors receiving these transfers and materialising these gains.

These dynamics can be observed in the data. FDI and trade are supposed to increase between higher and lower income countries as the former invest in the latter. These flows of private investment add up to the flows of public investment reflected in data on official development assistance. FDI-induced technology transfers and productivity gains are supposed to translate into higher rates of gross capital formation, leading to an increase in production captured by GDP data. In the following paragraphs, we first look at data on the evolution of FDI, trade and official development assistance flows, and then turn to data on gross capital formation and GDP, to see whether there has been economic catch-up in the Euro-Mediterranean region.

Figure 1: Evolution of EU exports to and imports from the UfM region
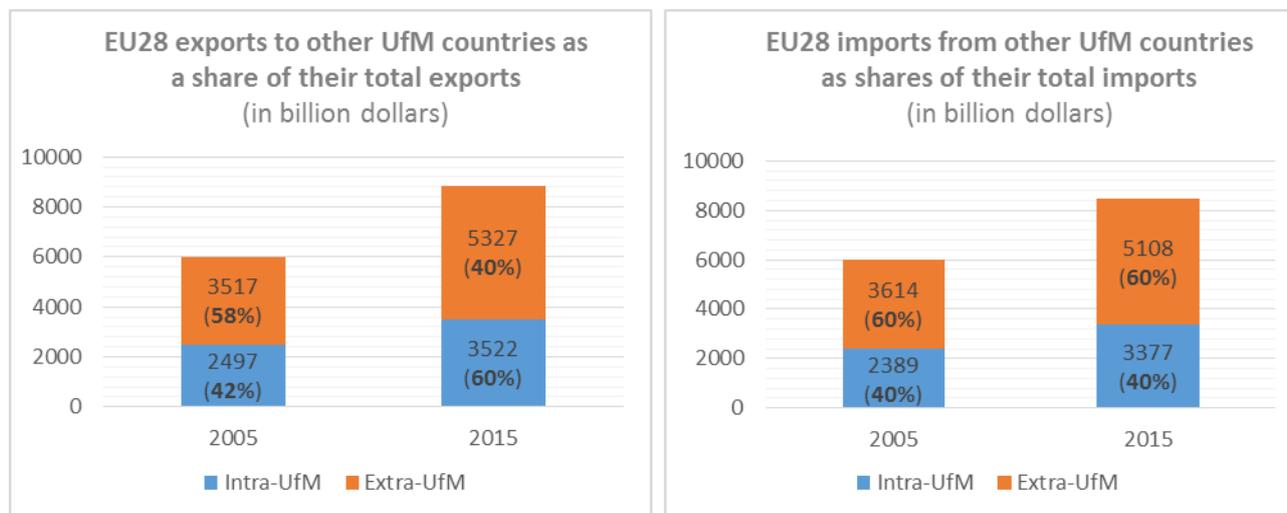
Source: Ayadi and Sessa (2017)

Figure 1 above shows the evolution of EU28 trade with other UfM countries, that is AC4 and MED9 countries combined, between 2005 and 2015. The data is shown both in volume and in share of total EU28 trade with the rest of the world. It shows that EU28 exports and imports with other UfM countries increased in absolute terms, but only exports increased in relative terms, that is if considered within the bigger picture of EU28 trade with the rest of the world. EU28 exports to other UfM countries represented 42% of their total exports in 2005 and 60% in 2015. EU28 imports to other UfM countries continued to represent 40% of total imports between the two years.

This imbalance between a relative increase of EU28 exports to UfM countries and a relative stagnation of EU28 imports from them is evident when looking at the evolution of trade balances in the region.

Figure 2 shows that, in the period between 2004 and 2014, EU28 countries altogether experienced a massive improvement in their trade balance, even though such an increase is largely due to the trade surpluses of only a few countries - Germany and, to a minor extent, Italy and the Netherlands. In the meantime, the trade balances of MED8 countries, Turkey and, to a minor extent, AC3 countries and Israel deteriorated.

Figure 2: Evolution of UfM countries' trade balance between 2004 and 2014

Balance of trade in goods and services
(US$ billion)
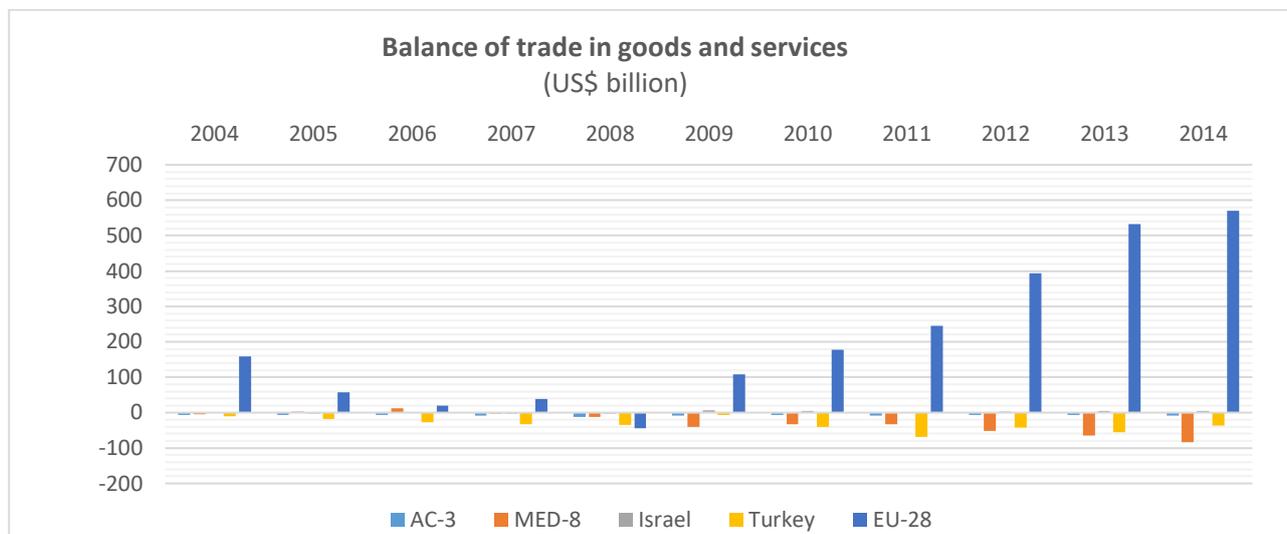
Source: Ayadi and Sessa (2017)

The data shown refers to the overall trade of the countries considered and does not tell us to what extent the improvement of EU28 countries' trade balance is correlated with the deterioration experienced by the other UfM countries. However, it remains a worrying figure, and it is fair to question whether Euro-Mediterranean integration, pursued thus far in a rather Euro-centred manner as previously argued, is indeed mutually beneficial.

FDI outflows from EU28 to MED9 countries have been quite variable over 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 worldwide partners of the EU, at least partly due to closer political association and economic cooperation under the European Neighbourhood Policy and the UfM. However, these outflows were largely concentrated in the capital-intensive energy sector, which contributes little to employment creation in MED9 countries (for a discussion, see Zaki et al (2018)).

Figure 3 provides a snapshot of how the overall magnitude and country distribution of official development assistance, provided by the EU under the integration schemes discussed above, evolved over time. The authors brought evidence that countries engaging in Euro-Mediterranean integration did not benefit from the same opportunities, pointing towards the need to shift away from a Euro-centred approach to regional integration. Indeed, the figure shows that countries given the prospect of eventually acceding to the EU, and therefore more incentivised to adopt EU norms and standards, also received higher shares of aid as a percentage

of their GDP. In particular, Turkey remained stable as the main beneficiary of aid flows. MED9 countries received decreasing shares of aid from the EU following the uprisings of the so-called Arab Spring, although those countries have taken steps towards becoming more democratic societies following the uprisings and have been receiving increasing shares of aid relative to the others, in virtue of the more-for-more principle applied by the EU in delivering funds.

Figure 3: Evolution of aid flows from the EU to AC4 and MED9 countries
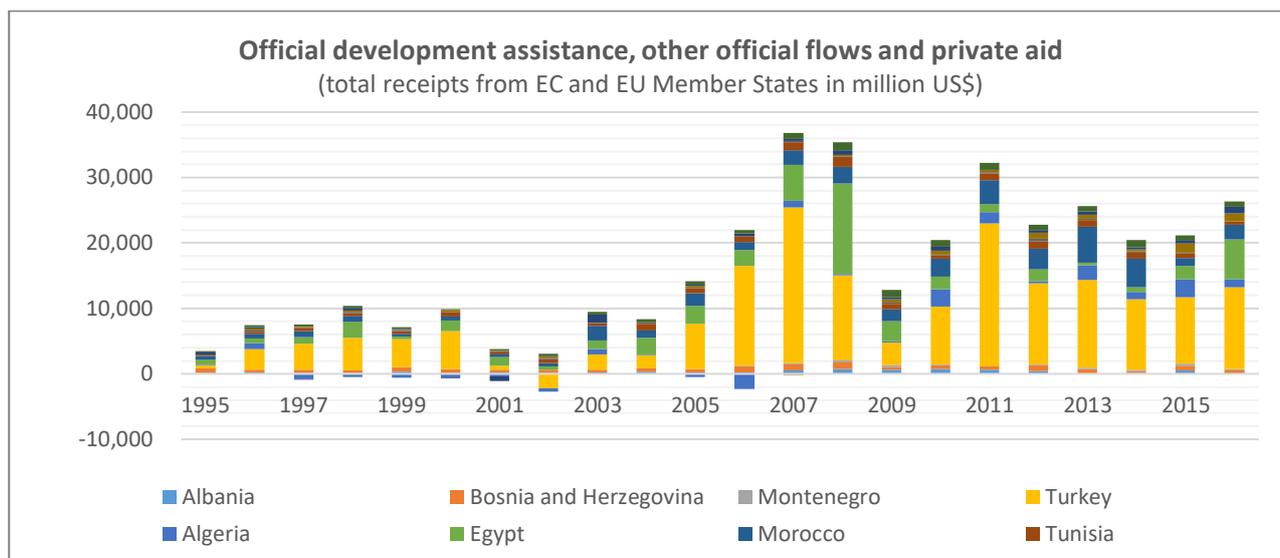
Source: own elaboration, based on OECD data

As regards to the effects of trade and investment flows, Table 4 summarises data on three key economic indicators, identified in the above discussion, on the dynamics of economic catch-up. The indicators retained are annual GDP per capita in current US$, gross capital formation and gross savings, the latter two being expressed in percentage of GDP.

Table 4: Indicators of economic catch-up between countries (description 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

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	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: Ayadi and Sessa (2017); * indicates that only 2014 data was available.

(1) GDP per capita in current US$; **(2)** Gross capital formation in % of GDP; **(3)** Gross savings in % of GDP

GDP per capita is an indicator that is widely used to capture wealth differentials between countries and, therefore, of convergence or divergence in 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. Moreover, 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 countries in the period under consideration, but the gap between EU28 countries and AC4 and MED9 countries is still substantial in 2015. GDP per capita grew quicker only in a limited number of cases in AC4 and MED9 countries rather than in EU28 countries between 2005 and 2015, 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 in 1995, 2005 and 2015. The situation is more heterogeneous in the case of gross savings, a measure of the potential for increased private and public investment 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.

To conclude, the data presented in this section of the chapter suggests that several decades of economic integration have not materialised in the catch-up of poorer to richer

countries in the Euro-Mediterranean region. As was suggested by Ayadi and Sessa (2017), it is not possible to infer whether this can be ascribed to the Euro-centred manner in which it has been pursued, but it does call for a change of approach in the future. That said, this change of approach should not come at the expense, but rather in support of, a deepening of integration between UfM countries. De Wulf et al (2009) brought evidence that economic integration in the region has mostly been shallow, that is limited to the waiving of tariffs in a number of sectors, without deeper regulatory convergence between participating countries. The situation is unlikely to have changed much since their assessment, considering that the Deep and Comprehensive Free Trade Agreements, proposed by the EU to engage in deeper integration, were met with a certain degree of scepticism by partner countries, leading to a relative stall in negotiations.

The main lesson to draw from this is that there are important differentials across the region concerning the conditions, and therefore opportunities, for further political association and economic integration.

In the Maghreb, the relative convergence of political aspirations between Tunisia, Morocco and the EU is creating the conditions for the pursuit of deeper integration, but with more co-ownership of the regional integration process and a co-development approach. In the Mashrek, the situation is more complicated. The persistence of the Israeli-Palestinian conflict continues to be the main source of tension, ambiguity and mistrust in the region, whilst the Syrian conflict put under the spotlight the important role that third-party powers, such as Russia, Iran and Saudi Arabia, play in the region's political affairs.

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MONITORING INDICATORS FOR DIFFERENTIATED INTEGRATION IN THE EURO-MEDITERRANEAN

In this chapter, we first propose a number of sub-regions and a full set of indicators to monitor progress in Euro-Mediterranean integration and then we analyse the progress achieved during two decades of Euro-Mediterranean integration, based on the computation of a number of key indicators, as well as one composite indicator for each dimension of integration retained in the analysis. The selected key indicators are computed for individual countries and then aggregated at the level of the five sub-regions identified within the **Regional Integration Matrix [20] (RIM).** The analysis focusses on the sub-regional level and, where necessary, looks into country data, to unravel some specific trends that stand-out from the regional level dynamics.

CHOICE OF SUB-REGIONS IN THE EURO-MEDITERRANEAN REGION

The **sub-regions** identified are the European Union, Maghreb, Eastern Mediterranean (which also includes Turkey) and the Western Balkans. These sub-regions, representing the geographies around Europe and the Mediterranean, partly overlap, which is not a problem insofar as they represent both a current situation already characterised by a variable geometry and the partial overlap of integration schemes, and the prospect of differentiated integration, which will preserve and increase, such heterogeneity.

The first proposed sub-region – *the European Union* – refers to EU Member States, understood to be a single group of countries in virtue of their belonging to Europe and common policies in areas that are crucial to the regional integration process, such as trade, with the addition of Monaco.

The second proposed sub-region – *the Maghreb* – encompasses Algeria, Libya[21], Mauritania, Morocco and Tunisia, situated on the Western side of the Mediterranean. These countries did try to integrate further, although with limited success in practice, with the establishment of the Arab Maghreb Union in 1988 and, although with different country coverage, the signature of the Agadir Agreement in 2004. These two groups of countries will face, in principle at least, fewer obstacles in advancing North-South integration compared to the rest of the region, as the discussion on the differences in conditions and opportunities for further integration between the Maghreb and Mashrek, which concluded the previous section of this report, suggested. This is exemplified by the 5+5 dialogue which, since its inception in 1990 a few

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[20] The RID is the database developed to track the regional integration process in the UfM region. See Annexe 5.
[21] Not included in the analysis, as has an observer status in the UfM.

years before the launching of the Barcelona Process, provides a platform to discuss, and advance, regional integration in the Western Mediterranean.

The third sub-region – *the Eastern Mediterranean* – encompasses Egypt, Jordan, Israel, Lebanon, Palestine and Syria, situated on the Eastern side of the Mediterranean. This is the most fragmented of all the proposed sub-regions, engulfed in the politics surrounding two conflicts and the ensuing refugee crisis, where the influence of external actors is strong. These eminently political issues and their economic consequences are both an incentive to integrate further as well as an obstacle to further integration. *Turkey* belongs to the Eastern Mediterranean, but it is suggested this is considered separately, in virtue of its important pivoting role in the Euro-Mediterranean region. On the one hand, the country is still formally engaged in negotiation talks for accession to the EU, although these are stalled, and the two are linked by a customs union, which makes its contribution to the integration process important to be studied separately. On the other hand, it has signed bilateral free trade agreements with a number of other countries in the region (i.e. Albania, Bosnia and Herzegovina, Egypt, Israel, Jordan, Montenegro, Morocco, Palestine and Tunisia).

Finally, the fourth proposed sub-region – *the Western Balkans* – brings together Albania, Montenegro and Bosnia and Herzegovina, countries that engaged in accession negotiations with the EU, meaning that they will eventually share common policies with other EU Member States, influencing their existing stance towards Euro-Mediterranean integration.

CHOICE OF INDICATORS FOR THE MONITORING EXERCISE

The **set of indicators** to be used in the monitoring exercise will provide the basis for a comprehensive analytical report on regional integration in the UfM region, which will cover seven distinct yet interrelated dimensions, namely trade, FDI, governance, finance, infrastructure, labour mobility, and higher education and research. These dimensions were identified for their relevance in the process of regional integration and, therefore, in monitoring, as evidenced by the literature review, as well as in the identification of these key dimensions in other regional integration frameworks and schemes in other parts of the world.

Trade integration drives increasing exchanges between countries, which in turn enhances interdependence between their economies. Under the right conditions, trade liberalisation enables foreign firms to access domestic markets, increasing competition and resulting in productivity gains, whilst also enabling domestic firms to access foreign markets and achieve economies of scale. For these positive dynamics to unfold from increasing interactions between foreign and domestic firms, trade integration should be accompanied by investments in productivity, suggesting that FDI levels between integrating countries should increase in the short-term and converge in the mid-to-long term. This explains the importance of monitoring *FDI*

integration. However for FDIs to increase, stable institutions, policies and underlying governance factors (e.g. rule of law, anti-corruption, regulatory quality, government effectiveness etc.) are essential to maintain manageable countries' risk premiums. Increasing interdependence between economies translates into an increasing correlation between the financial markets supporting those economies, which, in turn requires *financial integration* to better manage monetary and systemic risks and to enhance overall stability. The resulting reduction of uncertainty, related to financial transactions between integrating countries, facilitates FDI, whilst also reducing the interest paid by countries on financial markets, thereby increasing their capacity to invest in infrastructure. *Infrastructure integration* is crucial in connecting countries physically and digitally with one another and it facilitates exchanges, including people-to-people contacts, mobility of goods, capital, services and labour. That said, labour mobility might lead to the contrasting dynamics of brain drain and brain gain, rather than beneficial brain circulation between integrating countries if labour market conditions are too unequal. Against this backdrop, convergence between labour market conditions is a precondition for the reduction of barriers to mobility and *labour market integration*, which under the right conditions, would enable labourers to access a wider pool of available jobs and, conversely, firms to access a wider pool of available skills. Last but not least, *integration between education systems* underpins convergence between the quantity and quality of skills that students are equipped with, thereby creating a level-playing field for labourers to compete for the available jobs and for firms to find the required skills. *Integration in research* will result in higher innovation capacity for the region as a whole, as innovation is largely driven by emulation and cross-fertilisation.

The full list of proposed indicators, described in the **Regional Integration Matrix (RIM) (See Annexe 5),** includes the following indicators:

TRADE INDICATORS	
Export Growth (%)	Import Growth (%)
Export share of World Exports (%)	Import share of World Imports (%)
Export share in Regional Exports (%)	**Import share in Regional Imports (%)**
Export Competitiveness – Global	Import Competitiveness – Global
Export Competitiveness – Regional	Import Competitiveness – Regional
Export Intensity Index	Import Intensity Index
Export Share (% GDP)	Import Share (% GDP)
Trade Openness	Duties as % of Import – Global
Balance of trade (% of GDP)	Duties as % of Import – Region
Regional Exports Growth	**Intra-regional trade share**
Regional Imports Growth	Net Energy Exports/Imports (gas and electricity)
FINANCE INDICATORS	

Bond Market Rate Correlation	Ratio of public debt to GDP
Bond Market Rate Differential	**Equity Prices Correlation**
GOVERNANCE INDICATORS	
Voice and Accountability	**Regulatory Quality**
Political Stability and Absence of Violence/Terrorism	**Rule of Law**
Government Effectiveness	**Control of Corruption**
INFRASTRUCTURE INDICATORS	
Access to electricity (% of population)	**Rail lines (total route-km)**
Electricity production from oil, gas and coal sources (% of total)	**Air transport, registered carrier departures worldwide**
Renewable electricity output (% of total electricity output)	**Container port traffic (TEU: 20 foot equivalent units)**
Fixed broadband subscriptions (per 100 people)	**People using safely managed sanitation services (% of population)**
Mobile cellular subscriptions (per 100 people)	People using safely managed drinking water services (% of population)
Individuals using the Internet (% of population)	Air transport, passengers carried
Air transport freight (million ton)	Shipping liner connectivity index
Energy intensity level of primary energy[22]	
FDI INDICATORS	
FDI inflows, in million US$	FDI Share (% of GDP)
Cumulative FDI Inflows, in million US$	**Cumulative FDI Share (% of Cumulative GDP)**
LABOUR MOBILITY INDICATORS	
Emigrants to Population Ratio (%)	**Emigrants to UfM Region to Population ratio**
Immigrants to Population Ratio (%)	**Immigrants from UfM region to Population ratio**
Net Remittance Inflows, (% of GDP)	**Net Remittance Outflows, (% of GDP)**
HIGHER EDUCATION AND RESEARCH INDICATORS	
Inbound internationally mobile students to population	**Outbound internationally mobile students to population**

Source: Regional Integration Database 2018 (RID 2018) – EMEA

All these indicators under RIM can be calculated using data from primary, available, relevant and reliable data sources, i.e. Eurostat, International Labour Organisation, International Monetary Fund / International Feature Standards, World Bank, GTAP and EORA. Other indicators not included in the proposed set are relevant and would greatly enrich the analysis, but the limited availability or incomplete coverage of the data hampers their use in the monitoring exercise.

In the following paragraphs, for each dimension where some indicators were excluded, a brief overview of related issues of data availability is provided.

[22] In RID this indicator is added under others.

Under the infrastructure dimension, convergence between countries as total government consumption expenditure in transport infrastructure would provide useful information about the commitment of regional partners in upgrading regional connectivity, but data was only found available for EU member states, collected by Eurostat. The proportion of intra-regional flights would allow the specific contribution of regional integration in the evolution of air transport in UfM countries to be isolated from broader trends in the aviation industry, which has experienced a steady growth worldwide in the period considered in the analysis, but no data was found to be available. The same goes for indicators on road networks. In principle, the World Bank's African Development Indicators and the United Nations Economic Commission for Europe's Transport Division publish data on paved roads respectively in North Africa and the EU, but in practice data is missing.

On the specific area of electric power infrastructure, looking at electrical interconnectivity capacity between UfM countries would have enriched the analysis, but data was only available for a few recent years from secondary sources, i.e. reports produced by the associations of Mediterranean Transmission System Operators and Mediterranean Energy Regulators. It was not possible to construct time series. The same problem exists for the System Average Interruption Duration Index (SAIDI) and the System Average Interruption Frequency Index (SAIFI), which is relevant for the analysis and is included in the database, but with information that is only available from 2015 onwards.

Under the higher education and research dimension, the analysis could be deepened with data on co-authored scientific publications and co-ownership of patents by scientists from different UfM countries, as well as their involvement in joint research laboratories. However, the detailed data needed to perform such analysis is only available through commercial purchase. A mapping of joint research laboratories could be performed with data collected directly from the public administrations of the various UfM countries.

ANALYSIS OF PROGRESS ACHIEVED IN TWO DECADES OF EURO-MEDITERRANEAN INTEGRATION

The analysis performed in this section covers the seven dimensions of regional integration identified – trade, finance, governance, infrastructure, labour mobility, higher education & research and FDI. The analysis focusses on the 4 sub-regions retained in the analysis and extends to the consideration of data for individual countries where relevant.

For each dimension, first, a number of key sub-indicators are analysed that focus on specific aspects of the integration process and then a composite index consisting of a weighted average of the sub-indicators is computed, in order to provide an overall picture of the integration process in that particular dimension.

For each indicator, a benchmark value is set. The benchmark value corresponds to a value of the indicator examined at which a sub-region is considered largely integrated. For example, if we consider an indicator expressed in percentage of the population, say internet use, and we set the benchmark value at 80%, sub-regions in which 80% of the population uses internet will be considered largely integrated, in the sense that they converge to the benchmark value set. In the case of indicators, like the one taken as an example here, the benchmark value corresponds to a threshold, meaning that sub-regions are also considered largely integrated if they register values that are higher or lower than the benchmark value, depending on the indicator considered. In the example of Internet use, sub-regions where more than 80% of the population uses Internet are considered largely integrated, in the sense of converging to the benchmark value. If we take, as an example, the ratio of public debt to GDP, sub-regions having a ratio equal or lower than the benchmark value set at 60% are considered largely converging to the benchmark value. In other cases, the benchmark value corresponds to a convergence point between sub-regions, meaning that the latter are considered largely integrated if their value is neither higher nor lower than that point. In the analysis, the average for the UfM region as a whole was always retained as a convergence point when indicators of this kind were used, meaning that sub-regions are considered integrated if their values were close to the UfM average.

It is important to keep in mind that the analysis does not provide a picture of regional integration per se, but rather of the degree of convergence between sub-regions in a number of variables corresponding to different aspects of the regional integration process.

Each graph presented in this section provides information about the distance of the five sub-regions from the benchmark value. The benchmark value corresponds to 100% in each graph and the value of each sub-region is expressed as a percentage of the benchmark value. For example, a score of 80% in the graph indicates that the value of a given sub-region for that indicator corresponds to 80% of the benchmark value. In the case of indicators based on a threshold, when the value of a given sub-region is equal or above the benchmark value, it will correspond to 100% in the graph. In the case of indicators based on a convergence point, the value of a given sub-region will correspond to 100%, only if it is equal to the benchmark value. If it is higher, or lower, this will translate into a distance from the benchmark value, expressed as a percentage in the graph.

Annexe 5 provides detailed information about the **regional integration database (RID),** including the mathematical formula used for the computation of each sub-indicator and the justification of the choice of benchmark value, and the weights applied to compute the composite indicators. In the analysis, sub-indicators are discussed in detail first and then composite indicators are presented to provide the overall picture of convergence towards the benchmark between sub-regions under each dimension of regional integration.

Trade

The following five key sub-indicators were retained to monitor convergence between countries under the trade dimension of regional integration:

1. Ratio of export share in regional exports to GDP share in regional GDP;
2. Ratio of import share in regional imports to GDP share in regional GDP;
3. Ratio of intra-regional trade share to GDP share in regional GDP;
4. Trade openness (imports plus exports over GDP);
5. Balance of trade (% of GDP).

In absolute terms, EU28 countries are responsible for the lion's share of trade between UfM member countries. In 2017, this share was higher than 95%, with the remaining 5% divided more or less equally between the other sub-regions considered, the exception being the Western Balkans, who are responsible for a negligible share of trade in the region. That is why the indicators retained for the monitoring of trade integration are all computed in relation to GDP.

The first two key indicators focus on ratios of exports and imports to GDP respectively, providing a measure of the extent to which these are oriented towards export or imports. The assumption here is that to be integrated, countries should converge towards high ratios of exports and imports to GDP. The benchmark value is set at 80%, meaning that sub-regions with ratios equal or higher than 80% are considered largely integrated. Note, in the graphs, 100% corresponds to the benchmark value and the score of the different sub-regions reflects the distance from the benchmark value of the different sub-regions.

Figure 4 shows the results of the computation for export to GDP ratios. The only two sub-regions having maintained an average ratio equal or higher than the benchmark value of 80% throughout most of the period considered are the EU and the Maghreb. The latter started diverging from the benchmark value in 2014, possibly in relation to the economic crisis experienced in the South European countries and the growing political instability in the region in the aftermath of the so-called Arab Spring, which might also explain the decreasing trend in ratios of exports to GDP experienced by the Eastern Mediterranean from 2011 onwards.

Figure 3: Ratio of export share in regional exports to GDP share in regional GDP
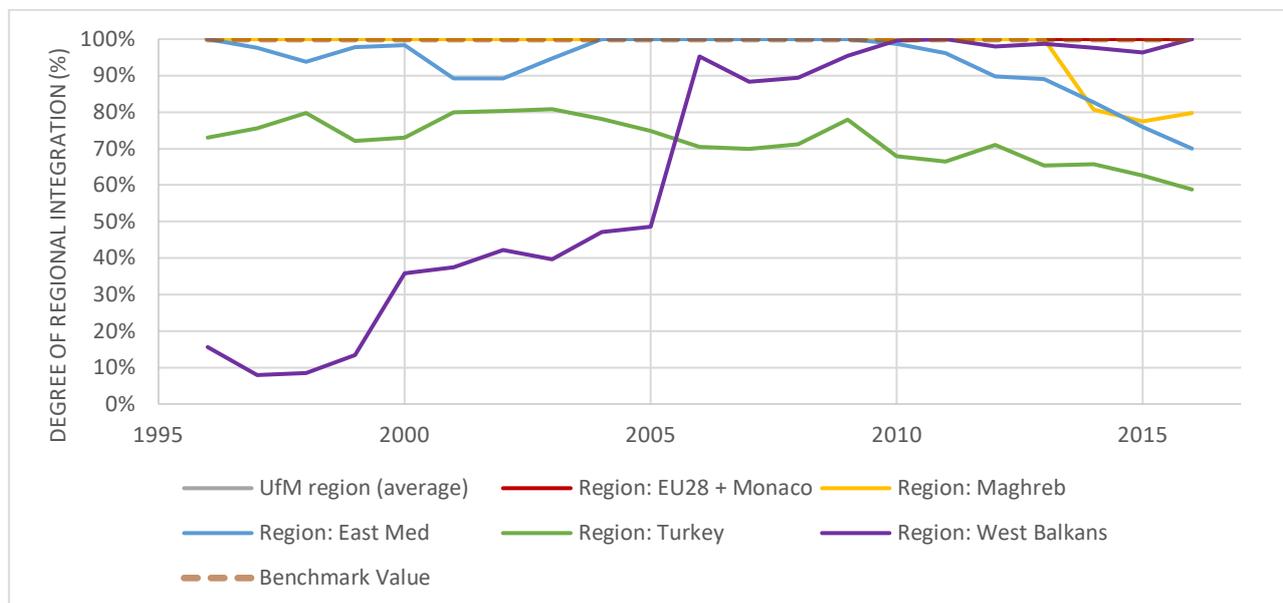
Note that the substantial increase in the score of the Western Balkans is not due to a sudden convergence towards the average ratio of export to GDP of the UfM region as a whole, but to a lack of available data for Bosnia and Herzegovina from 1996 to 2005 and for Montenegro from 1996 to 1999, which have biased the results. Turkey maintained a ratio of exports to GDP lower than the average for the UfM region throughout the whole period and the ratio registered a slight but steady decreasing trend since the onset of the 2008 Great Financial Crisis.

The picture changes when we look at imports. Figure 5 shows that all sub-regions, except Turkey, had a ratio of imports to GDP equal or higher than 80% throughout the whole period considered. This is also the case for the Western Balkans, the same data limitations encountered for exports explaining why the sub-region appears distant from the benchmark value before 2006. Turkey is significantly less trade-oriented than the average in the UfM region, as attested by the distance from benchmark value in both export and import indicators.

Figure 4: Ratio of import share in regional imports to GDP share in regional GDP
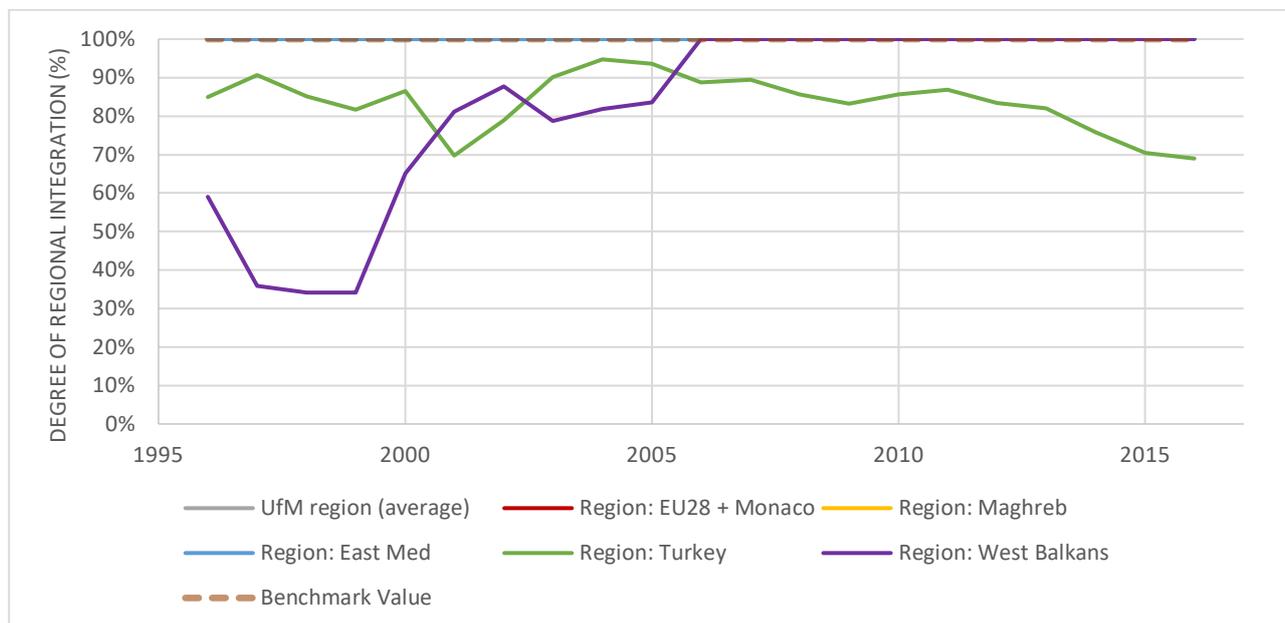
The third indicator provides information about intra-regional trade, i.e. trade between UfM countries, as opposed to trade with the rest of the world. A region is considered integrated if a substantial share of its total trade is intra-regional. The benchmark is set at 80%, meaning that a sub-region is considered integrated if trade conducted with other sub-regions within the UfM area corresponds to a share of 80% or more of its GDP.

Figure 6 shows that the share of intra-regional trade of all sub-regions, bar the EU, has been slightly decreasing over the period considered. In recent years, the ratios of the Maghreb and Western Balkans started increasing again, resulting in a slight reduction in their distance from the benchmark value. The decreasing trend continues in Turkey and the Eastern Mediterranean, the two sub-regions that are farthest away from the benchmark value when it comes to intra-regional trade.

Figure 5: Ratio of intra-regional trade share to GDP share in regional GDP
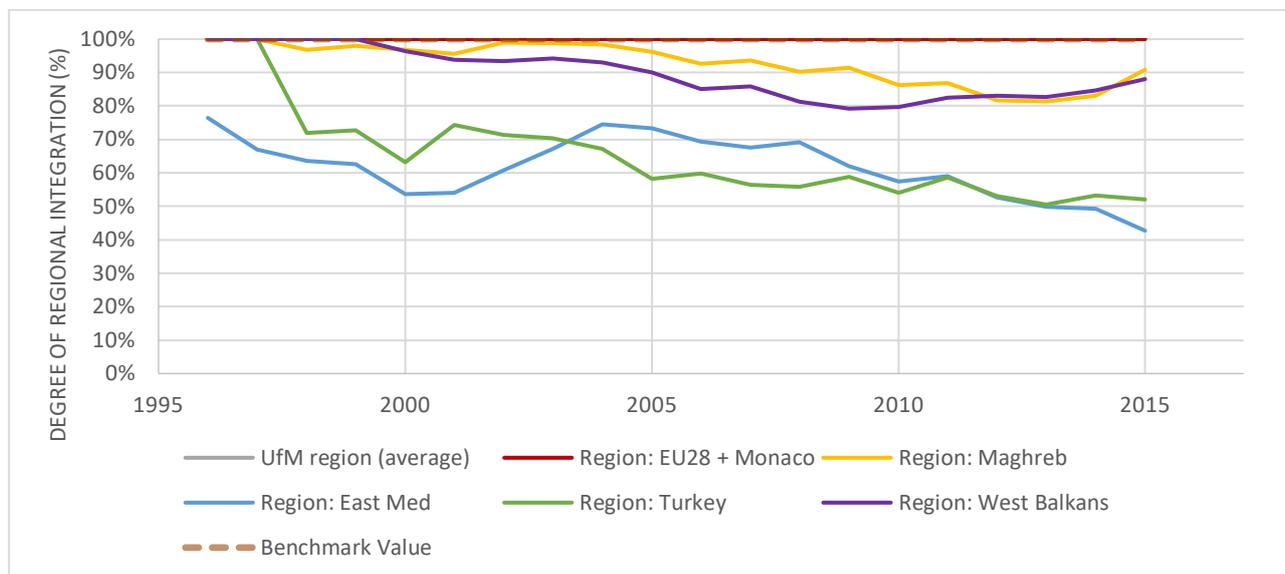
The fourth indicator, retained for the monitoring of trade integration, is trade openness (Sum of imports and exports), which is supposed to increase as countries engage in deeper integration and progressively liberalise trade with regional partners. In a situation of deep integration, countries within a region are fully opened to each other, meaning that a score of 100% is representative of full integration.

Figure 7 shows the results of the computation. In the years preceding the 2008 Great Recession, the EU, Maghreb and Eastern Mediterranean registered a continuous increase in their openness to trade, which is partly explained by the trade liberalisation policies implemented under the impulse of the Barcelona Process. This translated into a progressive convergence towards the benchmark value, with values increasing from around 60% of the benchmark value in 1997 to around 80% in 2008. The Western Balkans stood out as the region most open to trade throughout the whole period. This is possibly explained by the fast transition to a market economy, following the dismantling of the former Yugoslavia. On the contrary, Turkey remained significantly less open to trade than its regional partners, with a value more or less stable at 50% of the benchmark value over the period considered.

Figure 6: Trade openness (imports and exports over GDP)
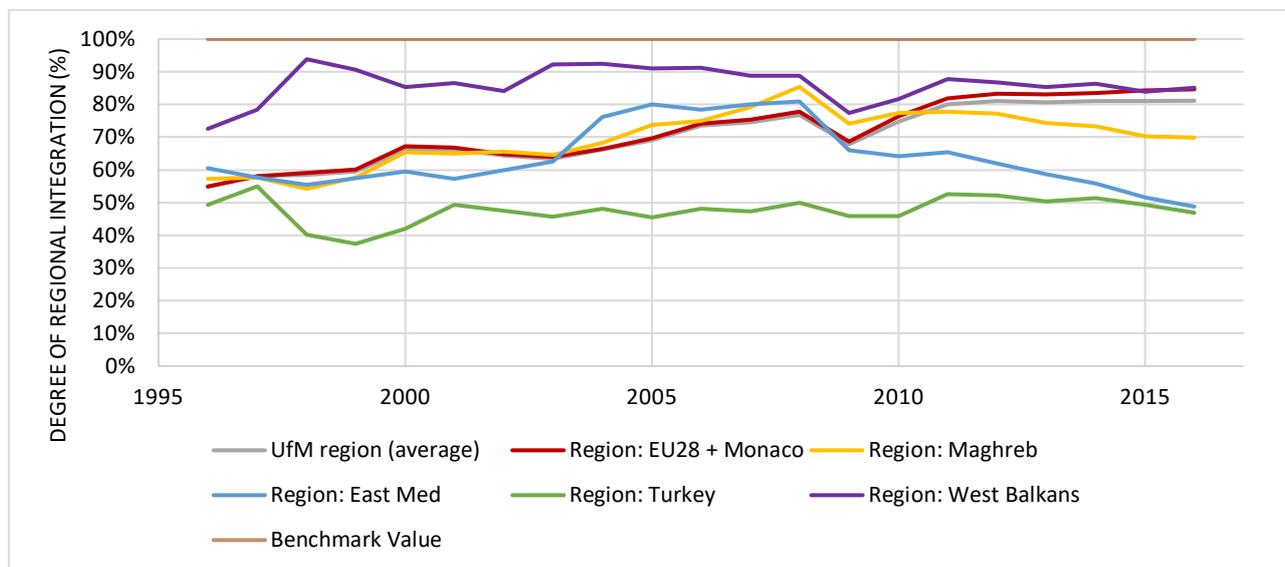
All sub-regions, except Turkey, experienced a downturn in trade openness during the Great Recession, but after 2008 their trajectories diverged. The EU is the only sub-region having seemingly continued to open to trade in the years following the crisis, whilst in the other sub-regions trade openness decreased. The decrease has been particularly marked in the Eastern Mediterranean, whose value dropped from 80% of the benchmark value in 2008 to 50% in 2016.

The fifth indicator retained is the balance of trade. The assumption here is that a sub-region which is largely integrated will not incur a trade deficit, insofar as regional integration is supposed to bring advantages in terms of trade to integrating countries, but could possibly accumulate trade surpluses. That is why the benchmark value was set at 0%, and distance from the benchmark therefore reflects the magnitude of trade deficits, whilst surpluses do not appear graphically. In the graph, 100% corresponds to the benchmark value, whilst 0% corresponds to a trade deficit of -30%.

Figure 8 shows the results of the computation. The two sub-regions that registered a trade surplus for most of the considered period are the European Union and the Maghreb. The trade balance of the latter deteriorated in concomitance with the 2008 Great Recession and, after initially recovering to pre-crisis levels, experienced a dramatic drop - from a slight surplus of 0.6% in 2011 to a deficit of 12.6% in 2016. This figure hides substantial country heterogeneity. Algeria was largely responsible for the region's trade surplus, driven by its exports of natural resources and the drastic deterioration of its trade balance, starting in 2012, explains the accumulation of trade deficit. Morocco and Tunisia were in a trade deficit situation throughout the whole period, although the magnitude of the deficit increased in recent years. The balance of trade in the

Eastern Mediterranean and Turkey remained more or less stable but negative throughout the same period, although in the latter case, there has been more volatility. The Western Balkans registered a substantial improvement in their trade balance, denoting a positive effect of deeper trade integration, but remain the sub-region with the highest deficits.

Figure 8: Balance of trade expressed in % of GDP
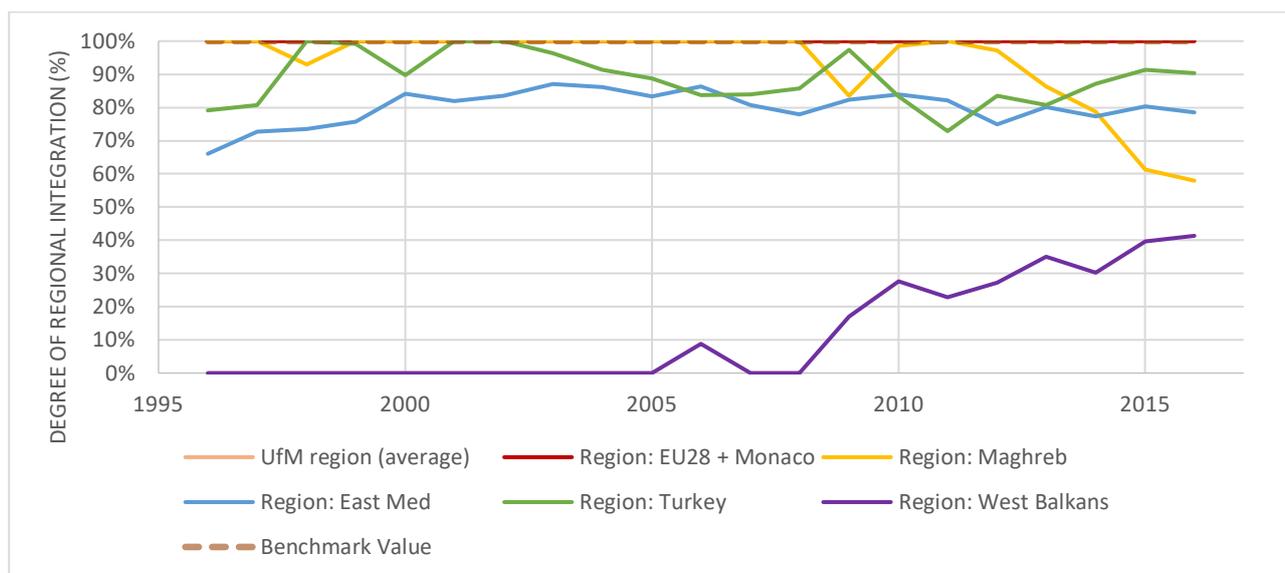
To conclude with the trade dimension, Figure 9 computes the weighted average of the five sub-indicators analysed above, providing the overall picture concerning the distance of the five sub-regions from the benchmark value of large integration in trade. In the figure, the benchmark corresponds to a value of 100% and, as in the case of the graphs for the sub-indicators, what is represented is the distance from benchmark of the different sub-regions. The figure shows that the EU, Maghreb, Eastern Mediterranean and Western Balkans converged towards the benchmark value in the decade preceding the 2008 Great Recession. In its aftermath, the Maghreb and Eastern Mediterranean started diverging from it, whilst the EU and Western Balkans continued to converge. Throughout the whole period, Turkey has remained somewhat distant from the benchmark value of large integration.

Figure 9: Composite indicator for the trade dimension
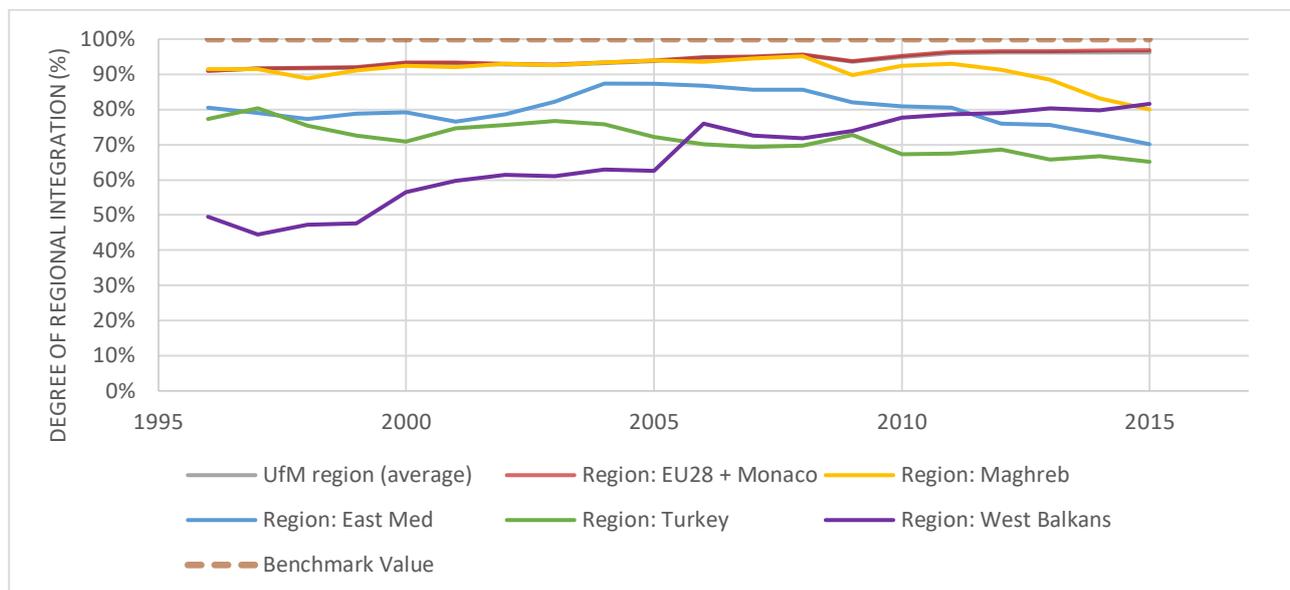
Finance

The following five key indicators were retained to monitor the finance dimension of Euro-Mediterranean integration:

1. Bond market rate correlation;
2. Bond market rate differential;
3. Ratio of public debt to GDP;
4. Equity price correlation;
5. Inflation rate differentials.

The first indicator, retained for the monitoring of financial integration, is the 5-year correlation between the rates paid by the reporting country for 10-year bonds and those paid by Germany, the country usually taken as a reference. The indicator is a measure of the level of interdependence between countries in the UfM region when it comes to state financing on the financial markets. The higher the correlation, the greater the interdependence, explaining why a correlation of 0.8 is considered the benchmark value of large integration.

Limited data availability complicated the task of computing this indicator. In a number of cases, data was not available for several years, if not for most of the period considered. There is no data available for the period from 2000 and 2016 for Palestine, Tunisia, Turkey and Syria, whilst data for Algeria is missing between 2008 and 2016 and for Mauritania between 2014 and 2016. This might at least partly explain the great variation observed in the graph.

Figure 10 shows the result of the computation. EU member states belonging to the Eurozone have a common monetary policy and the 10-year bond rates they pay are highly correlated to the rates paid by Germany. The great variation in the figures for the other sub-regions seems to show that there is little or no correlation between the rates paid by countries within these and Germany.

Figure 10: 10 year bond rate - correlation with Germany's bond rate
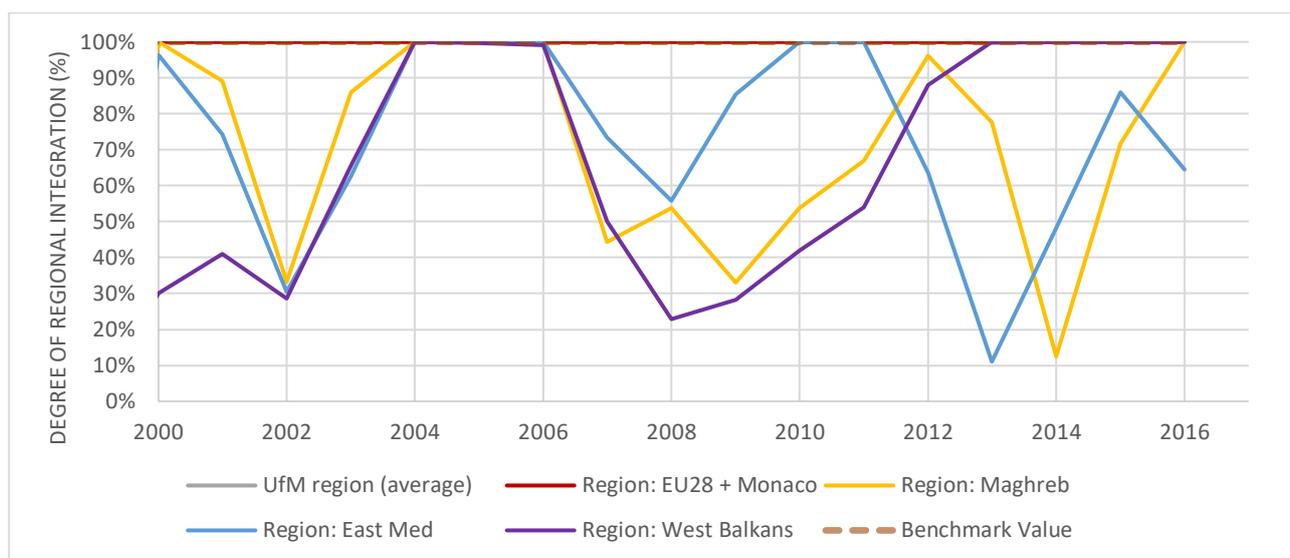
The second indicator retained is the difference between the rate paid for 10-year bonds by the reporting country and the rate paid by Germany. The lower the difference, the more financially integrated are the countries considered, insofar as deeper integration with financially reliable countries, such as Germany, translates into confidence on financial markets and, therefore, lower bond rates. The benchmark value for large integration is a differential of less than 2%. Here, as well, the computation of the indicator suffered from substantial limitations concerning the availability of data. There is no available data covering the period considered for Palestine, Syria, Tunisia and Turkey, explaining why the latter country is not shown in the graph. Data is also lacking for Morocco for the years 1996, 2008 and 2009.

Figure 11 shows the results of the computation. Note, that in the figure, 100% represents the benchmark value of the indicator, i.e. 2% of differential between the rate paid by the reporting unit and those paid by Germany, whilst 0% represents the maximum theoretical value, i.e. 10% of the difference. EU member states belonging to the Eurozone have a common monetary policy, translating into low differentials between the rates they pay on 10-year bonds and those paid by Germany.

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Figure 11: 10 year bond rate - differential with Germany's bond rate
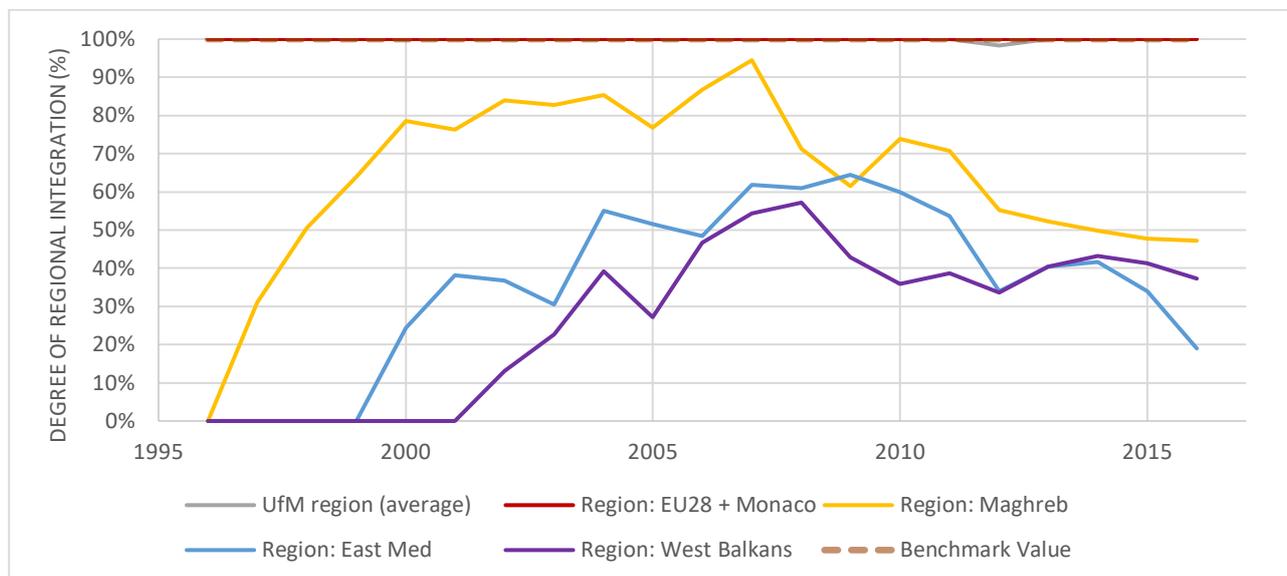
In the decade preceding the 2008 Great Financial Crisis, the differentials paid by countries in the other sub-regions considered in the monitoring exercise, progressively decreased, although this figure might reflect the prevailing confidence on financial markets at the time, more than progress achieved in financial integration. In the aftermath of the crisis, the differentials increased again, although not to the point of reaching pre-crisis levels.

The third indicator, retained for the monitoring of the financial dimension, is the ratio of public debt to GDP and the benchmark value for large integration is set at 60%. This level is often considered a prudential limit above which fiscal sustainability is threatened and is one of the criteria for admission into the Eurozone. In turn, fiscal sustainability is a precondition for sound financial integration between countries.

Figure 12 shows the distance from the benchmark value of the debt-to-GDP ratio of the five sub-regions, only for the period between 2000 and 2015, because the availability of data in the previous years is limited. Note, that in the figure, 100% is the benchmark value, i.e. a ratio of 60%, and 0% is the maximum value of the indicator, i.e. a ratio of 150%. The data shows that all sub-regions had a ratio debt-to-GDP equal to or lower than 60% in the years preceding the 2008 Great Recession, the exception being the Eastern Mediterranean, where the situation was improving nonetheless. In the aftermath of the financial crisis, the debt-to-GDP ratio deteriorated in the Western Balkans and the Eastern Mediterranean, whilst Turkey, the Maghreb and EU continued to meet the criteria for economic integration. In the latter case, the sub-regional figure hides substantial country heterogeneity. Three EU member states have substantially higher debt-

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to-GDP ratios than the threshold of 60%, namely Portugal (126% in 2017), Italy (131%) and Greece (182%). The only other UfM countries with a ratio this high is Lebanon (158% in 2017).

Figure 12: Ratio of public debt to GDP
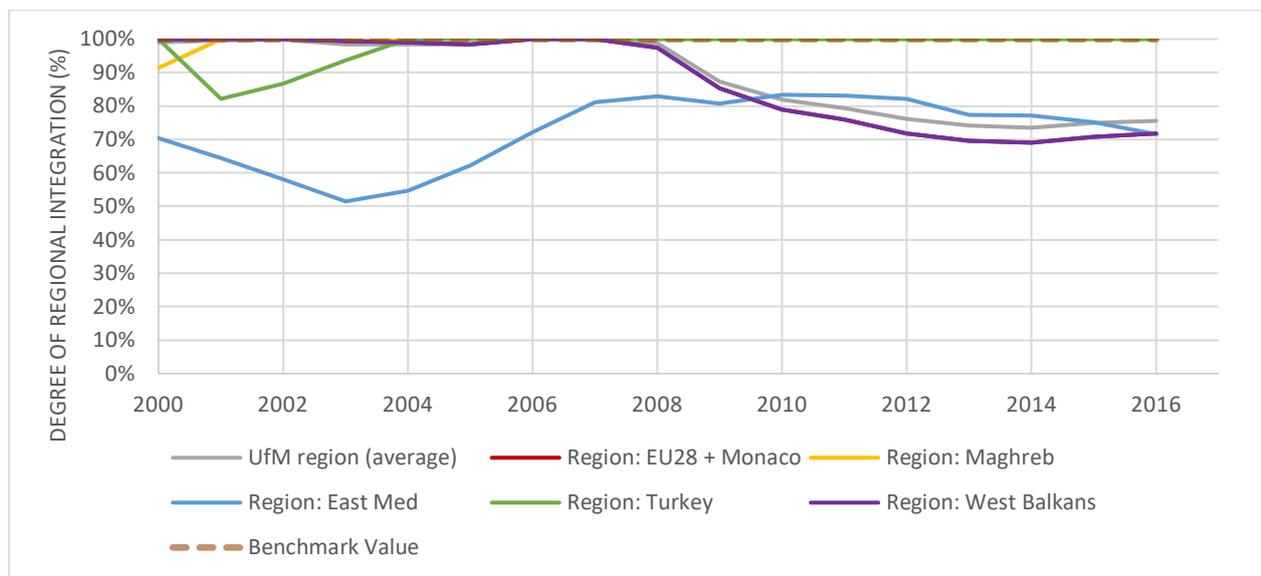
The fourth indicator retained measures the correlation between the reporting country and Germany's equity prices index annual return, as reported at the S&P/IFCI and S&P/Frontier BMI country indices. The indicator is a measure of the level of interdependence between countries in the UfM region when it comes to the performance of stock markets. The benchmark for full integration is set at 0.8. Figure 13 shows distance from the benchmark value, which corresponds to 100% in the graph.

The data shows alternating periods of high and low correlation between the equity prices indices of Germany and the different sub-regions retained in the analysis. This alternation might be linked with cycles of expansion and contraction on financial markets, more than financial integration between the countries considered. In 2007, a drop in equity prices underscored the Great Financial Crisis that followed. In recent years, the indices for the Maghreb and, to a minor extent, Turkey and the Eastern Mediterranean, are found to diverge from the benchmark value.

Figure 13: Integration in equity price index - correlation with Germany's index
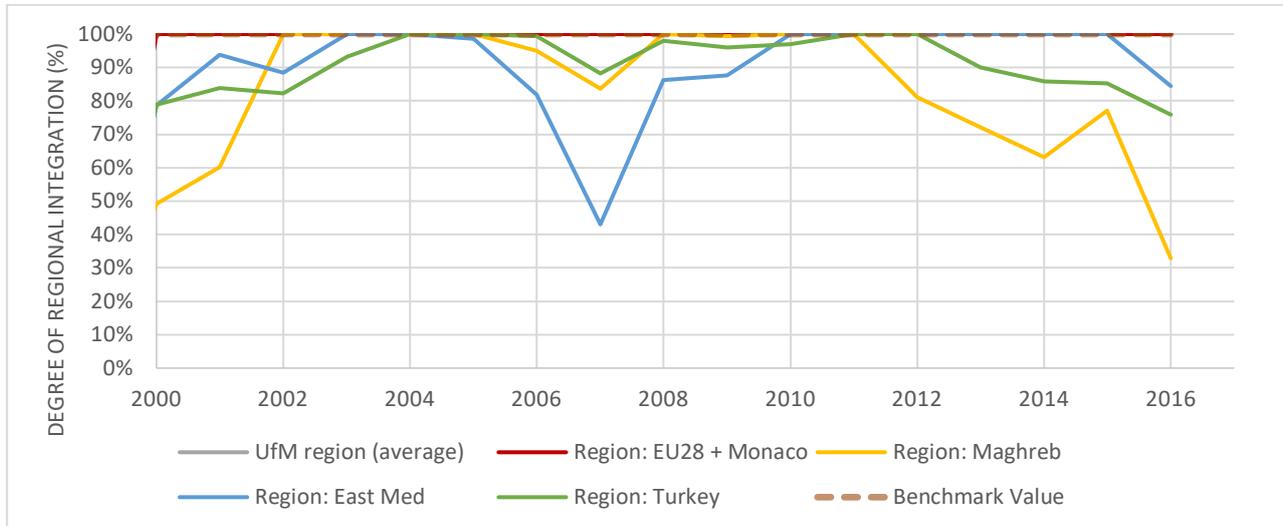
The fifth indicator retained is the difference between the reporting country's GDP deflator in annual percentage change with the UfM region's GDP deflator in annual percentage change. The GDP deflator is a measure of the level of prices in a country and, thus, its annual percentage provides information on inflation rates. In a financially integrated area, inflation rates between regional partners should converge towards a relatively low level, insofar as a high percentage of inflation and substantial differentials between countries can have negative repercussions on exchange rates between currencies, undermining regional economic integration. The benchmark value for economic integration is, therefore, set at 2%. In the graph, 100% is considered the benchmark value and, therefore, reflects an inflation rate of 2%, whilst 0% is the indicator's maximum value, i.e. 10% of inflation rate. Figure 14 does not show any discernible pattern, suggesting that there is little to no financial integration between countries in the region when it comes to the management of inflation.

Figure 14: Integration in inflation rates - difference with UfM's inflation rate
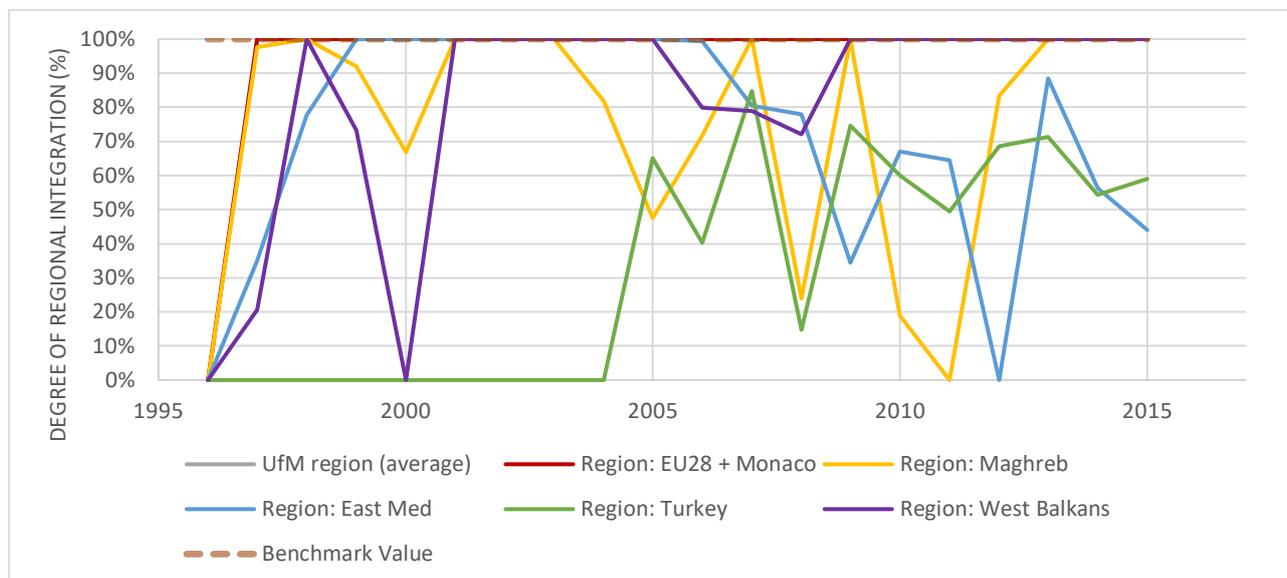
To conclude on the finance dimension, Figure 15 below computes the weighted average of the five sub-indicators analysed above, providing the overall picture concerning the distance of the five sub-regions from the benchmark value of large integration in finance. The benchmark for full integration is set at 100%. Data is provided starting from 2000, because in the preceding years the availability of data is limited for a number of countries. Turkey and the Western Balkans are excluded from the analysis because of limited data availability.

The figure shows that the EU is the only sub-region having reached the benchmark value of 100%, reflecting large financial integration according to the criteria set in this monitoring exercise. That said, there has been some divergence from it since 2008, in relation to the deterioration of some key indicators used for the computation of the composite indicator, such as debt-to-GDP ratio and differentials in 10-year bond rates between EU member states resulting from the Eurozone crisis. In the considered period, the other sub-regions for which data is available, i.e. the Eastern Mediterranean and Maghreb, have been converging or diverging from the benchmark value without following a discernible pattern. This is due to the limited correlation and high volatility observed in some of the key indicators retained.

Figure 15: Composite indicator for the finance dimension
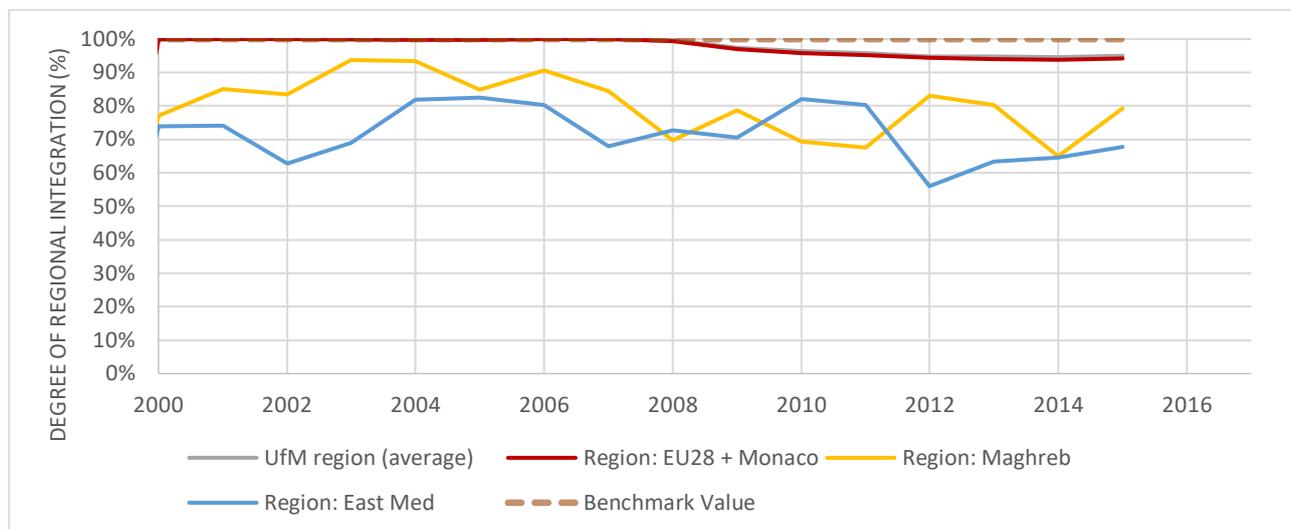
Governance

The following three key indicators were retained to monitor the governance dimension of Euro-Mediterranean integration:

1.   Regulatory quality;
2.   Rule of law;
3.   Control of corruption.

The indicators are estimated in a range between -2.5 (weak) and 2.5 (strong). The benchmark value for integration, corresponding to a value of 100% in the graphs, is set at the 80th percentile of the distribution in the data for all three indicators.

The first indicator – regulatory quality – reflects perceptions about the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. The benchmark value reflects a level of quality that can be considered a precondition for mutually beneficial regulatory convergence between regional partners, a prerequisite for integration. The graph shows the distance from the benchmark of the different sub-regions.

Figure 16 shows that the only region with a score close to the benchmark is the EU, with an average value corresponding to 90% of the benchmark value in the period considered. Turkey follows with an average value of 70%. In the Western Balkans, regulatory quality has increased steadily between 1996 and 2016, from roughly 40% to slightly above 60%, possibly in relation to negotiations for accession into the EU. The Eastern Mediterranean and Maghreb registered a

decrease in regulatory quality over the last decade, with a value slightly above 40% of the benchmark value in 2016, down from 60% and 50% respectively in 1996. The decrease in these two regions is largely due to the perceived deterioration of regulatory quality in Syria and Tunisia respectively. In the latter case, the figure must be nuanced, considering that the country changed political regime in 2011, with important repercussions on perception-based indicators such as the one used here.

Figure 16: Regulatory quality
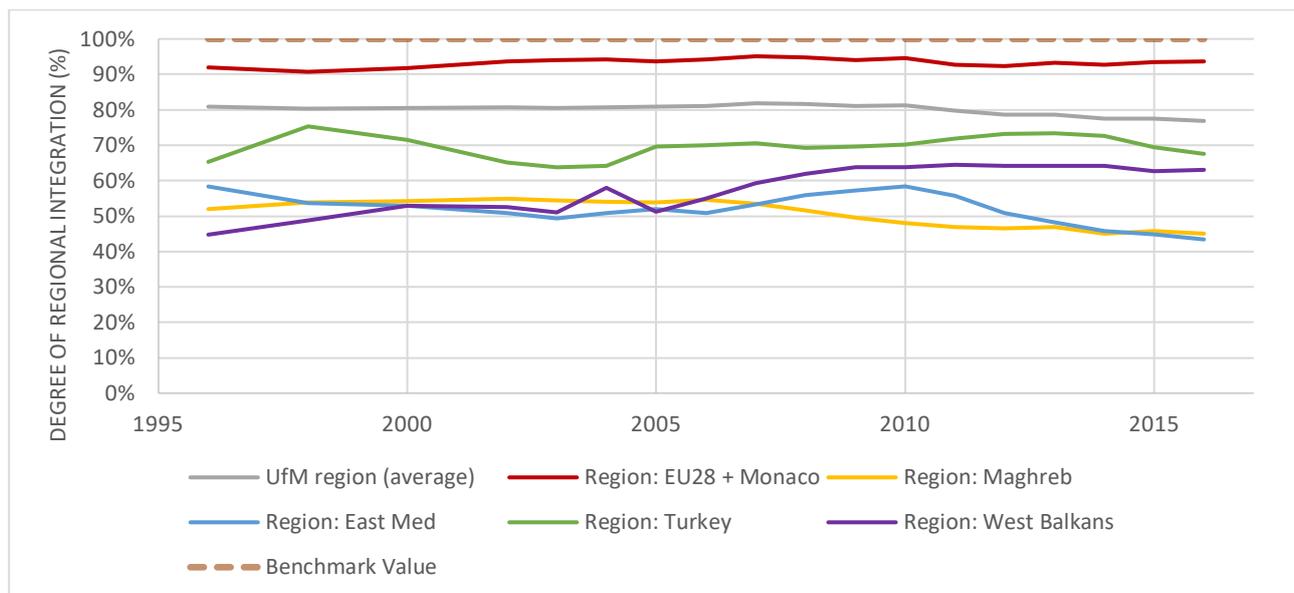
The second indicator – rule of law – reflects perceptions about the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police, the courts, as well as the likelihood of crime and violence.

Figure 17 shows the distance of the different sub-regions from the benchmark value, which corresponds to 100% in the graph. The EU is again the only sub-region with a value close to the benchmark, stable at around 90% of the latter over the period considered, whilst the other sub-regions all registered sensibly lower values. The Western Balkans registered a steady improvement in their rule of law, but less pronounced than in the case of regulatory quality. The positive trend seems to be facing a slowdown since 2014. The average values of Turkey and the Maghreb remained unchanged throughout the period, at around 60% and 50% of the benchmark value respectively, whilst it deteriorated in the Eastern Mediterranean, from 60% in 2005 down to 50% in the following decade. These figures for the sub-region, as a whole, hide wide country

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heterogeneity. Syria is largely responsible for the aforementioned deterioration, whereas Israel and Jordan both enjoy relatively high levels of rule of law.

Figure 17: Rule of law
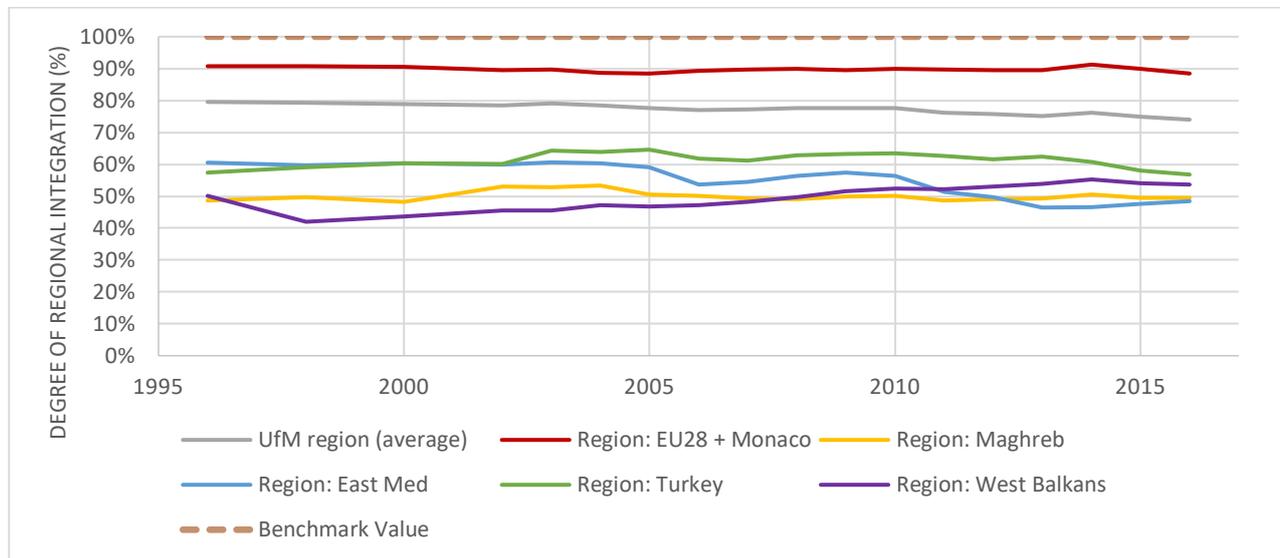
The third indicator – control of corruption – reflects perceptions about the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests. The benchmark value of integration reflects a score allowing for   control of corruption that is high enough not to undermine trust between regional partners engaging in deeper integration.

Figure 18 shows that three of the five sub-regions monitored – the Eastern Mediterranean, Maghreb and Western Balkans – did not register any substantial improvement allowing for control of corruption over the period considered, with their value remaining unchanged at around 50% of the benchmark value. Turkey's value improved from 50% to 70% in 2012, but since then the situation has deteriorated again and the value went down to below 60% of the benchmark value in 2016. The EU is once again the only sub-region that maintained a score close to the benchmark value throughout the period. That said, data about individual countries shows that there are substantial differences between member states. Overall, the control of corruption has also been slightly but steadily decreasing in the region.

Figure 18: Control of corruption
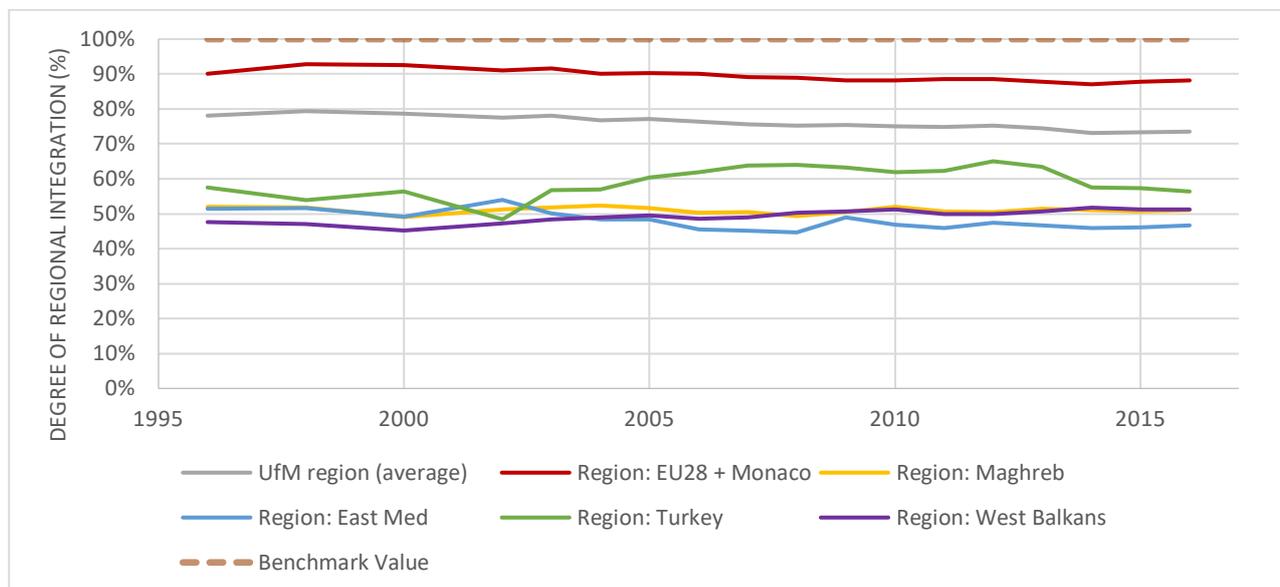
To conclude with the governance dimension, Figure 19 computes the weighted average of the three sub-indicators analysed above and the other three governance indicators collected by the World Bank, i.e. voice and accountability, political stability and government effectiveness. The figure provides the overall picture concerning the distance of the five sub-regions from the benchmark value of large integration in governance, which corresponds to 100%. The average for the region as a whole, shown in grey in the graph, attests that the conditions for institutional integration in the region have been slightly but steadily deteriorating in the period considered, mostly in relation to the divergence from the benchmark registered in the Eastern Mediterranean. In the latter region, the score decreased from 60% of the benchmark value in 1998 to 40% in 2016, mostly due to the negative performance in Syria and, to a lesser extent, Egypt.

Figure 19: Composite indicator for the governance dimension
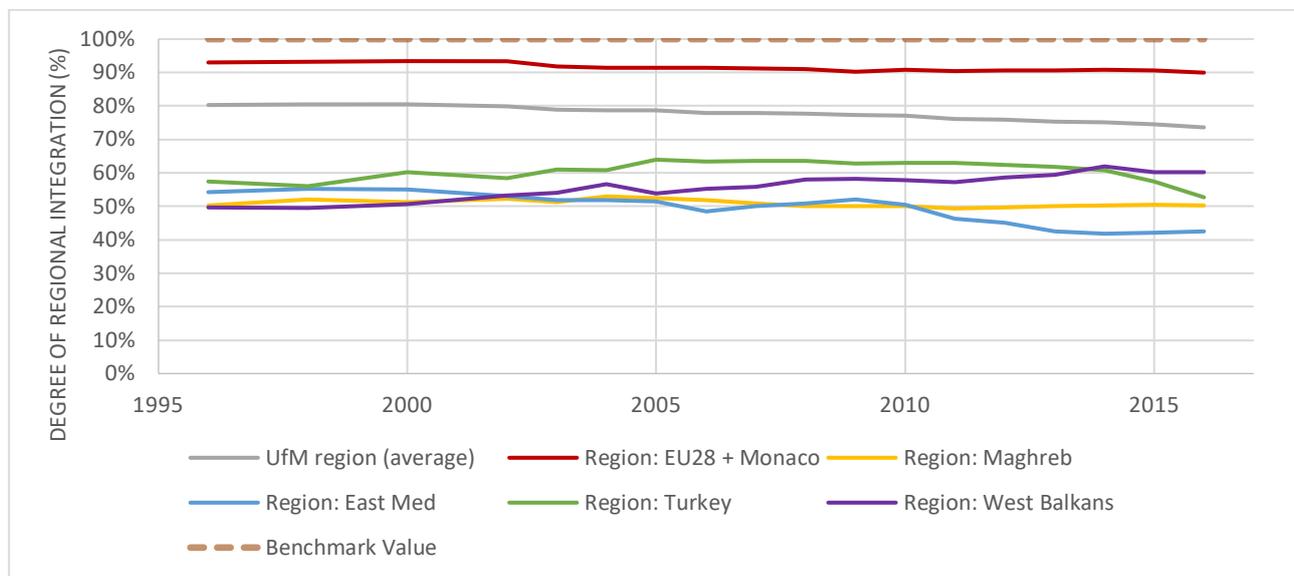
Turkey and the Western Balkans both converged towards the benchmark. This trend was more pronounced in the latter region, possibly due to the effect of negotiations over EU accession, which entail far-reaching convergence towards the norms and standards of the latter, the only region consistently close to the benchmark value of large integration throughout the whole period considered. In Turkey, the convergence trend reversed, starting in 2014, and the country has been diverging from the benchmark ever since. In the period considered, the conditions for institutional integration remained stable in the Maghreb, which is worth noting considering that Tunisia went through a change of regime and Morocco embarked on a number of political reforms following the so-called Arab Spring.

Infrastructure

The following eight indicators were retained for the monitoring of the infrastructure dimension of Euro-Mediterranean integration:

1. Access to electricity;
2. Mobile cellular subscriptions;
3. Use of the internet;
4. Rail lines;
5. Container port traffic;
6. Air transport, registered carrier departures worldwide;
7. International tourisms, number of arrivals;
8. Use of safely managed sanitation services.

The first indicator retained for the monitoring of infrastructural integration is access to electricity, expressed as a percentage of the population. Access to electricity is a precondition for social inclusion and market participation and, thus, for effective integration into a regional whole. For this reason, the benchmark value for large integration is set at 100%.

Figure 20: Access to electricity (% of population)
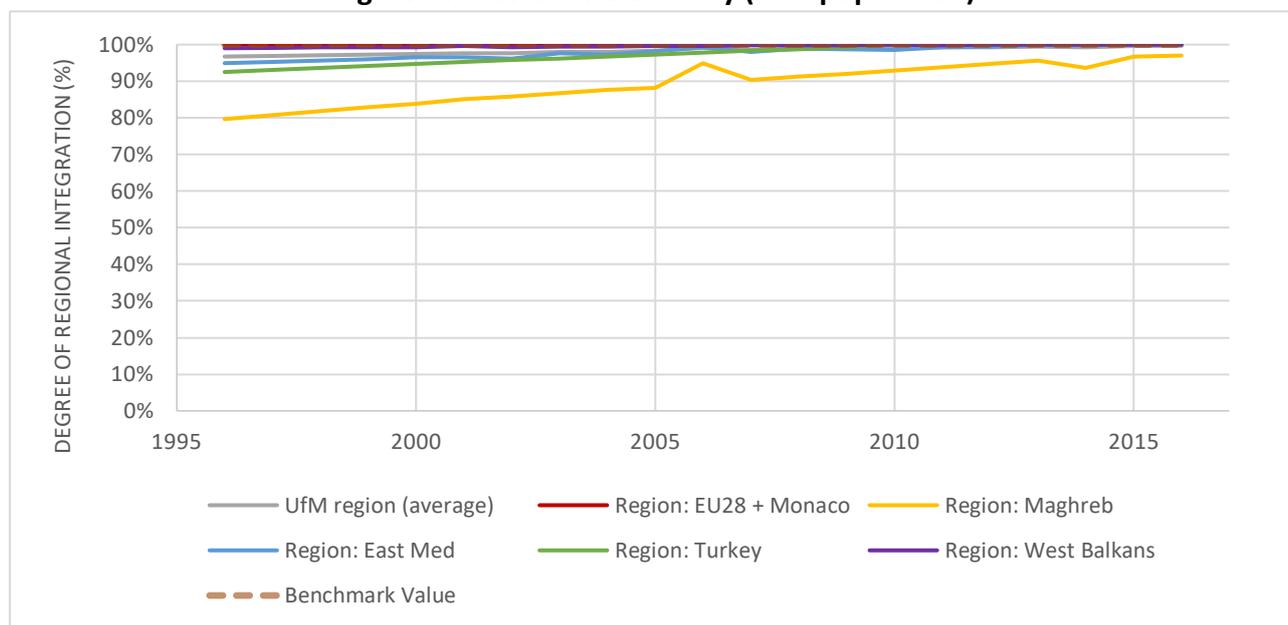
Figure 20 shows the evolution of access to electricity in the period considered. All sub-regions were already close to the benchmark value in 1996, except the Maghreb. This is explained

by the very limited access to electricity in Mauritania, as low as 13% in 1996 and, to a minor extent, Morocco, at 61% the same year. Access increased steadily in the two countries throughout the period considered and Morocco reached the target of 100% in 2015, completing its catch-up with regional partners. Mauritania, despite a substantial increase, remains far from the target, with only 42% of the population having access to electricity in 2016. Overall, when it comes to access to electricity, the conditions for integration are met in the UfM region.

The second and third indicators retained are mobile cellular subscriptions and Internet use. In both cases, the benchmark values for integration are set at the 80th percentile of the data distribution, corresponding respectively to 133 mobile subscriptions for 100 people and 84% of the population using internet. The two indicators are analysed together, because they both registered a strong upward trend in all sub-regions in the period considered. This is largely explained by digitalisation, the macro-trend having changed the face of the global economy in recent decades. Digitalisation had a direct impact on the diffusion of smartphones, captured in the increase in mobile cellular subscriptions which, in turn, boosted Internet use.

Figure 21: Mobile cellular subscriptions
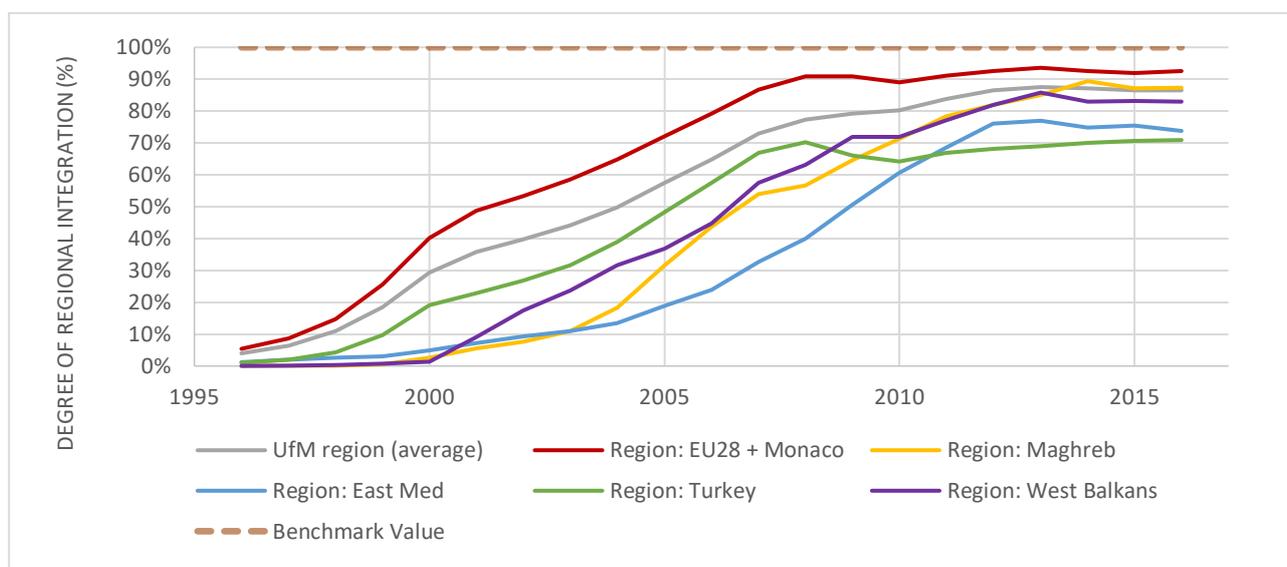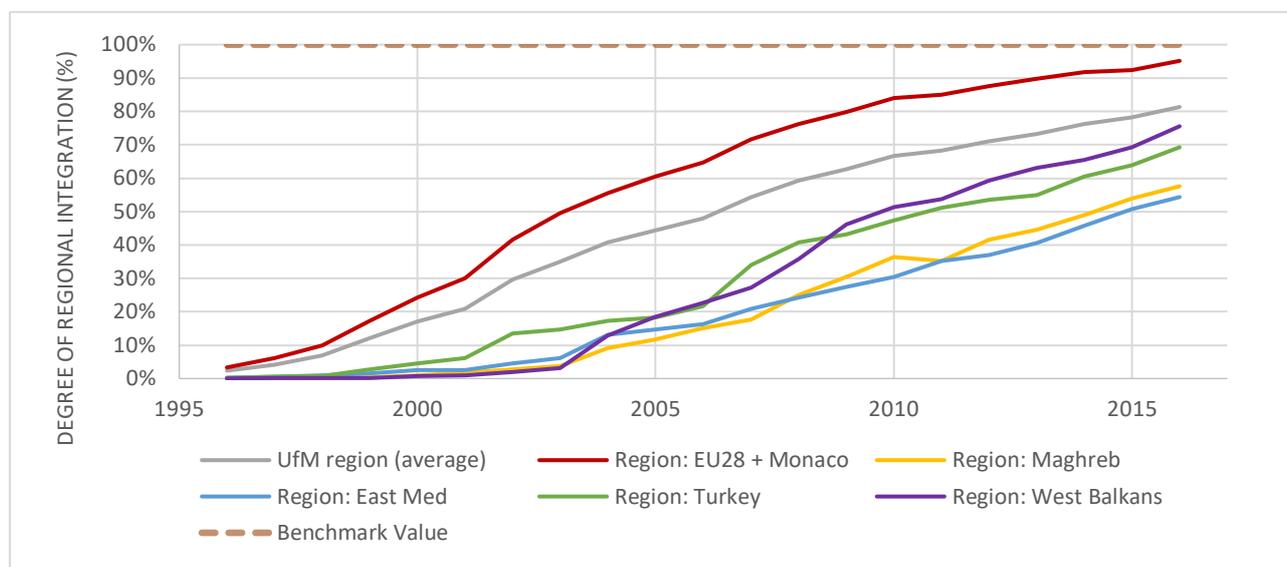
Figure 22: Internet use

Figure 21 and Figure 22 above show the distance from the benchmark value of the different sub-regions. The strong upward trend, driven by digitalisation, appears clearly. The average value for the UfM region as whole went up from 0% in 1996 to roughly 90% and 80% in mobile subscriptions and Internet use respectively in 2016. Hence, despite the strong upward trend registered, all the sub-regions have not yet reached the benchmark value for large integration. The EU and Maghreb are close to it when it comes to both mobile subscriptions, with an average of 123 and 121 mobile subscriptions for 100 people respectively in 2016. In the same year, the EU was also close to the benchmark value in Internet use, with 79% of the population using Internet, but the same was not true for the Maghreb, were only 60% of the population used Internet. This suggests that a certain number of people in the latter region have a mobile subscription, but do not use their mobile to access Internet.

Turkey and Eastern Mediterranean registered the lowest scores in mobile subscriptions in the latest year of available data, with only 96 and 103 subscriptions respectively for 100 people. This, in turn, might explain the relatively low score for Internet use in the two regions, with a total of 65% and 48% of the population respectively using Internet. In these two sub-regions, extending the coverage of mobile phone subscriptions will have a positive impact on Internet use, which is crucial for integration in an increasingly digitalised world.

The fourth, fifth and sixth indicators retained for the monitoring of infrastructure integration are proxy measures for connectivity within and between the countries and sub-regions

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considered. The development of connectivity infrastructure is crucial for physical integration between regional partners which, in turn, facilitates market integration and person-to-person contact. The fourth indicator focuses on land connections and consists of a measure of the total length of railway routes available for train services. The fifth indicator focuses on sea connections and is a measure of container port traffic. The sixth indicator focuses on air connections and measures the number of registered carried departures worldwide. The three indicators are expressed as a percentage of the population. The benchmark value, represented as 100% in the graphs, is set at the 80th percentile of the data distribution, i.e. 0.64m per capita for the fourth indicator, 0.31 containers per capita in the fifth indicator and 0.017 departures per capita for the sixth indicator. It must be noted that in these three indicators, there was limited data availability resulting in a large share of missing data and resulting distortions in the computations.

Figure 23 shows the distance from benchmark value for the length of rail lines. The sub-region closest to the benchmark value is the EU, with an average score of 70% which remained constant throughout the period considered. The scores of Turkey, the Maghreb and Eastern Mediterranean also remained constant, but were substantially lower, 20%, 15% and 10% respectively. Overall, this suggests that, in recent decades, investment in rail infrastructure has been limited in the UfM region. The Western Balkans are no exception to this rule, insofar as the variation observed in the graph is due to discrepancies in data availability between countries, not investment in rail infrastructure.

Figure 23: Rail lines as % of population

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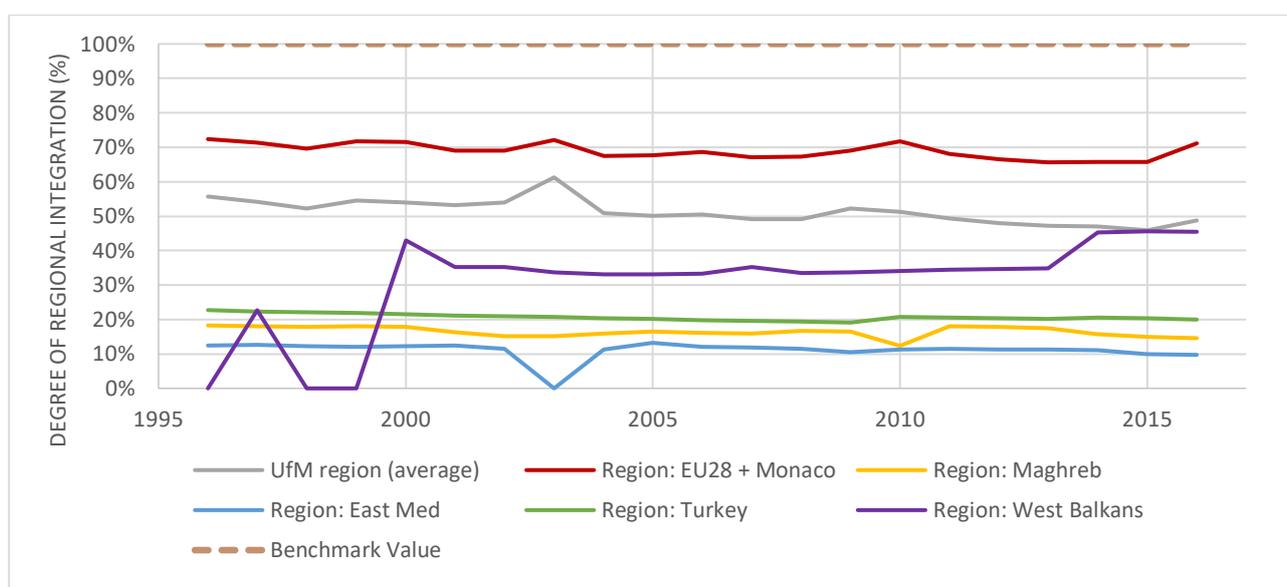
Figure 24 shows the results for container port traffic. The number of containers per capita has been increasing in all regions but the Western Balkans, which lack important seaports, results in an upward trend in their integration score. The upward trend in all sub-regions experienced a downturn in relation to the 2008 Great Recession and suffered a slowdown starting in 2013 which, in the case of Turkey, translated into a decrease in the number of containers per capita. The EU is the only region in which container port traffic continued to increase after that date. Further research is needed into the factors determining this slowdown, which should be interpreted within the bigger picture of container port traffic worldwide. Overall, the data suggests that the region is far from converging to the benchmark value of large integration when it comes to container traffic and that there is a wide margin for improvement, considering the potential for sea trade across the Mediterranean Sea.

Figure 24: Container port traffic as % of population
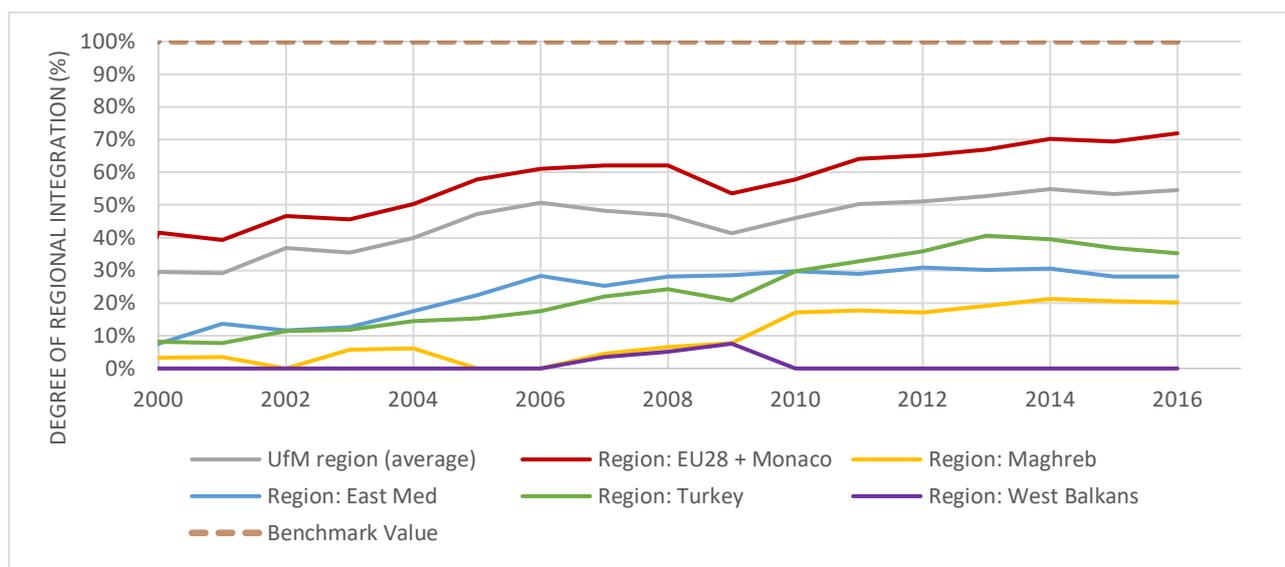
Figure 25 illustrates graphically the distance of the different sub-regions from benchmark value in air transport. The EU and Turkey are the only sub-regions that experienced an upward trend in registered carried departures throughout the period considered, which was particularly pronounced in the case of Turkey, whose integration score rose from 10% in 2004 to above 50% in 2016. The Maghreb, Eastern Mediterranean and Western Balkans remained far from the benchmark value of full integration throughout the period, without any substantial increase in the number of departures per capita. This should also be interpreted in relation to substantial visa restrictions existing between countries in the region (see Table 6 in the next section of the study).

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Figure 25: Air transport departures as % of the population
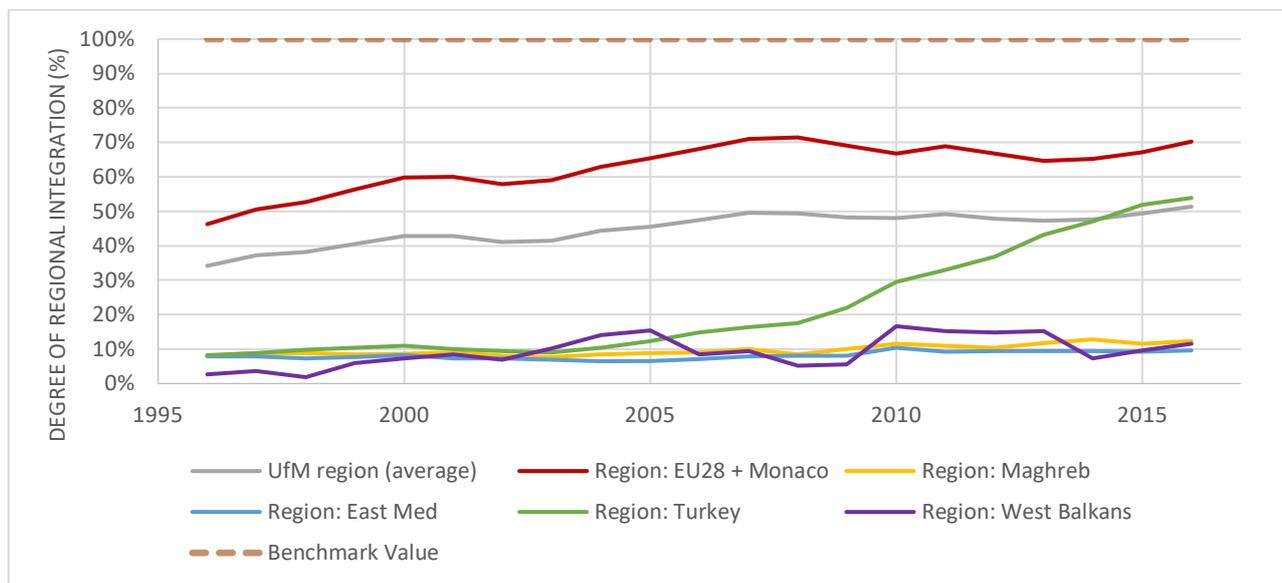
The seventh indicator retained for the monitoring of infrastructure integration is international tourism, measured as the number of tourist arrivals over the total population. Tourism, besides being an important source of revenue for countries, is an important means for person-to-person contact and mutual understanding between regional partners. The sector is also fertile ground for economic partnerships between regional partners. The benchmark value for full integration is set at the 80th percentile of the data distribution, which is 187% of the population. Figure 26 shows the distance of the different sub-regions from the benchmark value. Tourism is a sector largely depending on political stability and security issues, which partly explains the evolution observed in the graph.

Figure 26: International tourism as % of population
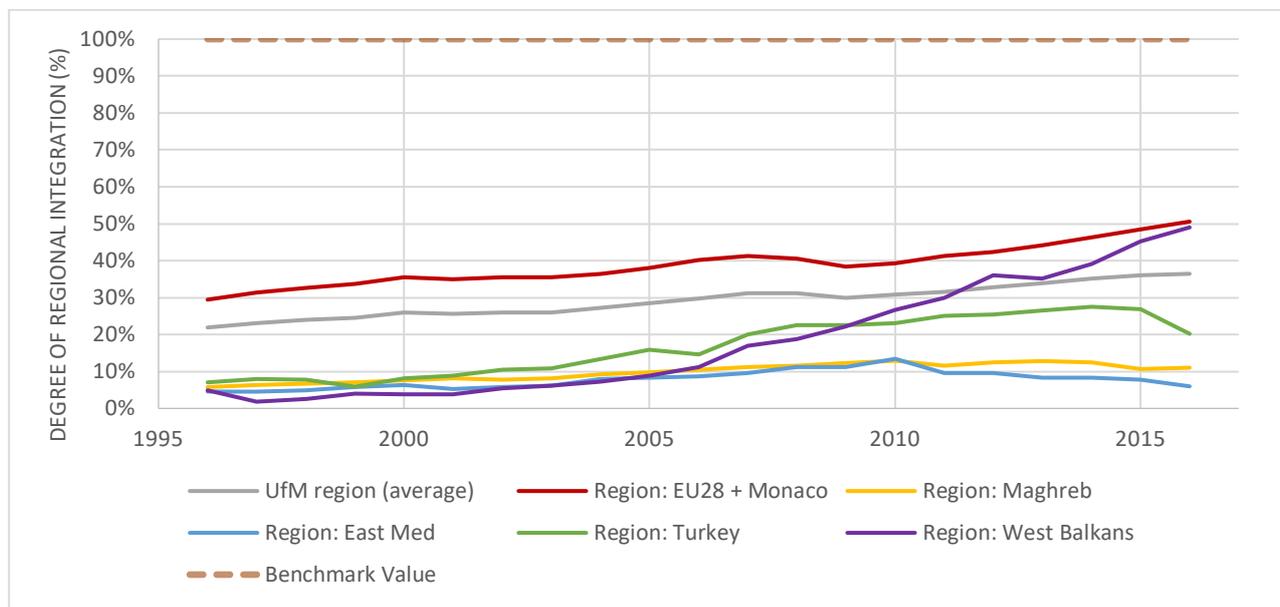
The Western Balkans is the sub-region registering the highest convergence towards the benchmark value, reaching the EU at a level corresponding to 50% of the benchmark value in 2016, up from a value as low as 10% in 1996. This is due to the stabilisation of the region in the 2000s, translating into a substantial increase in its attraction for tourists, compared to the previous decade, in which the region was caught up in a number of conflicts. The contrary is true for the Eastern Mediterranean and, to a minor extent, the Maghreb. The instability brought about by the so-called Arab Spring and the recrudescence of security threats across the regions had a negative impact on the tourism sector, explaining why the Eastern Mediterranean score has been deteriorating since 2011. In the Maghreb, instability resulted in a decrease of tourist arrivals only in Tunisia, down from 74% of the population in 2010 to 50% in 2016. Turkey experienced a downturn in tourist arrivals in 2016.

The last indicator, retained under this dimension of the monitoring exercise, is the percentage of the population using safely managed sanitation services, which is a precondition for health and, therefore, social inclusion and market participation, ultimately enabling people to reap the benefits of deeper integration. The benchmark value for full integration is set at the 80th percentile of the data distribution, corresponding to 93% of the population.

Figure 27 shows the computation of the integration score. The only sub-region close to the benchmark value of full integration is the EU, with a score higher than 90% of the benchmark value throughout the period covered by the analysis. The Eastern Mediterranean follows with a score which slightly increased over the period, from below 60% in 2000 to roughly 70% in 2016.

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The only sub-region in which a substantial improvement in the use of safely managed sanitation services has been registered in the period considered is Turkey. 44% of the population made use of such services in 2016, against a mere 23% in 2000.

Figure 27: People using safely managed sanitation services as % of population
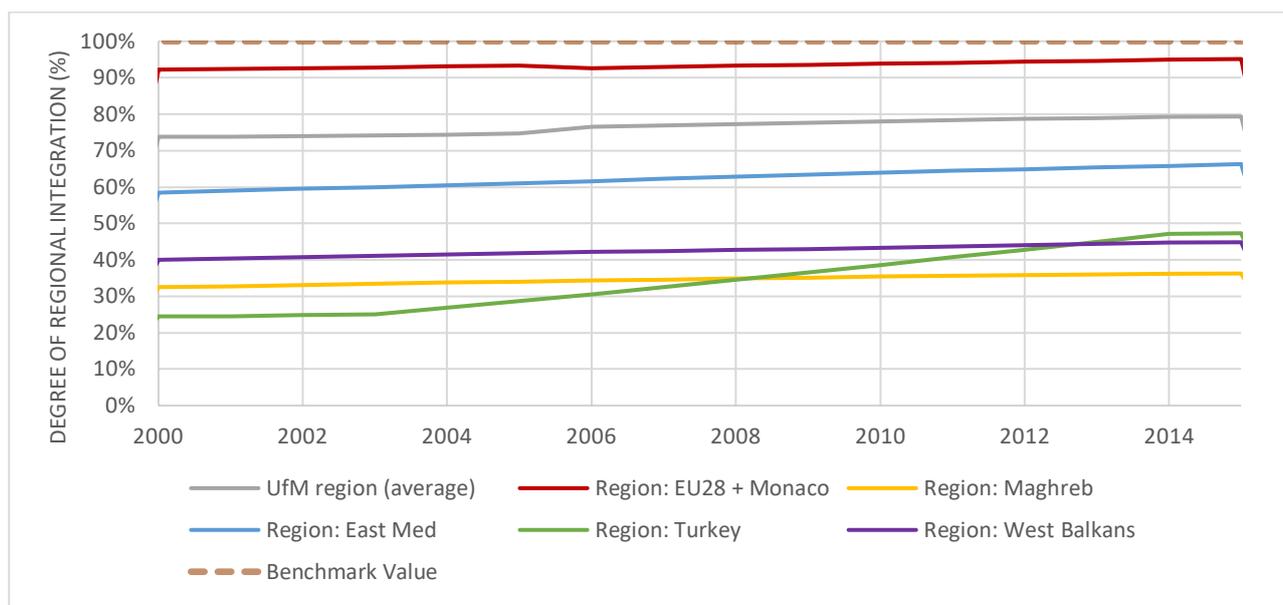
To conclude, Figure 28 computes the weighted average of the eight sub-indicators analysed above, providing the overall picture concerning the distance of the five sub-regions from the benchmark value of large integration in infrastructure between 2000 and 2016. The availability of data is limited for previous years for some of the key indicators used in the computation of the composite indicators, whilst issues with the coverage of the data also explain part of the variation observed in the graph, together with the omission of the Western Balkans. Overall, the data shows that convergence to the benchmark value improved over the period considered, but the various sub-regions analysed nonetheless remain quite far from the benchmark value for integration, corresponding to 100% in the graph. In 2015, the EU was the sub-region with the score closest to the benchmark value, at 80%, followed by Turkey with 50%.

Figure 28: Composite indicator for the infrastructure dimension
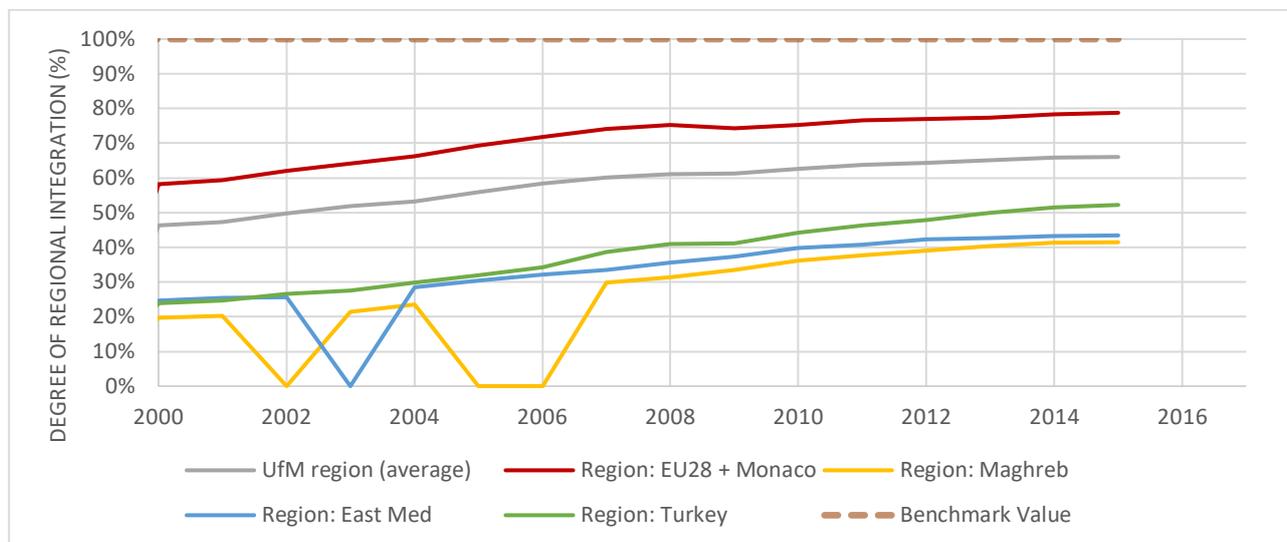
FDI

The indicator retained for the monitoring of integration in FDI is a measure of the relative distance of a country's cumulative FDI share of cumulative GDP from the UfM cumulative FDI share of cumulative GDP. The indicator is computed using data on overall FDI inflows in UfM countries, regardless of the country of origin. The analysis of integration would be more accurate using data on regional FDI, but unfortunately data on bilateral FDI flows between countries is not available. The reliance on cumulative FDI inflows and cumulative GDP enables the analysis to consider the evolution of the two variables over time. This indicator, like the ones used in the previous section, is an indicator of convergence, meaning that the sub-regions are considered integrated if their economies feature similar levels of FDI inflows, relative to their GDP. The benchmark value for full integration is a differential of 0% between a given sub-region and the UfM as a whole in their cumulative FDI shares of cumulative GDP. Note, that the benchmark value corresponds to 100% in the graph below, which shows distance from the benchmark of the various sub-regions.

Figure 29: Cumulative FDI as % of Cumulative GDP - UfM Differential
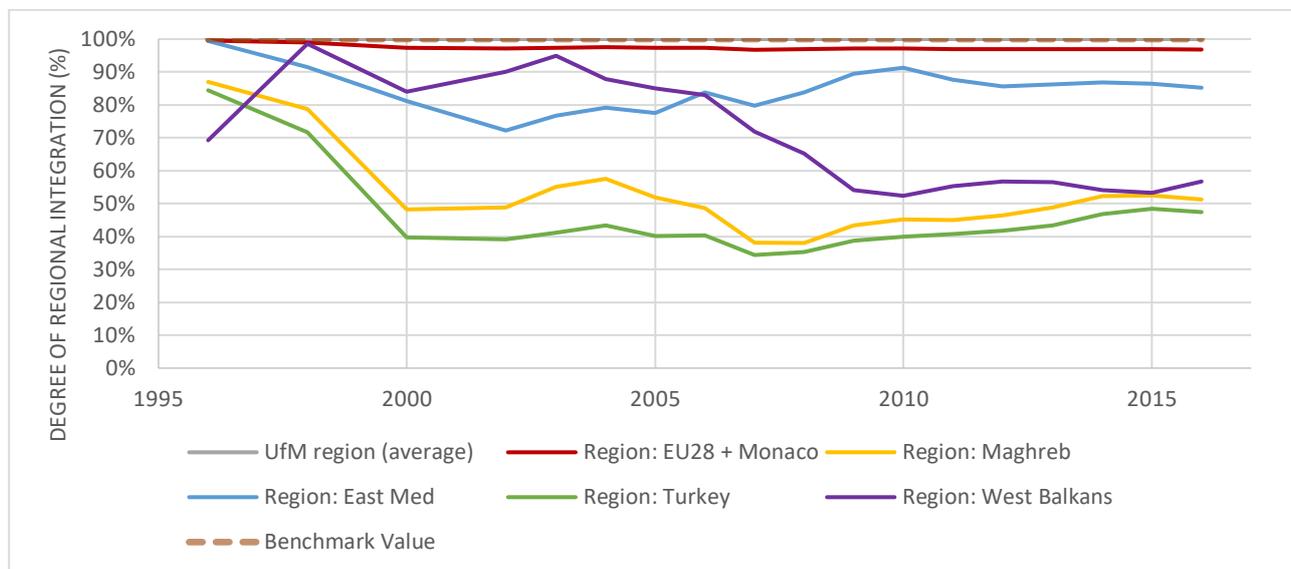
Figure 29 above shows the results of the computation. FDI inflows are expressed as a share of GDP, not in absolute terms, to account for their importance for the economy considered, not related to overall levels of GDP. In absolute terms, most of the region's FDI is concentrated in the EU. The EU is one of the two regions having a cumulative share of FDI in cumulative GDP that is higher than the UfM average, even though only slightly higher, resulting in an integration score that is very close to the benchmark value of full integration. The Western Balkans is the other region having a cumulative share higher than the cumulative share of the UfM. FDI inflows in the region have been increasing over the period considered, leading to an increase in the cumulative share of FDI in cumulative GDP and a corresponding deterioration of its integration score. Turkey, the Maghreb and Eastern Mediterranean have cumulative shares of FDI in cumulative GDP that is lower than the UfM share, even though only slightly lower in the case of the latter sub-region, explaining the rather high integration score. Turkey and the Maghreb have greater differentials with the UfM share but, interestingly enough, they followed the same trajectory over the period considered.

Labour mobility

The following six indicators were retained for the monitoring of the labour dimension of Euro-Mediterranean integration:

1.	Emigrants to population ratio;
2.	Immigrants to population ratio;
3.	Emigrants to the UfM region to population ratio;
4.	Immigrants from UfM region to population ratio;
5.	Net remittance inflows;
6.	Net remittance outflows.

The six indicators used to compute the composite indicators are indicators of convergence, meaning that countries reach the benchmark value for integration if their average score corresponds to the average value of the UfM area as a whole, which is retained as the convergence point. It makes no difference if the value of a sub-region is higher or lower than the UfM average. The lower the differential with the UfM average, the closer to the benchmark the sub-region being considered. The UfM average value is biased towards the average value of the EU, because EU member states represent more than half of the member states of the UfM. The average is, therefore, biased towards countries that tend to have relatively low shares of emigrants and relatively high shares of immigrants. This, in turn, has a repercussion on remittances. The average is biased towards countries that tend to generate, not receive, remittances. In summary, countries that correspond to the above will appear close to the benchmark value, whilst countries that have opposite characteristics will be more distant from it. The assumption here is that countries with functional labour markets will "pull" immigrants and generate outflows of remittances, whilst countries with dysfunctional labour markets will "push" emigrants and receive inflows of remittances. To have functional labour markets is a pre-condition for brain circulation, which is mutually beneficial for all countries involved to happen within an integrated whole, instead of a situation characterised by dynamics of brain drain and gain.

The first and the second key indicators retained to monitor integration in labour mobility are a measure of the differential between the share of emigrants and immigrants in the population of a sub-region and the average share for the UfM region as a whole. The benchmark value, therefore, is set at 0%, reflecting a lack of differential between the two shares.

Figure 30 below shows distance from benchmark of the five sub-regions in their emigrants to population ratio. In the graph, a score of 100% corresponds to the benchmark value, meaning a 0% differential between a sub-region's ratio and the UfM average ratio, whilst a value of 0% corresponds to the maximum value of the indicator, a differential of 30%. The data shows that all sub-regions, bar the Western Balkans, meet the benchmark value for integration, meaning that their ratio of emigrants to population is similar to the UfM average ratio. This result suggests that

all sub-regions, bar the Western Balkans, have sufficiently functional labour markets to prevent an excessive outflow of emigrants, but it must be taken with the due precautions. In fact, the data does not tell us whether the emigrant to population ratio in some sub-regions is relatively low because labourers do not want to emigrate, or whether it is the case because they cannot emigrate.

Figure 30: Emigrants to population ratio
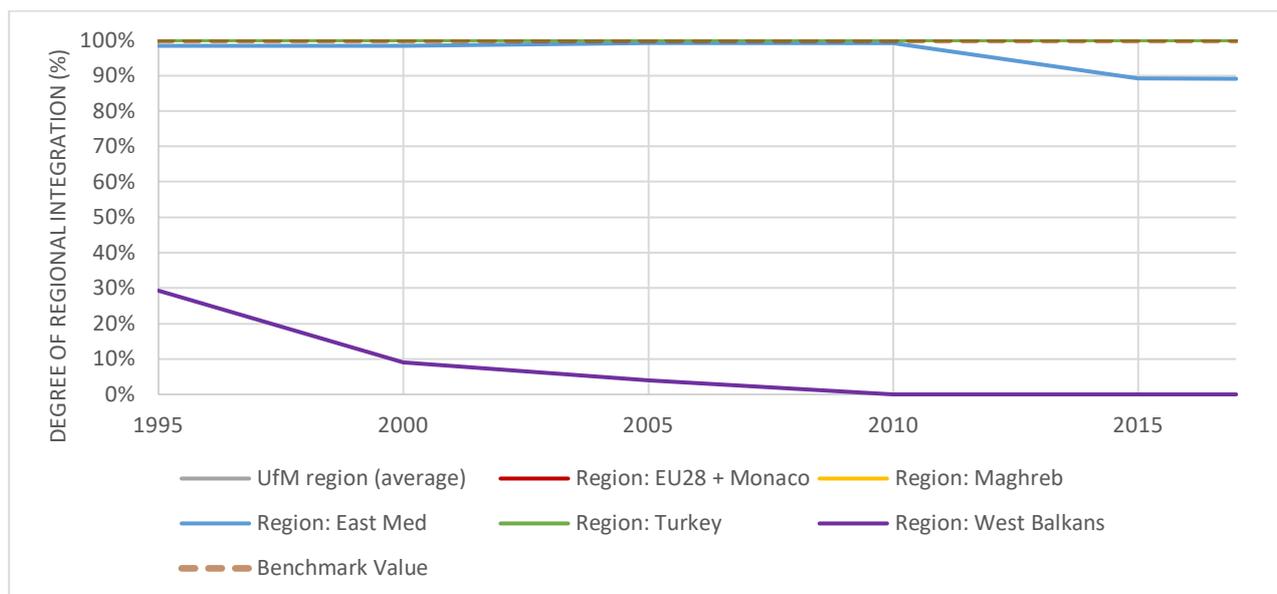
Table 6 below provides an overview of visa requirements between member states of the UfM, showing that there are important restrictions to mobility that might explain the relatively low emigrant to population ratio in some of the sub-regions retained in the analysis. EU citizens are free to move across the whole region without a visa, or with easy procedures to obtain movement, whilst it remains very difficult to access the EU for most citizens across the region. In turn, citizens from the other sub-regions face substantial barriers to mobility not only with the EU, but also between each other, with application procedures that often change. The information is provided for the least cumbersome ways to obtain the visas. The procedure for obtaining a full work visa is substantially more cumbersome and prohibitive than what the table suggests.

The picture is clearer when it comes to the Western Balkans and the recent divergence from the benchmark value of the Eastern Mediterranean. The Western Balkans started diverging from the benchmark value in the 1990s, a decade characterised by conflicts that pushed a substantially larger share of the population towards emigration than the UfM average. In Albania and Bosnia and Herzegovina, the emigrants to population ratios in 2017 were respectively 31.4% and 39.5%. The divergence from benchmark of the Eastern Mediterranean starting from 2011 was almost

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exclusively due to the conflict in Syria, which resulted in a sudden increase in the emigrants to population ratio differential, with the UfM average ranging from -1.3% in 2010 to 29.8% in 2017. It must be noted that, in the sub-region, Palestine also registered very high ratios of emigrants to population, above 70% on average throughout the period considered.

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Table 6: Overview of visa requirements between member states of the Union for the Mediterranean
(YES = visa required; NO = visa-free access) (as of 2019)

	EU	AL	DZ	BA	EG	IL	JO	LB	MR	ME	MA	PS	TN	TR
EU	N/A	NO	YES (incl. invitation letter)	NO	eVisa (web application)	NO	YES (on arrival)	YES (on arrival)	YES (on arrival)	NO	NO	N/A	NO	NO (see footnote)
AL	NO (only biometric passports)	N/A	YES (incl. invitation letter)	NO	eVisa (web application)	NO	YES	YES	YES (on arrival)	NO	YES	N/A	YES	NO
DZ	Schengen visa (see footnote)	YES	N/A	YES	YES	YES	YES (on arrival)	YES	NO	YES (incl. invitation letter)	NO	N/A	NO	YES (incl. invitation letter)
BA	NO (only biometric passports)	NO	YES (incl. invitation letter)	N/A	YES	YES	YES (on arrival)	YES (on arrival)	YES (on arrival)	NO	YES	N/A	NO	NO
EG	Schengen visa (see footnote)	YES	YES (incl. invitation letter)	YES	N/A	YES (incl. government approval)	NO	YES	YES (on arrival)	YES (incl. invitation letter)	YES	N/A	YES	YES (incl. invitation letter)
IL	NO	NO	Admission refused	NO	YES	N/A	YES (on arrival)	Admission refused	YES (on arrival)	NO	YES	N/A	YES	NO
JO	Schengen visa (see footnote)	YES	YES (incl. invitation letter)	YES	YES	YES (incl. government approval)	N/A	NO	YES (on arrival)	YES (incl. invitation letter)	YES	N/A	NO	NO
LB	Schengen visa (see footnote)	YES	YES (incl. invitation letter)	YES	YES	YES (incl. government approval)	NO	N/A	YES (on arrival)	YES (incl. invitation letter)	YES	N/A	YES	NO
MR	Schengen visa (see footnote)	YES	NO	YES	YES	YES (incl. government approval)	YES	YES	N/A	YES (incl. invitation letter)	YES	N/A	NO	YES (incl. invitation letter)
ME	NO (only biometric passports)	NO	YES (incl. invitation letter)	NO	eVisa (web application)	NO	YES (on arrival)	YES (on arrival)	YES (on arrival)	N/A	YES	N/A	NO	NO
MA	Schengen visa (see footnote)	YES	NO	YES	YES	YES (incl. government approval)	YES (on arrival)	YES	YES (on arrival)	YES (incl. invitation letter)	N/A	N/A	NO	NO
PS	Schengen	YES	YES (incl.	YES	YES	Restricted	NO	Admission	YES (on	YES (incl.	YES	N/A	YES	YES

	visa *(see footnote)*		*invitation letter*			**admission**		**refused**	*arrival)*	*invitation letter*				
TN	**Schengen visa** *(see footnote)*	YES	NO	YES	YES	**YES** *(incl. government approval)*	**YES** *(on arrival)*	YES	NO	**YES** *(incl. invitation letter)*	NO	N/A	N/A	NO
TR	**Schengen visa** *(see footnote)*	NO	**YES** *(incl. invitation letter)*	NO	YES	YES	NO	**YES** *(on arrival)*	**YES** *(on arrival)*	NO	NO	N/A	NO	N/A

Source: own elaboration

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Figure 31 shows distance from the benchmark in the immigrant to population ratio. In the graph, 100% corresponds to the benchmark value of 0% differential between a sub-region's share and the UfM average share, and 0% to the minimum value of the indicator, i.e. -10%. The picture is sensibly different than for emigrants. All the sub-regions, except the EU, have immigrant to population ratios significantly lower than the UfM average. This suggests that their labour markets are not sufficiently attractive for foreign labourers to immigrate which, in turn, points to the existence of certain dysfunctions that might hamper deeper integration. It must be noted, however, that this result could also be linked to restrictions imposed on foreign labourers in the sub-regions considered, as it was noted previously.

Figure 31: Immigrants to population ratio
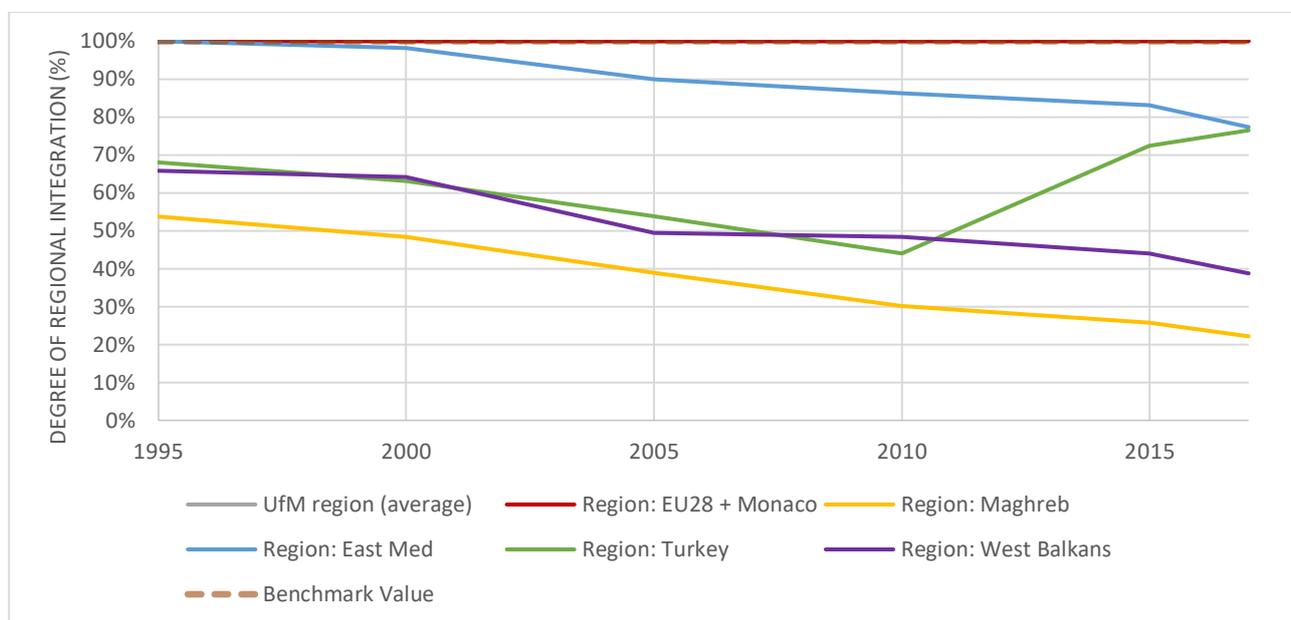
The third and the fourth key indicators retained provide the same information as the first two, but with a focus on emigrants to and immigrants from other UfM countries. Figure 32 focusses on emigrant to population ratio. The data shows that the Western Balkans remain very distant from the benchmark value of large integration but are, nonetheless, closer to it than when all emigrants are considered. This suggests that a significant share of emigrants from the region emigrate to countries outside the UfM area.

Figure 32: Emigrants to the UfM region to population ratio
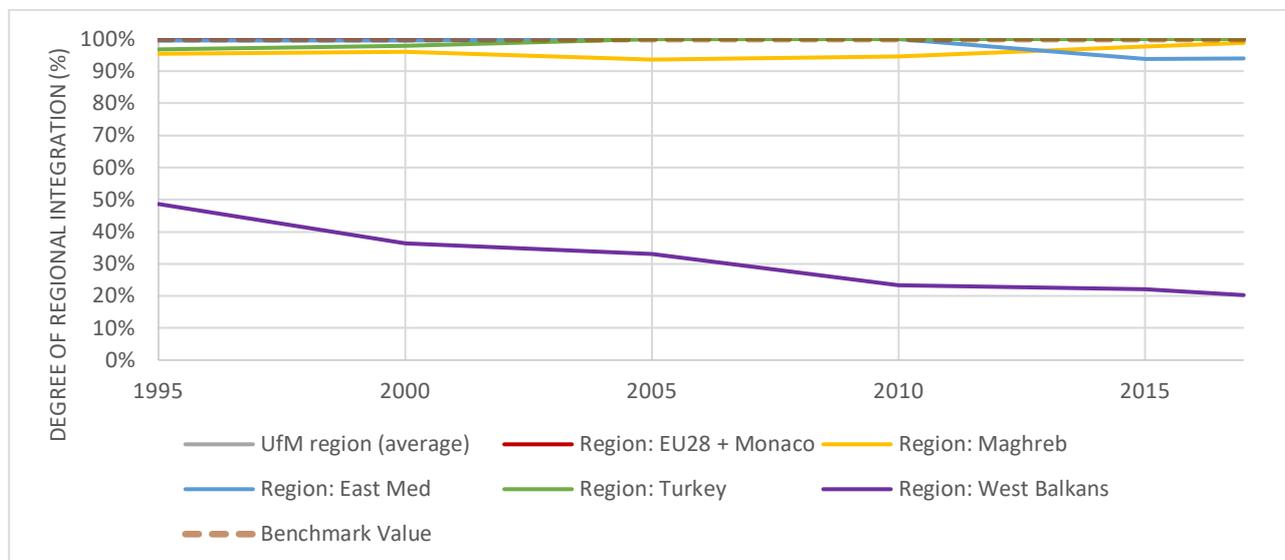
The contrary is true for the Maghreb and, to a minor extent, Turkey. Both sub-regions appear farthest away from the benchmark, when only emigrants to other UfM countries are considered, suggesting that the large part of emigrants from these countries emigrate within the region.

Figure 33 focuses on the immigrant to population ratio. All sub-regions appear close to the benchmark value, when only immigrants from the UfM region are considered, suggesting that immigrants proceeding from countries outside the UfM area contribute to divergence between countries in the region concerning their immigrant to population ratios.

Figure 33: Immigrants from the UfM to population ratio
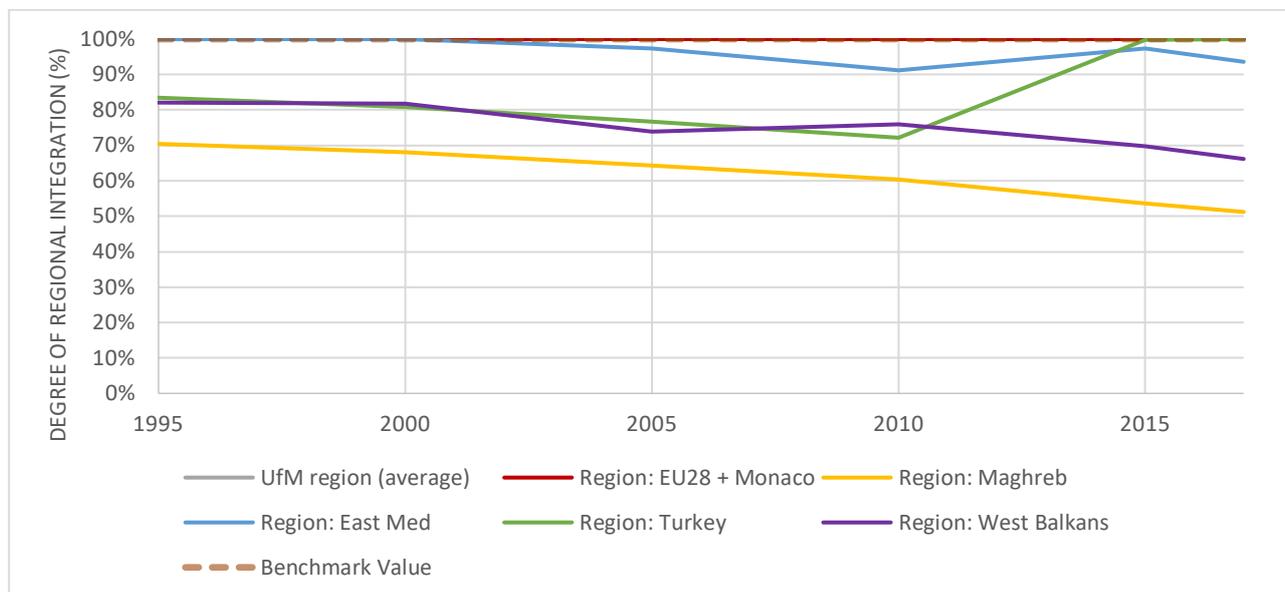
The fifth and sixth key indicators, retained for the monitoring of the labour dimension of regional integration, provide a measure of remittance inflows and outflows respectively. The indicators are computed using country data on overall remittance inflows to and outflows from the rest of the world. The analysis of integration would be more accurate by using data on remittance flows between UfM countries alone but, unfortunately, data on bilateral remittance flows between countries is not available. These are also indicators of convergence and the benchmark value for large integration is, thus, a differential of 0% between the value of a sub-region and the average value for the UfM region as a whole. The assumption here is that countries with dysfunctional labour markets will "push" emigrants and, therefore, receive inflows of remittances, whilst countries with functional labour markets will "pull" immigrants and, therefore, generate outflows of remittances. Hence, countries having inflows of remittances that are higher than the UfM average share are considered distant from the benchmark value of large integration and the same goes for countries generating lower inflows of remittances than the UfM average share.

Figure 34 focuses on remittance inflows. The Western Balkans is the sub-region receiving the greatest share of remittance inflows and is, therefore, the one farthest away from the benchmark value for the whole period considered. It must be noted, however, that the results for the sub-region are biased due to h a lack of available data for Montenegro between 1996 and 2006 and Bosnia and Herzegovina between 1996 and 1997 and are, therefore, only reliable only starting from 2005. From that date, the sub-region converged towards the benchmark value, even though its level of remittance inflows remained substantially higher than the UfM average in 2015.

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The Eastern Mediterranean and, to a minor extent, the Maghreb also had higher inflows of remittances than the average throughout the whole period considered.

Figure 34: Net remittance inflows
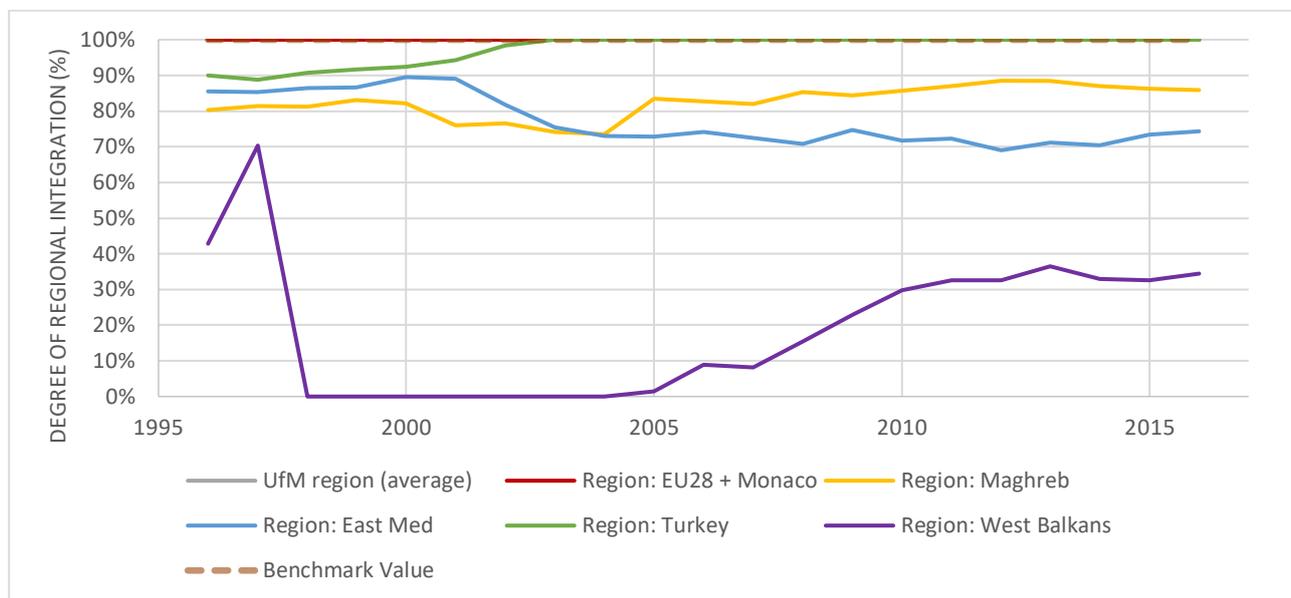
Figure 35 focuses on remittance outflows. All sub-regions appear close to the benchmark value of full integration, even though they are not remittance-generating countries. This is explained by the fact that the EU generates a large outflow of remittances but these, nonetheless, represent a low share of its very high GDP. The UfM average is, therefore, biased towards low remittance outflows, which explains why all sub-regions appear close to the benchmark value.

Figure 35: Net remittance outflows
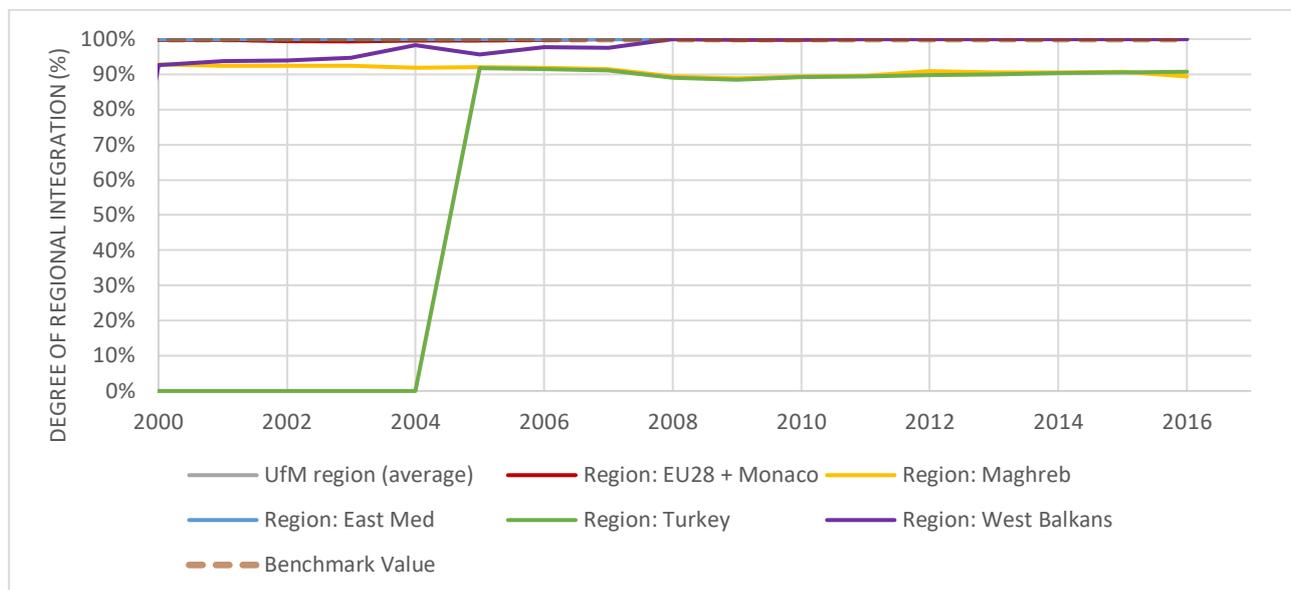
To conclude with the labour mobility dimension, Figure 36 computes the weighted average of the six sub-indicators analysed above, providing the overall picture concerning the distance of the five sub-regions from the benchmark value of large integration in labour mobility. The benchmark value corresponds to a score of 100% in the graph. The figure shows that, besides the EU, Turkey is the only sub-region having converged towards the benchmark value in the period considered, the trend having started in 2010. The initial increase between 2000 and 2005 is due to problems in data availability and not a sudden convergence towards the benchmark value. The Eastern Mediterranean has been diverging from it, even though slightly, but remained close to it nonetheless, with an average value corresponding to 90% of the benchmark value throughout the period considered. The Western Balkans performed poorly when considering the conditions for integration in labour mobility. This is due to the massive emigration which followed the conflict of the 1990s, resulting in the sub-region's emigrants to population ratio and net remittance inflows being substantially higher than the UfM average.

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Figure 36: Composite indicator for the labour mobility dimension
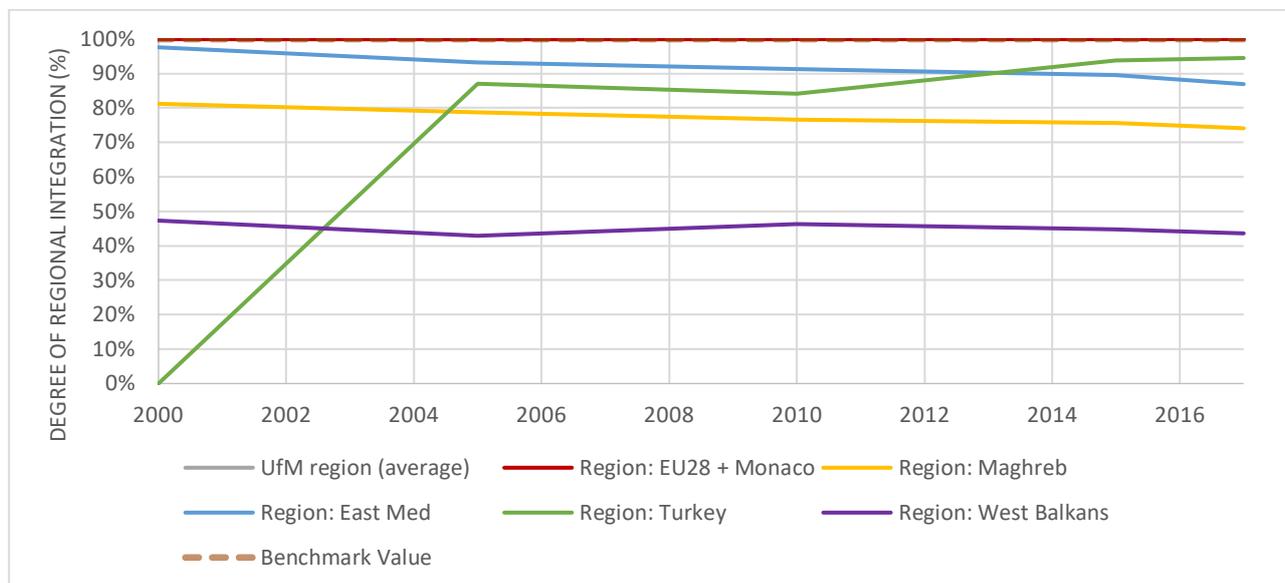
Higher education, research and innovation

This last section of the report focuses on mobility associated with higher education, research and innovation. The indicators on labour mobility, analysed in the previous section, include students and researchers that have been studying or working for more than one year in the reporting country, but more detailed analysis is needed insofar as students and researchers often engage in short term mobility. More broadly, they tend to be more mobile than other population groups, as countries often open specific channels for legal migration for students and highly skilled professionals. Furthermore, a number of initiatives to enhance the mobility of students and researchers were launched in the period considered in the analysis, first and foremost Erasmus, the flagship programme of the EU in this area. Erasmus Mundus was implemented between 2005 and 2013 and replaced in 2014 with the currently running Erasmus +, which is due to end in 2020.

Figure 37 and Figure 38 provide information about the short-term mobility of students and staff under Erasmus +, reflected in the recognition of foreign credits by the sending institutions. The programme allows students to study in a foreign university for 3-12 months and staff to work for 5-60 days.

Figure 37 focuses on short-term mobility from the regions retained in the analysis to the EU. In 2017, a total number of 3283 students and staff moved to a foreign university from the Eastern Mediterranean, 2416 from the Maghreb and 2120 from the Western Balkans. The individual country that sent most students and staff is Israel, with 1322 students and staff in 2017, followed by Tunisia with 1143 and Bosnia and Herzegovina with 1007. The data shows that short-

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term mobility increased steadily in the Western Balkans, the first three years of Erasmus +
implementation, and in all sub-regions between 2016 and 2017.

Figure 37: International student mobility to the EU
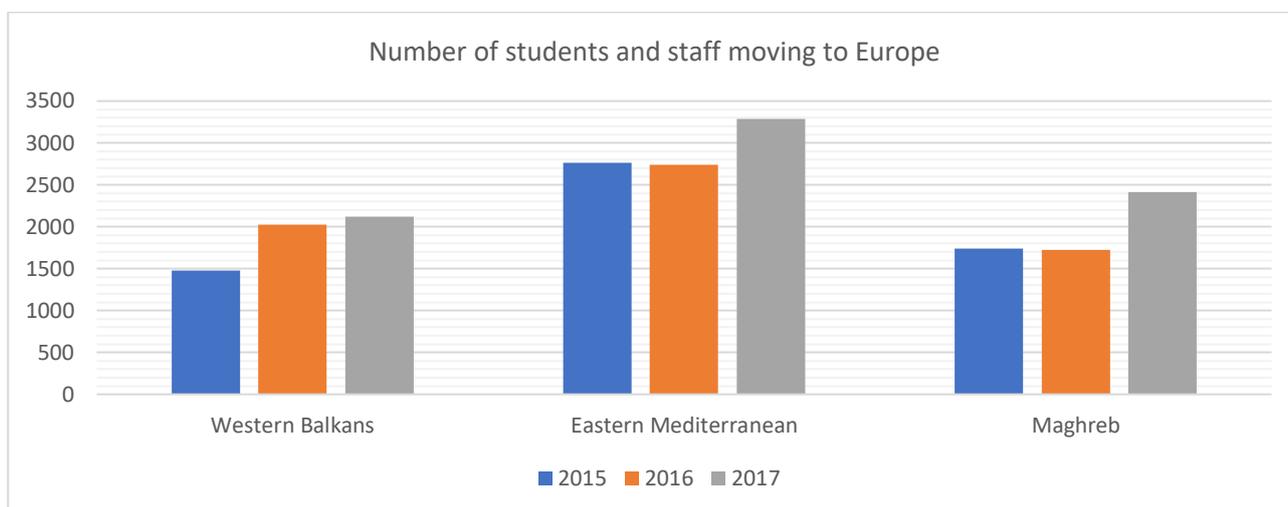
Source: own elaboration, based on Erasmus+ data

Figure 38 focuses on short-term mobility from the EU. The total number of students and
staff moving to a foreign university in the sub-regions, retained in the analysis, is lower than those
moving from these sub-regions to the EU, but their number experienced a steady increase in the
first three years of Erasmus + implementation. This increase was particularly marked in the case of
the Maghreb, whilst in absolute terms, the Eastern Mediterranean continues to attract the largest
number of students and staff from the EU. The individual country which received the highest
number of students and staff is Israel, 1064 in 2017, followed by Tunisia with 643 and Bosnia and
Herzegovina with 609. In Tunisia, the figure increased by six since the start of Erasmus +.

Figure 38: International credit mobility from the EU
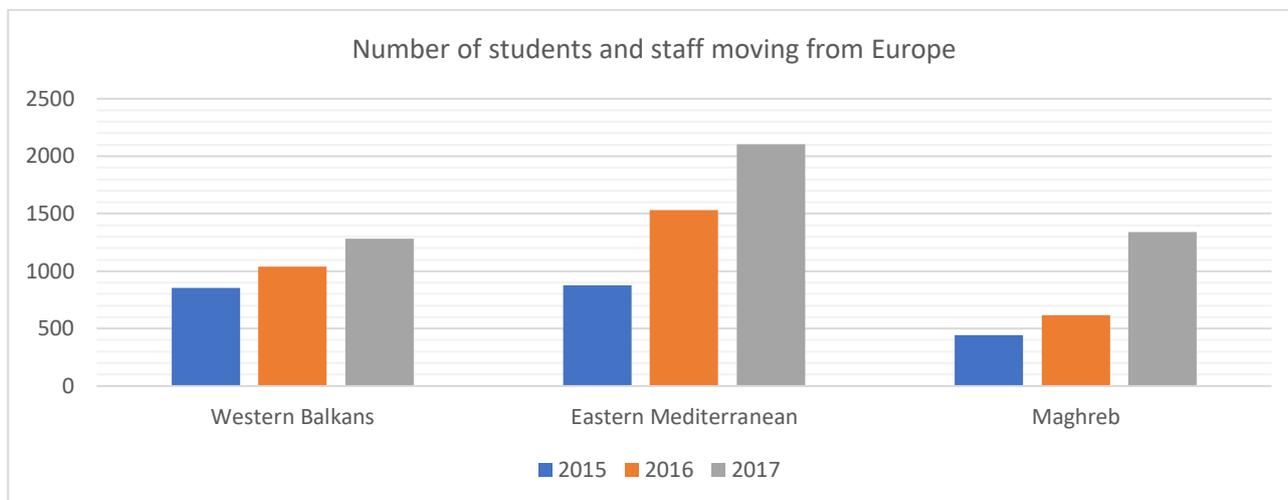
Source: own elaboration, based on Erasmus+ data

Figure 39 and Figure 40 provide information about the mobility of master and PhD students respectively. The first shows that the mobility of master students between the EU and other UfM countries has been increasing steadily over the period considered, although it peaked during the final years of the Erasmus Mundus programme. Egypt is, by far, the country that sends the most master students to the EU, 38 in 2017 against only 10 for Albania, the country with the second highest figure.

Figure 39: Mobility of master students
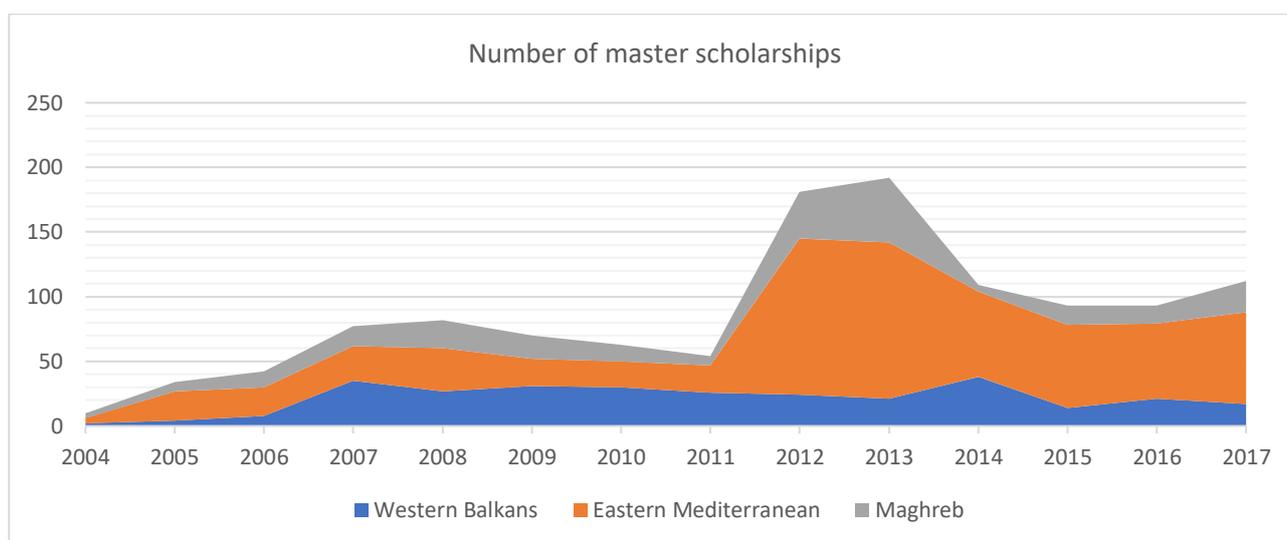
The second figure shows that the number of PhD students who moved to a foreign university had been increasing under Erasmus Mundus, whilst it has decreased since the launching of Erasmus +. Egypt and Tunisia had respectively sent 5 and 4 PhD students to the EU in 2014, the first year Erasmus + was implemented.

Figure 40: Mobility of PhD students
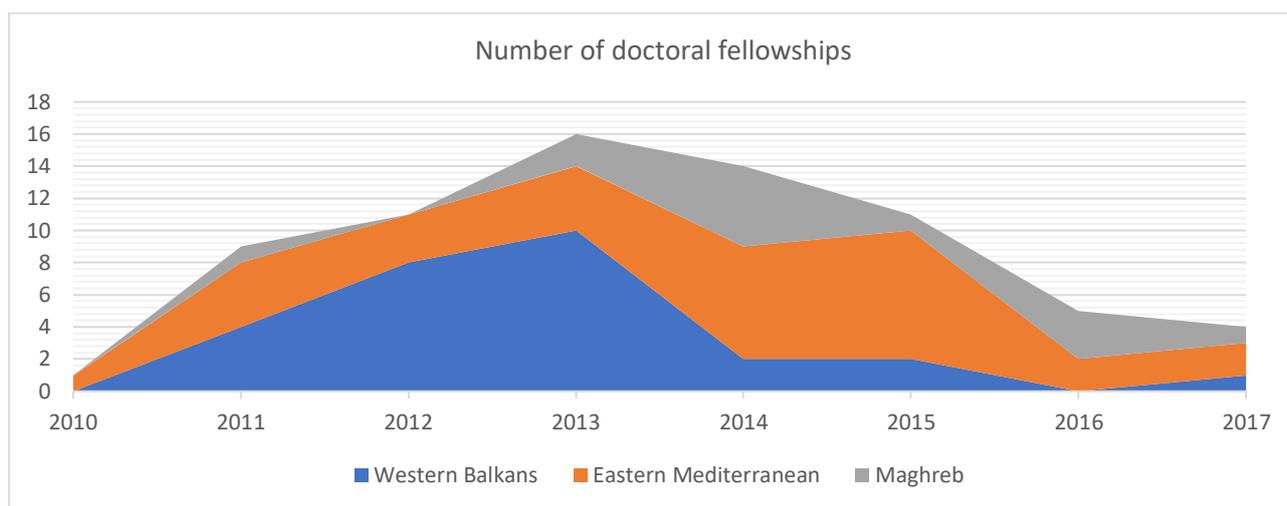
Source: own elaboration based on Erasmus+ data

Figure 41 provides information about the number of capacity building projects implemented in the sub-regions, considered under Erasmus +. These projects are aimed at modernising and reforming higher education institutions, developing new curricula, improving governance, and building relationships between higher education institutions and enterprises. They can also tackle policy topics and issues, preparing the ground for higher education reform, in cooperation with national authorities. The data shows that the number of projects implemented in the Eastern Mediterranean has been decreasing in the first three years of Erasmus + implementation, from 45 in 2015 to 28 in 2017 and, after an initial increase, also in the Western Balkans. In contrast, the number of projects implemented in the Maghreb increased.

Figure 41: Capacity building in higher education

Number of capacity building projects for higher education
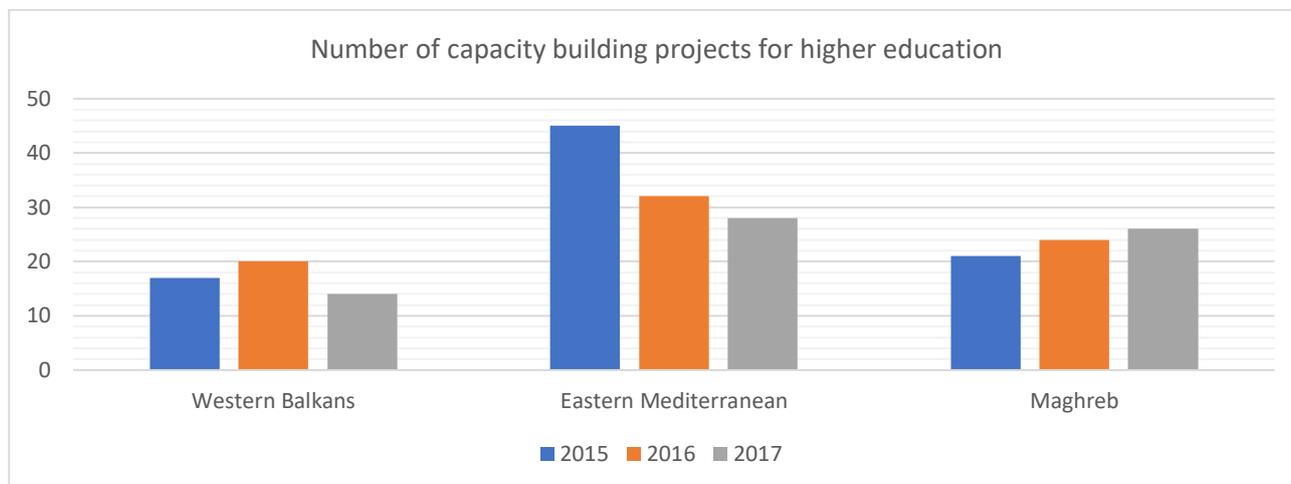
Source: own elaboration, based on Erasmus+ data

Besides Erasmus +, 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 amongst other networks and platforms in and for the region.

To conclude, convergence between sub-regions towards the benchmark value in the ratio of outbound students to population was calculated to provide an overall picture of existing conditions for integration in student mobility. The benchmark value corresponds to the UfM average ratio, i.e. countries are considered integrated if they have similar share of the student population heading abroad. Note, that the data used to compile the indicator corresponds to the overall population of outbound students, not only to the students that are moving to other UfM countries. Figure 42 shows the distance of the different sub-regions from the benchmark value. The data shows that all sub-regions, except the Western Balkans, had ratios of outbound students to population close to the UfM average for the whole period considered. This result suggests that enhancing student mobility in the region would benefit all the partners involved.

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Figure 42: Ratio of outbound students to population

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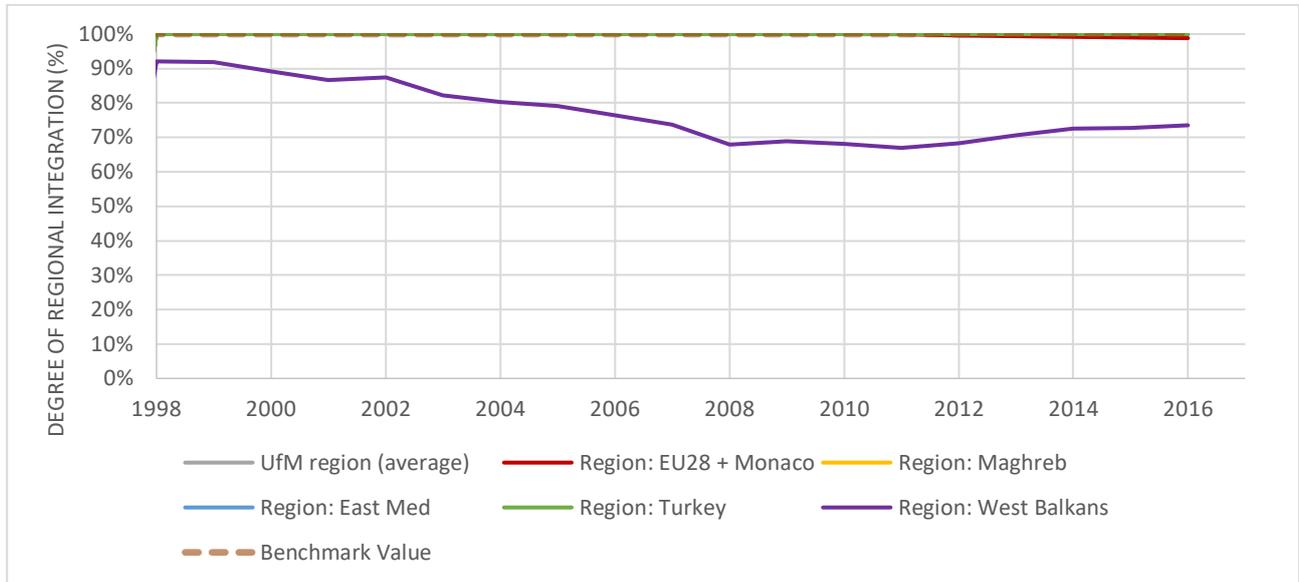
CONCLUSIONS

The study develops a regional integration matrix to monitor and to evaluate the process of regional economic integration in the Euro-Mediterranean region.

The study reviews regional integration and its monitoring at a conceptual level, based on a survey of relevant academic literature and provides a brief history of Euro-Mediterranean integration from a policy perspective, before turning to the question of whether past policy initiatives have led to economic catch-up between lower and higher income countries in the region.

To account for the diversity of the UfM region, four relevant sub-regions were identified, before proceeding with the identification of the regional integration dimensions and indicators that form part of the **Regional Integration Matrix (RIM)**, which includes a comprehensive database of carefully selected 84 indicators proposed to monitor integration in the UfM region. Finally, key indicators are selected, based on a set of criteria and a brief analysis is provided on the status and monitoring of the regional integration process. The RIM will be used to monitor the regional integration process annually, enlarged geographically to other regions (e.g. Gulf Cooperation Council countries, the wider Middle East, Russia, West Africa etc.) and will include indicators to assess the process in line with the Sustainable Development Goals of the United Nations.

The preliminary assessment of the 2000-16 decades, based on the convergence to a benchmark, shows:

For trade, the EU, Maghreb, Eastern Mediterranean and Western Balkans converged towards the benchmark value in the decade preceding the 2008 Great Recession. In its aftermath, the Maghreb and Eastern Mediterranean started diverging from it, whilst the EU and Western Balkans continued to converge.

For finance, the low correlation and high volatility observed reflect limited financial integration in the region. In recent years, even the EU has been diverging from benchmark value.

For governance, the conditions for institutional integration have been slightly but steadily deteriorating, mostly in relation to the divergence from benchmark registered in the Eastern Mediterranean.

For infrastructure, there has been an overall convergence, but it remains nonetheless distant from the benchmark value.

For the other indicators, the data is insufficient.

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ANNEXES

ANNEXE 1: LITERATURE REVIEW ON THE CONCEPT OF REGIONAL INTEGRATION

The first step when it comes to defining regional integration is to delineate what a region actually is. Jong Choi and Caporaso (2002) proposed a definition of region as a space of relative proximity and separateness, connectivity and homogeneity between a set of countries, as compared to the rest of the world. The first two intertwined concepts, proximity and separateness, refer to physical bridges and barriers between countries and psychological, cultural, social and political elements of proximity or separateness between populations in those countries that are inherited from these geographical features. The third concept, connectivity, refers to flows of goods, services, money, people and data between countries and interconnectedness between the latter resulting from these flows. The last concept, homogeneity, refers to similarities between countries in a palette of structural yet evolving characteristics, including norms, values, interests, political system, economic development and so on. This definition points to the fact that regions are not "given" entities determined by unchangeable geographical features, but rather social constructs resulting from human processes increasing or decreasing connectivity and homogeneity between countries. In line with this understanding of regions, Hettne and Söderbaum (2002) argued that there is no such thing as a region, but only "regions in the making" and introduced the concept of regionness, i.e. the process whereby a geographical area is transformed from a passive object to an active subject, capable of articulating the transnational interests of the emerging region. It is crucial to retain this definition of region as a social construct because, as the authors put it, this means that to monitor and evaluate regional integration is also to participate in the construction of a region.

To fully appreciate how regionness increases as countries engage in further integration, regional integration must be understood as a dual process consisting of the interplay between regionalism and regionalisation. Börzel and Risse (2016) defined regionalism as a top-down, primarily state-led process of engaging in enhanced cooperation and building formal regional institutions, assuming implicitly that cooperation and institutionalisation are two distinct yet interrelated components of regional integration. The authors referred, instead, to regionalisation as a bottom-up, spontaneous and endogenous process of increasing person-to-person contact, involving a variety of non-state actors organised in formal or informal networks. Distinguishing between the two concepts enables us to shed light on the self-reinforcing potential of regional integration, consisting of a positive feedback loop between regionalism and regionalisation. By engaging in enhanced cooperation and the building of formal supra-national institutions, state actors create the conditions for deeper formal and informal contacts between non-state actors

and the construction of a common sense of identity and purpose, fertile soil for further cooperation enabling the building of supra-national institutions. This has been the experience of the EU since its early stages and until recently.

In the literature, regionalism and regionalisation are often discussed in relation to their equivalent processes at a global level - globalism and globalisation. The relation between regionalising and globalising processes is not a simple matter of scale. State and non-state actors might be motivated to integrate in a regional whole, to either engage in or resist globalising processes – usually a combination of both – something that translates into a preferred strategy of internationalisation. The strategy chosen by a country as it opens up has an impact on its economic performance, meaning that some countries within the same regional ensemble might achieve better outcomes than others, because they are privileged by the modalities of regional integration and the interplay of such modalities with globalising processes. This very fact points towards two important observations. First, that the modalities through which regional integration is pursued, matter. Second, that the success of regional integration schemes ultimately depend on the fairness of the modalities retained – they must benefit every participating country – and, therefore, on the quality of the institutions regulating the power struggles between participants in the definition of such modalities. Tensions may arise if the outcomes of regional integration schemes are too uneven.

Now that we discussed a number of concepts related to regional integration and presented the different dimensions that are generally retained in the literature, we turn to the question of why it is important for countries to engage in deeper integration. The basic assumption is that deeper regional integration leads to higher economic growth which, in turn, leads to higher employment. In the following paragraphs, the literature on the link between regional integration and growth is reviewed, in order to shed light on the extent to which this claim is consensual.

In the 1970s and 1980s, there was wide consensus among scholars about the positive relation between trade liberalisation, the cornerstone of virtually all real-world regional integration initiatives, and economic growth. Levine and Renelt (1992) had found that countries with low trade barriers invest more and grow faster, bringing evidence of the importance of FDI as a channel of transmission from trade liberalisation and economic growth. Bende-Nabende, Ford and Slater (2001) confirmed the importance of the FDI channel in their analysis of regional integration and economic growth in ASEAN countries, highlighting the importance of knowledge and technology learning and the effect they have on enhancing labour force productivity in open countries. Barro and Sala-I-Martin (1995) followed a different line of reasoning and brought evidence that countries with high tariffs grow slower than those with low tariffs. Other studies focussed on evaluating the effect of European integration on economic growth, bringing further evidence in support of the claim that tariff waiving and trade liberalisation have a positive impact

on economic growth (see, for example, Henrekson, Torstenson and Torstenson, 1997; Maudos, Pastor and Seranno, 1999).

However, most of the literature at the time focussed on the positive relation between trade liberalisation and economic growth, not on the effects of regional integration at large. In the 1990s and 2000s, the proliferation of regional trade agreements and the first empirical evidence of low gains from these agreements persuaded a number of scholars to further investigate through which channels, and against which barriers, trade liberalisation does lead to higher economic growth. In a seminal contribution to the debate, Lawrence (1996) introduced the distinction between mere waiving of tariffs – *shallow integration* – and trade agreements encompassing measures that address competition and regulatory policies – *deep integration*, assuming implicitly that deeper normative convergence leads to higher economic gains for integrating countries. Mattli (1999) discussed another important distinction, between integration *de jure* and *de facto*, partly explaining the discrepancies observed between expected and real gains from regional trade agreements. As the author puts it, regional integration treaties entail a lengthy process of establishing common rules, regulations and policies that will translate the aspiration for regional prosperity into reality which, more often than not, countries fail to implement fully and successfully. These two distinctions shed light on the importance of countries having quality institutions in order to reap the economic benefits expected from opening up to international trade and engaging in deeper regional integration.

In a reasonably comprehensive study on the topic, the Organisation for Economic Cooperation and Development (2001) analysed under what conditions deeper integration in the Euro-Mediterranean region would deliver the expected economic gains, drawing a distinction between *static* and *dynamic* gains. The former type of gains refers to greater opportunities to exploit economies of scale, as economies integrate and markets expand. The latter refer to the effects of increased competition, which is supposed to spur a more efficient allocation of resources and stimulate investment. The starting point of the analysis is the recognition that both static and dynamic gains from trade liberalisation lead to an increase in regional income, but only if trade creation effects result in being greater than trade diversion effects. In other words, if more openness leads to higher efficiency of domestic companies, rather than being replaced by foreign companies.

A number of scholars reassessed the link between regional integration and economic growth, as new evidence from real-world experiments of regional integration emerged. For example, Campos, Coricelli and Moretti (2008) brought new evidence that institutional integration in the EU did have large and positive effects on economic growth. Kamau (2010) confirmed the positive relationship between economic integration and growth, focussing on the EAC, SADC and COMESA regional trade blocks. In contrast, Tumwebaze and Ijjo (2015) found, using a different

methodology, that regional integration per se did not spur higher economic growth in the COMESA region, whilst confirming the positive effects of trade openness.

ANNEXE 2: REGIONAL PROGRAMMES FUNDED UNDER THE EUROPEAN NEIGHBOURHOOD POLICY

ECONOMIC AND SOCIAL COOPERATION			
eTwinning Plus	2014-2020	The Next Society – Innovators Shaping the Future of the Mediterranean	2017-2020 €7.800.000
Promoting Social Entrepreneurship in the Mediterranean Region *(MedUP!)*	2018-2022 €5.460.000	Promoting Social Dialogue in the Southern Mediterranean Neighbourhood *(SOLiD)*	2016-2018 €3.750.000
Enhancing Business Support Organisations and Business Networks in the Southern Neighbourhood *(EBSOMED)*	2018-2022 €6.250.000	MENA Guarantee Facility	2017-2027 €24.000.000
Southern and Eastern Mediterranean MSME Financial Inclusion Programme	2016-2026 €27.000.000	Small Business Support Activities in the Southern and Eastern Mediterranean Countries	2016-2018 €20.000.000
Risk Capital Facility for the Southern Neighbourhood	2015-2025 €50.000.000	MENA Fund for MSMES *(SANAD)*	2011-2026 €30.000.000
Euro-Mediterranean Forum of Economic Institutes *(FEMISE)*	*2015-2019 2.500.000*	Euro-Mediterranean Network for Economic Studies *(EMNES)*	2015-2018 €2.500.000
Promoting Investment in the Southern Mediterranean	2016-2020 €3.000.000	Youth Mobility and Regional Integration of Maghreb Countries	2015-2018 €800.000
Support for Economic Research, Studies and Dialogue of the Euro-Mediterranean Partnership	2015-2019 €4.000.000	EUROMED CONNECT III	2011-2016 €9.300.000
ERASMUS+	2014-2020 €14.700.000.000	European Neighbourhood Programme for Agriculture and Rural Development *(ENPARD SOUTH)*	2012-2018 €4.000.000
Networks of Mediterranean Youth *(NET-MED YOUTH)*	2014-2018 €8.800.000	Enhancement of the Business Environment in Southern Mediterranean *(EBESM)*	2014-2016 €12.000.000
Support for Business and Investment Partnership in the Southern Mediterranean *(EUROMED INVEST)*	2014-2016 €5.000.000	Cluster Development in Cultural and Creative Industries *(CREATIVE MEDITERRANEAN)*	2014-2019 €6.800.000

Euro-Med Trade Help Desk – Trade and Investment Facilitation Mechanism	2014-2020 €2.000.000		
ENERGY, TRANSPORT AND ENVIRONMENT			
EuroMed Transport Aviation Safety Project *(EASP)*	2015-2017 €2.000.000	EuroMed Transport Maritime Project *(SAFEMED IV)*	2017-2021 €4.000.000
EuroMed Transport Rail Project *(EUMedRail)*	2017-2020	MEDREG III	2013-2017 €3.170.000
Mediterranean Transmission System Operators *(MED-TSO)*	2015-2018 €3.220.000	EuroMed Transport Support Project	2017-2020 €3.000.000
Southern and Eastern Mediterranean Project Preparation Framework to Fast-Start EBRD Support	2011-2018 €15.000.000	Fostering EU Policy Implementation through Public-Private Partnership Project Preparation *(MED 5P INITIATIVE)*	2013-2017 €5.000.000
Towards an Ecologically Representative and Efficiently Managed Network of Mediterranean Marine Protected Areas	2015-2018 €3.000.000	Southern and Eastern Mediterranean Regional Sustainable Energy Finance Facility *(SEMED SEFF)*	2013-2020 €16.500.000
Implementation of the Shared Environmental Information System Principles and Practices *(ENI SEIS II SOUTH)*	2016-2020 €1.800.000	Technical Assistance to the Mediterranean Urban Projects Finance Initiative *(UPFI)*	2012-2017 €5.000.000
Sustainable Urban Demonstration Projects South Support Mechanism *(SUDEP South)*	2014-2018 €2.250.000	Cleaner Energy Saving Mediterranean Cities *(CES-MED)*	2013-2018 €6.820.000
Support for Climate Change Mitigation and Adaptation *(CLIMA SOUTH)*	2013-2018 €5.000.000	Switching to Sustainable Consumption and Production in the Mediterranean *(SWITCH-MED)*	2012-2018 €20.000.000
POLITICAL AND SECURITY DIALOGUE			
Countering Radicalisation and Violent Extremism in the Sahel-Maghreb Region	2015-2019 €5.000.000	Supporting Arab Spring Countries to Implement Asset Recovery	2015-2018 €2.700.000
Interpol South	2017-2020 €3.000.000	Cooperation on Cybercrime in the Southern Neighbourhood Region *(CyberSouth)*	2017-2020 €3.330.000
EUROMED MIGRATION IV	2016-2019 €6.870.000	EUROMED JUSTICE IV	2016-2018 €4.770.000

EU-UNODC Global Initiative on Criminal Justice Responses to Foreign Terrorist Fighters	2015-2020 €5.000.000	EUROMED POLICE IV	2016-2019 €4.800.000
Euro-Mediterranean Political Research and Dialogue for Inclusive Policymaking *(EUROMESCO)*	2015-2019 €1.250.000	Support Rule of Law Compliant Investigations and Prosecutions in the Maghreb Region	2014-2018 €4.000.000
Promotion of Policies for Equality in the Euro-Mediterranean Region *(MEDEQUALITY)*	2014-2017 €976.000	Strengthening Democratic Reform in the Southern Neighbourhood II	2015-2017 €7.370.000
MED-CULTURE	2014-2018 €17.000.000	EU Partnership for Peace - Middle East Projects *(EU-PfP)*	€5.000.000 / €10.000.000
CROSS-CUTTING AREAS			
Capacity Building to Open Policy Dialogue and Monitoring for Women in Society *(CSO WINS)*	2015-2018 €650.000	Supporting Young Citizens in the Arab World through the Media *(D-Jil)*	2018-2022 €2.500.000
Support to the European Endowment for Democracy	2015-2018 €12.000.000	OPEN Media Hub	2016-2019 €8.000.000
MedFilm For All	2017-2020 €1.870.000	Generation What? – Arabic	2017-2018 €767.308
Promoting the Role of Women and Image in the Audiovisual Sector *(SouthMed WiA)*	2017-2019 €1.250.000	Euro-Mediterranean Statistical Cooperation *(MEDSTAT IV)*	2016-2019 €4.700.000
Empowering MENA Civil Society Participation in Policy Making *(We Gov!)*	2015-2018 €1.100.000	Civil Society Facility South *(CSF SOUTH)*	2012-2018 €4.000.000
Drama, Diversity and Development Programme *(DDD)*	2014-2017 €85.000	Media and Culture for Development in the Southern Mediterranean	2013-2017 €17.000.000
Anna Lindh Foundation for the Dialogue Between Cultures	2015-2017 €7.000.000		

Source: own elaboration, based on information retrieved from https://www.euneighbours.eu/en

ANNEXE 3: REGIONAL PROGRAMMES FUNDED OR LABELLED BY THE UNION FOR THE MEDITERRANEAN

BUSINESS DEVELOPMENT AND EMPLOYMENT			
Generation Entrepreneur	2015-2018 €3.400.000	Support for Entrepreneurship Initiatives in the Mediterranean *(SIEMed)*	2017-2020 €757.500
Labour Integration Programme *(INCORPORA)*	2017-2018 €327.400	Fostering SME Competitiveness in the Agadir Agreement Member Countries *(Agadir SME Programme)*	2017-2019 €4.350.000
YouMatch – Toolbox Project	2016-2018 €1.050.000	EUROMED Invest Promotion and Observatory *(EMIPO)*	2016-2018 €3.400.000
Economic Development through Inclusive and Local Empowerment *(EDILE)*	2015-2018 €2.900.000	Developing Youth Employability and Entrepreneurial Skills *(Maharat MED)*	2015-2018 €3.852.528
Mediterranean Entrepreneurship Network	2015-2018 €6.800.000	Promoting Financial Inclusion via Mobile Financial Services *(MOBILE FINANCE)*	2014-2015 €1.340.000
Regional Platform for Cultural & Creative Industries and Clusters	2014-2018 €300.000	Euro-Mediterranean Development Centre for MSMEs *(EMDC)*	2013-2015 €5.400.000
Mediterranean Initiative for Jobs *(Med4Jobs)*	2014 onward		
ENERGY AND CLIMATE ACTION			
SEMed Private Renewable Energy Framework *(SPREF)*	2015-2018 €836.000.000	UfM Energy University by Schneider Electric	Online project €6.000.000
Tafila Wind Farm	2014-2015 €209.000.000		
HIGHER EDUCATION AND RESEARCH			
Eastern Mediterranean International School *(EMIS)*	2015-2019 €11.832.336	New Chance Mediterranean Network *(MedNC)*	2015-2019 Med4Jobs
High Opportunity for Mediterranean Executive Recruitment *(HOMERe)*	2015-2016 €709.400	Higher Education on Food Security and Rural Development	2015-2018 €1.200.000
Euro-Mediterranean University *(EMUNI)*	2008 onward	Euro-Mediterranean University of Fez *(UEMF)*	2015 onward

SOCIAL AND CIVIL AFFAIRS			
Civic and Social Engagement of Women & Youth in Preventing Violence and Extremism	2017-2021 €2.600.000	Women's Right to Health *(WoRTH)*	2016-2020 €4.160.000
Women's Empowerment for Inclusive and Sustainable Development	2015-2017 €4.525.000	Women of the Mediterranean – Next Generation of Leaders *(WOMED)*	2015-2018 €820.000
Growing and Scaling SMEs *(CEED GROW)*	2015-2017 €1.000.000	Forming Responsible Citizens – Equal Citizenship Education to Prevent School Violence	2015-2018 €759.249
Developing Women's Empowerment	3 years €1.500.000	Skills for Success – Employability Skills for Women	2014-2015 €700.000
Young Women as Job Creators	2013-2015 €650.000		
TRANSPORT AND URBAN DEVELOPMENT			
Euro-Mediterranean Smart Cities Innovation Centres	2018-2020 €1.000.000	Imbaba Urban Upgrading Project	2017-2022 €100.000.000
TransLogMED	2017-2022 €1.500.000	Izmir Urban Integrated Waste Management Project	2018-2021 €110.000.000
Multi-Site Urban Regeneration Project in Jericho	2017-2019 €6.590.000	Towards a New Mediterranean Corridor *(OPTIMED)*	2016-2019 €37.350.000
Motorway of the Sea Turkey-Italy-Tunisia	2017-2037 €477.000.000	Bouregreg Valley Development	2018 onward €394.000.000
UPFI Sfax Taparura Project	2018 onward €403.200.000	Jordanian Railway Network	2013-2020 €2.110.000.000
Trans-Maghreb Motorway Axis Central Section Morocco-Tunisia	2015-2021 €670.000.000	LOGISMED Training Activities *(LOGISMED-TA)*	2013-2018 €6.600.000
WATER AND ENVIRONMENT			
Scaling Up Forest and Landscape Restoration	2018-2022 €1.850.000	Mediterranean Coasts for Blue Growth *(MedCoast4BG)*	2018-2020 €3.085.000
Plastic Busters for a Mediterranean Free from Litter	2016-2020 €8.800.000	Capacity Building Programme on Water Integrity in the MENA Region	2014-2018 €2.302.000
Networking Civil Society on Environment and Water Issues *(BLUEGREEN MED CS)*	2014-2017 €2.855.900	Sustainable Consumption and Production and Resource Efficiency *(Mediterranean RESCP Post Rio+20)*	2015-2019 €8.900.000

Mediterranean Knowledge Platform on Water *(MED WATER KNOWLEDGE)*	2013-2016 €9.525.000	Integrated Programme for the Protection of Lake Bizerte against Pollution	2016-2022 €90.000.000
Governance and Financing in the Mediterranean Water Sector	2013-2016 €2.500.000	Desalinisation Facility for the Gaza Strip	2016 onward €350.000.000

Source: Own elaboration, based on information retrieved from https://UfMsecretariat.org/what-we-do/projects/ (till 21 December 2018)

ANNEXE 4: REGIONAL POLICY COORDINATION BETWEEN UFM COUNTRIES

UfM countries are engaged in a variable geometry of common initiatives on specific areas of cooperation. In this section, selected initiatives are briefly overviewed, providing a snapshot of the current situation concerning regional coordination in environmental and economic policies.

Environmental policies

As regards to maritime protection, all UfM countries bordering the Mediterranean Sea[23] have subscribed to the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, adopted in 1995 in replacement of a previous agreement reached in 1975, with the following objectives:

- to assess and control marine pollution;
- to ensure sustainable management of natural marine and coastal resources;
- to integrate the environment in social and economic development;
- to protect the marine environment and coastal zones through prevention and reduction of pollution and, as far as possible, elimination of pollution, whether land or sea-based;
- to protect the natural and cultural heritage;
- to strengthen solidarity among Mediterranean coastal States; and
- to contribute to improvement of the quality of life.

The Convention gave rise to seven protocols addressing specific aspects of environmental conservation, i.e. pollution from a variety of sources (aircraft, ships, land-based or offshore activities), protection of biodiversity and management of hazardous waste and integrated coastal zones. More broadly, UfM countries are all members of the United Nations International Maritime Organisation and, as such, participated in the establishment of a number of conventions finalising the management of oil pollution at sea. These include conventions focussed on intervention on the high seas; preparedness, response and co-operation; compensation; civil liability; and prevention. The latter was subsumed in the broader international convention on the prevention of pollution from ships in 1973, ratified as of today by all UfM countries, except Albania, Bosnia and Herzegovina, Jordan and Palestine.

UfM countries are involved in international multilateral agreements on hazardous waste. The so-called Basel, Stockholm and Rotterdam Conventions are landmarks in this sense. The first focusses on the control of transboundary movements of hazardous wastes and their disposal, signed in 1989. Virtually all countries in the region had ratified this at the time of writing. The

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[23] These include Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia and Turkey.

second focusses on persistent organic pollutants and was signed in 2001. Italy is the only UfM country that has yet to ratify it. The third focusses on prior informed consent procedures for certain hazardous chemicals and pesticides in international trade and was signed in 1998. Amongst UfM countries, Algeria and Egypt had not yet ratified this convention at the time of writing. In addition to these three conventions, the United Nations Food and Agriculture Organisation established international codes of conduct on distribution and the use of pesticides and, more broadly, on pesticide management. Virtually all UfM countries have implemented pesticide legislation on the basis of these codes of conduct since their signature, which took place respectively in 2002 and 2003. Most of them also subscribed to the Minamata Convention on Mercury, designed to protect human health and the environment from risks related to the use of the substance, mostly in the extractive industry. Algeria, Bosnia and Herzegovina, Egypt, Lebanon and Palestine are exceptions.

Economic policies

As regards to monetary policies, regional coordination between UfM countries that are not member states of the EU remains virtually non-existent, with a significant divergence in exchange rate policies. In some cases, domestic currencies are pegged to the euro (Bosnia and Herzegovina and Montenegro, where the euro is actually used as domestic currency) or the dollar (Jordan and Lebanon). As we shall see later on, the lack of coordination is reflected in a very low correlation between inflation rates between these countries, and considerable volatility when it comes to both inflation and exchange rates across the region. In 1992, the European Investment Bank launched the Facility for Euro-Mediterranean Investment and Partnership, which brings together on a yearly basis the finance ministers of EU member states and Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine, Syria and Tunisia to discuss investment strategies and related commitments.

The same goes for the regional coordination of fiscal policies, which are virtually non-existent between UfM countries and scarce even between EU member states. That said, UfM countries did sign a number of international tax conventions and bilateral tax treaties. In 1988, the Convention on Mutual Administrative Assistance in Tax Matters was developed by the Organisation for Economic Cooperation and Development and the Council of Europe, with the aim of facilitating bilateral tax information exchange agreements between countries. As of today, all EU member states and Albania, Israel, Morocco, Tunisia and Turkey have signed the convention. In 2016, negotiations under the auspices of the Organisation for Economic Cooperation and Development were concluded for the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent Base Erosion and Profit Shifting, finalised to update international tax rules and lessen the opportunity for tax avoidance by multinational enterprises. Egypt, Israel, Monaco,

Tunisia and Turkey, in addition to all EU member states, have signed this convention. As regards to bilateral tax treaties, the International Bureau of Fiscal Documentation maintains a database on tax treaties that could be purchased and used for a more detailed mapping of bilateral tax treaties between UfM countries.

Turning to trade policies, most UfM countries are members of the World Trade Organisation and, as such, are engaged in several rounds of negotiations on trade liberalisation outside the framework of the Euro-Mediterranean Partnership. The World Trade Organisation replaced the General Agreement on Tariffs and Trade in 1995, the year in which the General Agreement on Trade in Services entered into force, extending the multilateral trading system to services trade. As of today, amongst UfM countries, only Monaco and Palestine are not members of the organisation. These two countries, along with Albania, Bosnia and Herzegovina, Jordan, Lebanon and Montenegro, have, to date, not signed the General Agreement on Trade in Services. EU countries signed it, but have withdrawn their commitment to liberalise trade in services, which remains a controversial issue even within the single market. It must be noted that Algeria only has observer status with the World Trade Organisation, but did subscribe to the General Agreement on Trade in Services.

The Table below provides an overview of the free trade agreements in force between UfM countries as of 2018. These free trade agreements mostly focussed on the liberalisation of trade in manufactured goods, whilst also featuring commitments to the liberalisation of trade in agricultural goods. It remains a much more delicate matter to liberalise services trade, which explains why it is not covered in most of these agreements.

WTO status and free trade agreements in 2018

COUNTRY	WTO MEMBERSHIP		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), Lebanon (2012)

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.

Source: own elaboration, based on data from World Trade Organisation, World Development Indicators for tariff data, and Preferential Trade Agreements Database for FTA data.

ANNEXE 5: DETAILED DESCRIPTION OF THE REGIONAL INTEGRATION DATABASE (RID)

This annexe presents in detail the regional integration database (RID), compiled for the purpose of the study, which will be updated regularly and provide the basis for the continuous monitoring of regional integration UfM countries.

The first section discusses the main benefits of using the RID. The second section overviews the main caveats of the computations performed with data compiled in the RID. The third section provides the detail of formulas used for the computation and choice of benchmark value for each indicator used in the monitoring exercise, including composite indicators. The fourth section gives an overview of the availability, update, computation, interpretation and usefulness of each indicator.

1. Regional Integration Database (RID) characteristics

The **Regional Integration Database (RID)** includes a number of indicators, under seven retained dimensions, that defines the regional integration process from a quantitative point of view.

RID has **seven core dimensions,** including a **total of 86 indicators**: (trade (30 indicators + 1 composite), finance (5 indicators + 1 composite), governance (6 indicators + 1 composite), infrastructure (18 indicators + 1 composite), foreign direct investment (6 indicators), labour mobility (14 indicators + 1 composite) including 2 indicators to assess the higher education and research dimension and, finally, 2 additional indicators used in the analysis.

RID totals **86 indicators** that are: relevant to the process of regional integration, identified using best practices (based on the review of the literature), measurable and data collected from primary accessible, verifiable and publicly available official sources. It uses data from the World Bank and the IMF, the Unesco Institute of Statistics (UIS), the United Nations and other highly reliable databases, and includes the corresponding links so as to provide quick access to the raw databases, which makes RID easy to update.

RID includes data that is available, easily updated, comparable, computed and interpreted. The computation of each of the RID indicators is based on the minimum number of different databases, so as to avoid mis-matching errors by combining different databases and increasing accuracy and comparability.

RID gives a comprehensive view of the historical trends from 1995-96 (when available) to 2017 for 43 UfM member states and 4 sub-regions defined for the purpose of this monitoring exercise.

The indicators retained in RID are carefully defined and assessed against four criteria:

1- availability;
2- update;
3- computation/measurability and;
4- ease of interpretation.

In the assessment, we added a fifth indicator – usefulness, based on a scientific judgment pertaining from how useful (in terms of economic and policy relevance) the indicator is for monitoring the regional integration process in the UfM region. It goes from low, to medium to high.

RID is user friendly and allows all possible computations, graphs and table generation.

RID can be expanded by introducing additional relevant indicators and dimensions.

However, the main caveats of RID are presented below:

2. Main caveats of RID

2.1. Incomplete datasets

Data is not available for some countries (particularly for the Maghreb and Eastern Mediterranean and users should be aware of the data availability problem. The main caveat of incomplete datasets is in respect of aggregation. The trajectory of the values of an aggregate measure may be highly affected by its different composition across time.

A solution to this is to use mathematical techniques, such as interpolation or extrapolation, in order to fill the data gaps. This technique is suboptimal, however, when it comes to economic interpretations for policy actions.

2.2. Combination of different databases

Different databases may not match. Thus, an Indicator which combines data from different databases can suffer from this mismatch, producing inaccurate results. In order to avoid this problem, we tried to use the minimum number of databases that were found to be available and were required for the computation of each indicator.

2.3. Quantification of the integration process

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In order to quantify the integration process, we use **a convergence hypothesis.** This is a benchmark value that the countries need to reach, or exceed, in order to be defined as fully integrated.

The benchmark value is arbitrarily selected. In our analysis, it is based mainly on the level of the advanced economies of the UfM countries (i.e. the 80th percentile of the historical data).

2.4. Direction of the integration

Each indicator that quantifies the integration should theoretically define the direction to the integration. The following three cases are assumed:

a. The higher value of an indicator is positive to the integration process. In this case, the full integration is arrived at when the indicator is greater or equal to a benchmark value (upward direction). Example: export dependency.

b. The lower value of an indicator is positive to integration process. In this case, the full integration is arrived at when the indicator is lower or equal to a benchmark value (downward direction). Example: energy intensity.

c. A convergence to a point of an indicator is positive to the integration process. In this case, the full integration is arrived at when the indicator converges to a benchmark point. Example: cumulative FDI as % of GDP

3. Detail of formulas and choice of benchmark value for the indicators compiled in RID

1. Trade

Weighted Overall Index = 1/5 * TRDIND03A + 1/5 * TRDIND10A + 1/5 * TRDIND15 + 1/5 * TRDIND16 + 1/5 * TRDIND21A

Indicator: TRDIND03A
Mathematical Expression: $= 100 \cdot \dfrac{Exports_{r,t}}{\sum_{c=UFM} Exports_{c,t}} / \dfrac{GDP_{r,t}}{\sum_{c=UFM} GDP_{c,t}}$
Description: Ratio of Export share in Regional Exports to GDP share in Regional GDP: a ratio with numerator is the country's total exports divided by the UfM region's total exports, including intra-regional exports and denominator is the country's GDP divided by the UfM region's GDP.
Benchmark value: 80%. The 80% benchmark value is selected arbitrary. A 100% benchmark value corresponds to the case that all countries have the same Export to GDP ratio. The 80% allows heterogeneous Export to GDP ratios across countries in the definition of the "full integration". The 20% corresponds with the degree of heterogeneity that our assumption allows in the definition of the full integration.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated. This indicator is based on the relative distance from the UfM average. By re-formulating we have:

$$100 \cdot \frac{Exports_{r,t}}{GDP_{r,t}} \Big/ \frac{\sum_{c=UFM} Exports_{c,t}}{\sum_{c=UFM} GDP_{c,t}}$$

Thus, an integration is achieved when all the countries have more or less the same export share to GDP, and the integration is based on the variation from the corresponding UfM region exports to GDP share.

Indicator: TRDIND10A

Mathematical Expression: $= 100 \cdot \frac{Imports_{r,t}}{\sum_{c=UFM} Imports_{c,t}} \Big/ \frac{GDP_{r,t}}{\sum_{c=UFM} GDP_{c,t}}$

Description: Ratio of Import share in Regional Imports to GDP share in Regional GDP: a ratio with numerator is the country's total imports divided by the UfM region's total imports, including intra-regional imports and denominator is the country's GDP divided by the UfM region's GDP.

Benchmark value: 80%. The 80% benchmark value is selected arbitrarily. A 100% benchmark value corresponds to the case that all countries have the same Import to GDP ratio. The 80% allows heterogeneous Import to GDP ratios across countries in the definition of the "full integration". The 20% corresponds with the degree of heterogeneity that our assumption allows in the definition of the full integration.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated. This indicator is based on the relative distance from the UfM average. By re-formulating we have:

$$100 \cdot \frac{Imports_{r,t}}{GDP_{r,t}} \Big/ \frac{\sum_{c=UFM} Imports_{c,t}}{\sum_{c=UFM} GDP_{c,t}}$$

Thus, an integration is achieved when all the countries have more or less the same export share to GDP, and the integration is based on the variation from the corresponding UfM region exports to GDP share.

Indicator: TRDIND15

Mathematical Expression: $= 100 \cdot \frac{Exports_{r,t} + Imports_{r,t}}{GDP_{r,t}}$

Description: Import and Exports over GDP (trade openness): the sum of the country's total exports with the country's total imports divided by the country's GDP.

Benchmark value: 100%. The 100% benchmark value is selected arbitrarily. A 100% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a trade openness higher or equal to 100%.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated. This indicator is based on an **absolute** value of the trade openness.

It is assumed that a fully integrated country should have a trade openness indicator higher than 100%.

Indicator: TRDIND16

Mathematical Expression: $= 100 \cdot \frac{Exports_{r,t} - Imports_{r,t}}{GDP_{r,t}}$

Description: Exports minus Imports over GDP (balance of trade): the difference of the country's total exports with the country's total imports divided by the country's GDP.

Benchmark value: 0%. The 0% benchmark value is selected arbitrarily. A 0% benchmark value corresponds to the case that a country is considered as fully integrated only if it has no deficit.
Integration: A country that exceeds the benchmark value is assumed to be fully integrated. This indicator is based on an **absolute** value of the balance of trade.
It is assumed that a fully integrated country should have no deficit or surplus, a zero trade balance.

Indicator: TRDIND21A

Mathematical Expression: $= 100 \cdot \dfrac{Exports\ to\ UFM_{r,t} +\ Imports\ to\ UFM_{r,t}}{\sum_{c=UFM} Exports\ to\ UFM_{c,t} +\ Imports\ to\ UFM_{c,t}} \Big/ \dfrac{GDP_{r,t}}{\sum_{c=UFM} GDP_{c,t}}$

Description: Ratio of intra-regional trade share to GDP share of Regional GDP: the ratio with numerator is the trade (imports + exports) of one country with the rest of UfM countries divided by the total trade (imports + exports) that take place within UfM member countries and denominator is the country's GDP divided by the UfM region's GDP.

Benchmark value: 80%. The 80% benchmark value is selected arbitrarily. A 100% benchmark value corresponds with the case that all countries have the same intra-regional trade to GDP ratio. The 80% allows heterogeneous intra-regional trade to GDP ratios across countries in the definition of the "full integration". The 20% corresponds to the degree of heterogeneity that our assumption allows in the definition of the full integration.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated. This indicator computation is based on the relative distance from the UfM average. By re-formulating we have:

$$100 \cdot \dfrac{Exports\ to\ UFM_{r,t} +\ Imports\ to\ UFM_{r,t}}{GDP_{r,t}} \Big/ \dfrac{\sum_{c=UFM} Exports\ to\ UFM_{c,t} +\ Imports\ to\ UFM_{c,t}}{\sum_{c=UFM} GDP_{c,t}}$$

Thus, an integration is achieved when all the countries have more or less the same intra-regional trade share to GDP, and the integration is based on the variation from the corresponding UfM region intra-trade to GDP share.

2. Money and Finance Indicators

Weighted Overall Index = 1/5 * MFNIND01 + 1/5 * MFNIND02 + 1/5 * MFNIND03 + 1/5 * MFNIND04 + 1/5 * MFNIND05

Indicator: MFNIND01

Mathematical Expression:

$$= \mathrm{CORREL}(BondRate_{r,t} \dots BondRate_{r,t-5}, BondRate_{c=DEU,t} \dots BondRate_{c=DEU,t-5})$$

Description: Regional correlation of 10yr bond rates: the 5 year correlation of the country's 10yr bond rate with Germany's 10yr bond rate.

Benchmark value: 80%. The 80% benchmark value is selected arbitrarily. A 100% benchmark value corresponds with the case that all countries have the same movement to Germany in their bond rate. The 80% allows heterogeneous movement in the bond rates across countries in the definition of the "full integration". The 20% corresponds to the degree of heterogeneity that our assumption allows in the definition of the full integration.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated.
This indicator is based on an **absolute** value of the bond rate correlation.
A fully integrated country has a bond rate with more than 80% positive correlation to Germany's

bond rate.

Indicator: MFNIND02
Mathematical Expression: $= BondRate_{r,t} - BondRate_{c=DEU,t}$ **Description**: 10yr bond rates differential to base bond rate: the difference of the country's 10yr bond rate with Germany's 10yr bond rate. **Benchmark value**: 2%. The 2% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that all countries have the same to Germany bond rate. The 2% allows to have heterogeneous bond rate across countries in the definition of the "full integration". A 2% benchmark value corresponds to the case that a country is considered as fully integrated only if it has a bond rate that is not 2 percentage points lower than the Germany's bond rate. **Integration**: A country that has a differential in bond rate **lower** than the benchmark value is assumed to be fully integrated. This indicator is based on the **relative** distance from Germany's bond rate. A fully integrated country has a bond rate differential with Germany's bond rate of no more than 2%.

Indicator: MFNIND03
Mathematical Expression: $= \dfrac{GOVDEBT_{r,t}}{GDP_{r,t}}$ **Description**: Central government debt to GDP: the country's central government debt divided by the country's GDP **Benchmark value**: 60%. The 60% benchmark value is selected arbitrarily. A 60% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a Central government debt to GDP lower than 60%. **Integration**: A country that has a central government debt to GDP share **lower** than the benchmark value is assumed to be fully integrated. This indicator is based on an **absolute** value of the central government debt to GDP. It is assumed that a fully integrated country should have a Central government debt to GDP **lower** than 60%.

Indicator: MFNIND04
Mathematical Expression: $= \text{CORREL}(S\&PReturn_{r,t} \dots S\&PReturn_{r,t-5}, S\&PReturn_{c=DEU,t} \dots S\&PReturn_{c=DEU,t-5})$ **Description**: Correlation of S&P/IFCI and S&P/Frontier BMI country indices annual return: the 5 year correlation of the S&P/IFCI and S&P/Frontier BMI country index annual return with Germany's S&P/IFCI and S&P/Frontier BMI country index annual return. **Benchmark value**: 80%. The 80% benchmark value is selected arbitrarily. A 100% benchmark value corresponds with the case that all countries have the same movement to Germany in their country index annual return. The 80% allows heterogeneous movement in the country index annual return across countries in the definition of the "full integration". The 20% corresponds to the degree of heterogeneity that our assumption allows in the definition of the full integration. **Integration**: A country that exceeds the benchmark value is assumed to be fully integrated. This indicator is based on the **relative** distance from Germany's S&P stock return. A fully integrated country has S&P stock return with more than an 80% positive correlation with Germany's S&P stock return.

Indicator: MFNIND05
Mathematical Expression: $= 100 \cdot \left(GDP\ Deflator_{r,t} - GDP\ Deflator_{c=UFM,t} \right)$
Description: Inflation, GDP deflator (annual %): the difference in percentage points of the country's GDP deflator in annual percentage change with the UfM region's GDP deflator in annual percentage change.
Benchmark value: 2%. The 2% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that all countries have the same UfM inflation rate. The 2% allows heterogeneous inflation rates across countries in the definition of the "full integration". A 2% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a GDP deflator that is not 2 percentage points lower than the UfM region's GDP deflator.
Integration: A country that has a GDP deflator differential **lower** than the benchmark value is assumed to be fully integrated.
This indicator is based on the **relative** distance from the UfM GDP deflator.
It is assumed that a fully integrated country should have a GDP deflator differential from UfM region **lower** than 2%.

3. Labour Mobility

Weighted Overall Index = 1/6 * LBMIND01A + 1/6 * LBMIND02A + 1/6 * LBMIND03A+ 1/6 * LBMIND04A + 1/6 * LBMIND05A + 1/6 * LBMIND06A
Indicator: LBMIND01A
Mathematical Expression:
$$= \frac{Migration\_byOrigin_{r,t}}{Population_{r,t}} - \frac{\sum_{c=UFM} Migration\_byOrigin_{c,t}}{\sum_{c=UFM} Population_{c,t}}$$
Description: Total emigrants to population - UfM Differential: total emigrants of the country divided by the country's population and subtracted from the UfM average ratio
Benchmark value: 0%. The 0% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a total emigrants to population ratio that is lower than the UfM average ratio.
Integration: A country that has a differential from UfM in the emigrants to population ratio **lower** than the benchmark value is assumed to be fully integrated.
This indicator is based on the **relative** distance from the UfM ratio.
A fully integrated country has an emigrants to population differential lower than the benchmark value (0%).
The relative distance of the **integration process** is defined by having as 0% the maximum value of the indicator (30%) and as 100% the benchmark value (0%).

Indicator: LBMIND02A
Mathematical Expression:
$$= \frac{Migration\_byDestination_{r,t}}{Population_{r,t}} - \frac{\sum_{c=UFM} Migration\_byDestination_{c,t}}{\sum_{c=UFM} Population_{c,t}}$$

Description: total immigrants to population - UfM Differential: total immigrants in the country divided by the country's population and subtracted from the UfM average ratio.

Benchmark value: 0%. The 0% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a total immigrants to population ratio that is higher than the UfM average ratio.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated.

This indicator is based on the **relative** distance from the UfM ratio.

A fully integrated country has an immigrants to population differential higher than the benchmark value (0%).

The relative distance of the **integration process** is defined by having as 0% the minimum value of the indicator (-10%) and as 100% the benchmark value (0%).

Indicator: LBMIND03A

Mathematical Expression:

$$= \frac{Remittance\ Inflows_{r,t}}{GDP_{r,t}} - \frac{\sum_{c=UFM} Remittance\ Inflows_{c,t}}{\sum_{c=UFM} GDP_{c,t}}$$

Description: Net Remittance Inflows - UfM Differential: Income received by resident households from non-resident households divided by country's GDP and subtracted from the UfM average share.

Benchmark value: 0%. The 0% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that a country is considered as fully integrated only if it has net remittance inflows that are lower than the UfM average ratio.

Integration: A country that has a differential from the UfM in net remittance inflows as % of GDP that is **lower** than the benchmark value is assumed to be fully integrated.

This indicator is based on the **relative** distance from the UfM net remittance inflows to GDP share. A fully integrated country has a net remittance inflows differential **lower** than the benchmark value (0%).

The relative distance of the **integration process** is defined by having as 0% the maximum value of the indicator (15%) and as 100% the benchmark value (0%).

Indicator: LBMIND04A

Mathematical Expression:

$$= \frac{Remittance\ Outflows_{r,t}}{GDP_{r,t}} - \frac{\sum_{c=UFM} Remittance\ Outflows_{c,t}}{\sum_{c=UFM} GDP_{c,t}}$$

Description: Net Remittance Outflows - UfM Differential: Income outflows made by resident households to non-resident households divided by country's GDP and subtracted from the UfM average share.

Benchmark value: 0%. A 0% benchmark value corresponds with the case that a country is considered as fully integrated only if it has net remittance outflows that are higher than the UfM average ratio.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated.

This indicator is based on the **relative** distance from the UfM ratio.

A fully integrated country has a net remittance outflows to GDP differential higher than the benchmark value (0%).

The relative distance of the **integration process** is defined by having as 0% the minimum value of the indicator (-5%) and as 100% the benchmark value (0%).

Indicator: LBMIND05A

Mathematical Expression:

$$= \frac{Migration_{origin=r,destination=UFM,t}}{Population_{r,t}} - \frac{\sum_{c=UFM} Migration_{origin=c,destination=UFM,t}}{\sum_{c=UFM} Population_{c,t}}$$

Description: **Long term population movement within the region - UfM Differential**: total emigrants of the country that have a destination country which belongs in the UfM region divided by the country's population and subtracted from the UfM average ratio.

Benchmark value: 0%. The 0% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a total emigrants to population ratio that is lower than the UfM average ratio.

Integration: A country that has a differential from UfM in the emigrants at the UfM region to population ratio **lower** than the benchmark value is assumed to be fully integrated.

This indicator is based on the **relative** distance from the UfM ratio.

A fully integrated country has an emigrants at the UfM to population differential **lower** than the benchmark value (0%).

The relative distance of the **integration process** is defined by having as 0% the maximum value of the indicator (30%) and as 100% the benchmark value (0%).

Indicator: LBMIND06A

Mathematical Expression:

$$= \frac{Migration_{origin=UFM,destination=r,t}}{Population_{r,t}} - \frac{\sum_{c=UFM} Migration_{origin=UFM,destination=c,t}}{\sum_{c=UFM} Population_{c,t}}$$

Description: Long term population movement within the region - UfM Differential: total immigrants in the country that have an origin country in the UfM divided by the country's population and subtracted from the UfM average ratio

Benchmark value: 0%. The 0% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a total immigrants to population ratio that is higher than the UfM average ratio.

Integration: A country that exceeds the benchmark value is assumed to be fully integrated.

This indicator is based on the **relative** distance from the UfM ratio.

A fully integrated country has an immigrants at the UfM to population differential higher than the benchmark value (0%).

The relative distance of the **integration process** is defined by having as 0% the minimum value of the indicator (-10%) and as 100% the benchmark value (0%).

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4. FDI

Weighted Overall Index = FDIIND04A

Indicator: FDIIND04A

Mathematical Expression:

$$= \frac{\sum_t FDI\ Inflows_{r,t}}{\sum_t GDP_{r,t}} - \frac{\sum_{t,c=UFM} FDI\ Inflows_{c,t}}{\sum_{t,c=UFM} GDP_{c,t}}$$

Description: Cumulative FDI Share (% of Cumulative GDP) - UfM Differential: a subtraction of the country's cumulative FDI inflows across time divided by the country's cumulative GDP across time. having as starting point the year 1996, with the UfM average share.

Benchmark value: 0%. The 0% benchmark value is selected arbitrarily. A 0% benchmark value corresponds with the case that a country is considered as fully integrated only if it has a FDI Inflows to GDP share equal to the UfM average share. Any deviation for the UfM average share is quantified as a deviation from the integration.

Note: Historical data includes the following cases: (i) advanced economies with relatively high FDI inflows to GDP share, (ii) advanced economies with relatively low FDI inflows to GDP share, (iii) developing economies with relatively high FDI inflows to GDP share, (iv) developing economies with relatively low FDI inflows to GDP share. Therefore it is difficult to link the values of this indicator with a positive or negative relationship between the FDI Inflows to GDP share and the integration process. Instead a convergence point is selected, which is that any deviation for the UfM average point is quantified as a deviation from the integration.

Integration: A country that achieves the benchmark value (i.e. the differential from the UfM average share is zero) is assumed to be fully integrated.

This indicator is based on the **relative** distance from the UfM ratio.

A fully integrated country has a cumulative FDI to cumulative GDP ratio equal to the benchmark value (0%).

The relative distance of the **integration process** is defined by having as 0% the minimum value of the indicator (-5%) or the maximum value of the indicator (5%) and as 100% the benchmark value (0%).

In this case, we have a convergence point and the integration is defined by the convergence at this point.

If a country has a higher than UfM average cumulative FDI to cumulative GDP ratio then it increases its integration if it converges to UfM, that is via a decrease in the cumulative FDI to cumulative GDP ratio.

If a country has a lower than UfM average cumulative FDI to cumulative GDP ratio then it increases its integration if it converges to UfM, that is via an increase in the cumulative FDI to cumulative GDP ratio.

4. Data availability, update, computation, interpretation and usefulness of each indicator in the RID

TRDIND	Trade Indicators	Information/ Description	Monitoring regional integration
TRDIND01	Export Growth (%)	**Annual growth rate of total exports:** the country's total exports divided by the country's total exports in the previous time period minus one	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
TRDIND02	Export share in World Exports (%)	**Export share in World Exports:** the country's total exports divided by the sum of total exports of all countries	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
TRDIND03	Export share in Regional Exports (%)	**Export share in Regional Exports:** the country's total exports divided by the UfM region's total exports, including intra-regional exports	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
TRDIND03A	Ratio of Export share in Regional Exports to GDP share in Regional GDP	**Ratio of Export share in Regional Exports to GDP share in Regional GDP:** a ratio with numerator the country's total exports divided by the UfM region's total exports, including intra-regional exports and denominator the country's GDP divided by the UfM region's GDP.	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Medium
TRDIND04	Export Competitiveness – Global	**Annual growth rate of country exports vs Annual growth rate of World exports:** the difference of the annual growth rate of the country's total exports with the annual growth rate of the sum of total exports of all countries	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty

			Usefulness: Low
TRDIND05	Export Competitiveness – Regional	**Annual growth rate of country exports vs Annual growth rate of Regional exports:** the difference of the annual growth rate of the country's total exports with the annual growth rate of the UfM region's total exports, including intra-regional exports	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Low
TRDIND06	Export Intensity Index	**Exports ratio to total goods produced domestically:** the country's total exports divided by the country's total production	**Availability:** Restricted **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Low Difficulty **Usefulness:** Medium
TRDIND07	Export Share (% GDP)	**Export share in country's GDP:** the country's total exports divided by the country's GDP	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** High
TRDIND08	Import Growth (%)	**Annual growth rate of Imports:** the country's total imports divided by the country's total imports in the previous time period minus one	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
TRDIND09	Import share in World Imports (%)	**Import share in World Imports:** the country's total imports divided by the sum of total imports of all countries	**Availability:** High **Update:** Frequently **Computation:** Simple

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			Interpretation: Medium Difficulty **Usefulness:** Low
TRDIND10	Import share in Regional Imports (%)	**Import share in Regional Imports:** the country's total imports divided by the UfM region's total imports, including intra-regional imports	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
TRDIND10A	Ratio of Import share in Regional Imports to GDP share in Regional GDP	**Ratio of Import share in Regional Imports to GDP share in Regional GDP:** a ratio with numerator is the country's total imports divided by the UfM region's total imports, including intra-regional exports and denominator is the country's GDP divided by the UfM region's GDP.	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Medium
TRDIND11	Import Competitiveness – Global	**Annual growth rate of country Imports vs Annual growth rate of World Imports:** the difference of the annual growth rate of the country's total imports with the annual growth rate of the sum of total imports of all countries	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Low
TRDIND12	Import Competitiveness – Regional	**Annual growth rate of country Imports vs Annual growth rate of Regional Imports:** the difference of the annual growth rate of the country's total imports with the annual growth rate of the UfM region's total imports, including intra-regional imports	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Low
TRDIND13	Import Intensity Index	**Imports ratio to total goods produced domestically:** the country's total imports divided by the country's total production	**Availability:** Restricted **Update:** Frequently **Computation:** Low Complexity

			Interpretation: Low Difficulty **Usefulness:** Medium
TRDIND14	Import Share (% GDP)	**Import share in country GDP:** the country's total imports divided by the country's GDP	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** High
TRDIND15	Trade Openness	**Import and Exports over GDP:** the sum of the country's total exports with the country's total imports divided by the country's GDP	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** High
TRDIND16	Balance of trade (% of GDP)	**Exports minus Imports over GDP:** the difference of the country's total exports with the country's total imports divided by the country's GDP	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** High
TRDIND17	Regional Exports Growth	**Regional exports to World exports:** the country's total exports delivered to countries that belong to the UfM region divided by the country's total exports.	**Availability:** Restricted **Update:** Frequently **Computation:** Medium Complexity **Interpretation:** Medium Difficulty **Usefulness:** Medium
TRDIND18	Regional Imports Growth	**Regional imports to World imports:** the country's total imports delivered from countries that belong to the UfM region divided by the country's total imports.	**Availability:** Restricted **Update:** Frequently **Computation:** Medium Complexity

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			Interpretation: Medium Difficulty **Usefulness:** Medium
TRDIND19	Duties as % of Import – Global	**Duty revenues as % of total imports:** the country's duties revenues divided by the country's total imports	**Availability:** Limited **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Low Difficulty **Usefulness:** Medium
TRDIND20	Duties as % of Import – Region	**Duty revenues as % of regional imports:** the country's duties imposed within the UfM region divided by the country's total imports made within the UfM region.	**Availability:** Restricted and Limited **Update:** Rare **Computation:** Medium Complexity **Interpretation:** Low Difficulty **Usefulness:** Medium
TRDIND21	Intra-regional trade share	**Trade to Regional Trade:** the trade (imports + exports) of one country with the rest of UfM countries divided by the total trade (imports + exports) that take place within UfM member countries	**Availability:** Restricted **Update:** At regular basis **Computation:** High Complexity **Interpretation:** Medium Difficulty **Usefulness:** Low
TRDIND21A	Ratio of intra-regional trade share to GDP share in Regional GDP	**Ratio of intra-regional trade share to GDP share in Regional GDP:** the ratio with numerator the trade (imports + exports) of one country with the rest of UfM countries divided by the total trade (imports + exports) that take place within UfM member countries and denominator the country's GDP divided by the UfM region's GDP.	**Availability:** Restricted **Update:** At regular basis **Computation:** High Complexity **Interpretation:** Medium Difficulty **Usefulness:** High

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TRDIND22	Export share in intermediate goods (%)	**Export share in intermediate goods:** the country's total exports divided by the country's total intermediate goods.	**Availability:** Restricted **Update:** At regular basis **Computation:** High Complexity **Interpretation:** High Difficulty **Usefulness:** Low
TRDIND23	Import share in intermediate goods (%)	**Import share in intermediate goods:** the country's total imports divided by the country's total intermediate goods.	**Availability:** Restricted **Update:** At regular basis **Computation:** High Complexity **Interpretation:** High Difficulty **Usefulness:** Low
TRDIND24	Natural Gas Imports (ktoe)	Natural Gas Imports (ktoe)	**Availability:** Restricted **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
TRDIND25	Natural Gas Exports (ktoe)	Natural Gas Exports (ktoe)	**Availability:** Restricted **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
TRDIND26	Electricity Imports (ktoe)	Electricity Imports (ktoe)	**Availability:** Restricted **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low

TRDIND27	Electricity Exports (ktoe)	Electricity Exports (ktoe)	**Availability:** Restricted **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
TRDIND	Trade Indicator	Weighted Overall Indicator	
LBMIND	**Labor Mobility Indicators**	**Information/ Description**	**Monitoring regional integration**
LBMIND01	Emigrants to Population Ratio (%)	**Total emigrants to population:** total emigrants of the country divided by the country's population	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
LBMIND01A	Emigrants to Population Ratio (%) - UfM Differential	**Total emigrants to population - UfM Differential:** a subtraction of the total emigrants of the country divided by the country's population and subtracted with the UfM average ratio	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
LBMIND02	Immigrants to Population Ratio (%)	**Total immigrants to population:** total immigrants in the country divided by the country's population	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low

LBMIND02A	Immigrants to Population Ratio (%) - UfM Differential	**Total immigrants to population - UfM Differential:** a subtraction of the total immigrants in the country divided by the country's population, with the UfM average ratio	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
LBMIND03	Net Remittance Inflows, (% of GDP)	**Net Remittance Inflows:** Income received by resident households from non-resident households divided by country's GDP	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
LBMIND03A	Net Remittance Inflows, (% of GDP) - UfM Differential	**Net Remittance Inflows - UfM Differential:** a subtraction of the income received by resident households from non-resident households divided by country's GDP with the UfM average share	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Medium
LBMIND04	Net Remittance Outflows, (% of GDP)	**Net Remittance Outflows:** Income outflows made by resident households to non-resident households divided by country's GDP	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
LBMIND04A	Net Remittance Outflows, (% of GDP) - UfM Differential	**Net Remittance Outflows - UfM Differential:** a subtraction of the income outflows made by resident households to non-resident households divided by country's GDP and with the UfM average share	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Medium

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LBMIND05	Emigrants at UfM Region to Population Ratio (%)	**Long term population movement within the region:** total emigrants of the country that have a destination country which belongs in the UfM region divided by the country's population	**Availability:** High **Update:** Frequently **Computation:** Medium Complexity **Interpretation:** Medium Difficulty **Usefulness:** Low
LBMIND05A	Emigrants at UfM Region to Population Ratio (%) - UfM Differential	**Long term population movement within the region - UfM Differential:** a subtraction of total emigrants of the country that have a destination country which belongs in the UfM region divided by the country's population with the UfM average ratio	**Availability:** High **Update:** Frequently **Computation:** Medium Complexity **Interpretation:** Medium Difficulty **Usefulness:** Medium
LBMIND06	Immigrants from UfM Region to Population Ratio (%)	**Long term population movement within the region:** total immigrants in the country that have an origin country in the UfM divided by the country's population	**Availability:** High **Update:** Frequently **Computation:** Medium Complexity **Interpretation:** Medium Difficulty **Usefulness:** Low
LBMIND06A	Immigrants from UfM Region to Population Ratio (%) - UfM Differential	**Long term population movement within the region - UfM Differential:** a subtraction of the total immigrants in the country that have an origin country in the UfM divided by the country's population with the UfM average ratio	**Availability:** High **Update:** Frequently **Computation:** Medium Complexity **Interpretation:** Low Difficulty **Usefulness:** High
LBMIND07	Total inbound internationally mobile students to Population Ratio (%)	Total inbound internationally mobile students to Population Ratio (%)	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Low Difficulty **Usefulness:** Medium

LBMIND08	Total outbound internationally mobile students to Population Ratio (%)	Total outbound internationally mobile students to Population Ratio (%)	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Medium
LBMIND	Labour Mobility Indicator	Weighted Overall Indicator	
MFNIND	**Money and Finance Indicators**	**Information/ Description**	**Monitoring regional integration**
MFNIND01	Bond Market Rate Correlation	**Regional correlation of 10yr bond rates:** the 5 year correlation of the country's 10yr bond rate with Germany's 10yr bond rate	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Medium
MFNIND02	Bond Market Rate Differential	**10yr bond rates differential to base bond rate:** the difference of the country's 10yr bond rate with Germany's 10yr bond rate	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium Difficulty **Usefulness:** Medium
MFNIND03	Ratio of public debt to GDP	**Central government debt to GDP:** the country's central government debt divided by the country's GDP	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** High

MFNIND04	Equity Prices Correlation	**Correlation of S&P/IFCI and S&P/Frontier BMI country indices annual return:** the 5 year correlation of the S&P/IFCI and S&P/Frontier BMI country index annual return with Germany's S&P/IFCI and S&P/Frontier BMI country index annual return	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Medium difficulty **Usefulness:** Medium
MFNIND05	Inflation rate differentials	**Inflation, GDP deflator (annual %):** the difference in percentage points of the country's GDP deflator in annual percentage change with the UfM region's GDP deflator in annual percentage change	**Availability:** High **Update:** Frequently **Computation:** Low Complexity **Interpretation:** Low Difficulty **Usefulness:** Medium
MFNIND	Money and Finance Indicator	Weighted Overall Indicator	
GVRIND	**Governance Indicators**	**Information/ Description**	**Monitoring regional integration**
GVRIND01	Voice and Accountability	Reflects perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium difficulty **Usefulness:** High
GVRIND02	Political Stability and Absence of Violence/Terrorism	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium difficulty **Usefulness:** High

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GVRIND03	Government Effectiveness	Reflects perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium difficulty **Usefulness:** High
GVRIND04	Regulatory Quality	Reflects perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium difficulty **Usefulness:** High
GVRIND05	Rule of Law	Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium difficulty **Usefulness:** High
GVRIND06	Control of Corruption	Reflects perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium difficulty **Usefulness:** High
GVRIND	Governance Indicator	Weighted Overall Indicator	
FDIIND	**FDI Indicators**	**Information/ Description**	**Monitoring regional integration**

FDIIND01	FDI Inflows, in million US$	**FDI Inflows:** the country's foreign direct investment inflows. Foreign direct investment refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
FDIIND02	Cumulative FDI Inflows, in million US$	**Cumulative FDI Inflows:** the sum of country's foreign direct investment inflows across time having as a starting point the year 1996.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
FDIIND03	FDI Share (% of GDP)	**FDI Share (% of GDP):** the country's FDI inflows divided by the country's GDP.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
FDIIND04	Cumulative FDI Share (% of Cumulative GDP)	**Cumulative FDI Share (% of Cumulative GDP):** the country's cumulative FDI inflows across time divided by the country's cumulative GDP across time having as a starting point the year 1996.	**Availability:** High **Update:** Frequently **Computation:** Medium complexity **Interpretation:** High Difficulty **Usefulness:** Low
FDIIND04A	Cumulative FDI Share (% of Cumulative GDP) - UfM Differential	**Cumulative FDI Share (% of Cumulative GDP) - UfM Differential:** a subtraction of the country's cumulative FDI inflows across time divided by the country's cumulative GDP across time having as a starting point the year 1996, with the UfM average share.	**Availability:** Limited **Update:** Frequently **Computation:** Medium complexity **Interpretation:** High Difficulty **Usefulness:** Unclear

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FDIIND05	Net official development assistance and official aid received (current US$)	**Net official development assistance (ODA)** consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent). **Net official aid** refers to aid flows (net of repayments) from official donors to countries and territories in part II of the DAC list of recipients: more advanced countries of Central and Eastern Europe, the countries of the former Soviet Union, and certain advanced developing countries and territories. Official aid is provided under terms and conditions similar to those for ODA. Part II of the DAC List was abolished in 2005. The collection of data on official aid and other resource flows to Part II countries ended with 2004 data. Data is in current U.S. dollars.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
INFRIND	**Infrastructure Indicators**	**Information/ Description**	**Monitoring regional integration**
INFRIND01	Access to electricity (% of population)	**Access to electricity (% of population):** the percentage of population by country with access to electricity.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** Medium

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INFRIND02	Electricity production from oil, gas and coal sources (% of total)	**Electricity production from oil, gas and coal sources (% of total):** the percentage of conventional fuel electricity production to total production	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
INFRIND03	Renewable electricity output (% of total electricity output)	**Renewable electricity output (% of total electricity output):** the share of electricity generated by renewable power plants in total electricity generated by all types of plants.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Medium
INFRIND04	Fixed broadband subscriptions (per 100 people)	**Fixed broadband subscriptions (per 100 people):** Fixed broadband subscriptions refers to fixed subscriptions to high-speed access to the public Internet (a TCP/IP connection), at downstream speeds equal to, or greater than, 256 kbit/s.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
INFRIND05	Mobile cellular subscriptions (per 100 people)	**Mobile cellular subscriptions (per 100 people):** Mobile cellular telephone subscriptions are subscriptions to a public mobile telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of postpaid subscriptions, and the number of active prepaid accounts (i.e. that have been used during the last three months).	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Medium
INFRIND06	Individuals using the Internet (% of population)	**Individuals using the Internet (% of population):** Internet users are individuals who have used the Internet (from any location) in the last 3 months. The Internet can be used via a computer, mobile phone, personal digital assistant,	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty

		games machine, digital TV etc.	**Usefulness:** Medium
INFRIND07	Rail lines (total route-km) (% of population)	**Rail lines (total route-km):** Rail lines are the length of railway routes available for train services, irrespective of the number of parallel tracks.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
INFRIND08	International tourism, number of arrivals (% of population)	**International inbound tourists (overnight visitors):** are the numbers of tourists who travel to a country other than that in which they have their usual residence, but outside their usual environment, for a period not exceeding 12 months and whose main purpose of visiting is other than an activity remunerated from within the country visited.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** Medium
INFRIND09	Container port traffic (TEU: 20 foot equivalent units, % of population)	**Port container traffic:** measures the flow of containers from land to sea transport modes, and vice versa, in twenty-foot equivalent units (TEUs), a standard-size container. Data refers to coastal shipping as well as international journeys.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
INFRIND10	People using safely managed sanitation services (% of population)	**People using safely managed sanitation services:** The percentage of people using improved sanitation facilities that are not shared with other households and where excreta are safely disposed of in situ or transported and treated offsite. Improved sanitation facilities include flush/pour flush to piped sewer systems, septic tanks or pit latrines: ventilated improved pit latrines, compositing	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** Low

		toilets or pit latrines with slabs.	
INFRIND11	People using safely managed drinking water services (% of population)	**People using safely managed drinking water services:** the percentage of people using drinking water from an improved source that is accessible on premises, available when needed and free from faecal and priority chemical contamination. Improved water sources include piped water, boreholes or tubewells, protected dug wells, protected springs, and packaged or delivered water.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Low Difficulty **Usefulness:** Low
INFRIND12	Air transport, registered carrier departures worldwide (% of population)	**Air transport, registered carrier departures worldwide (% of population):** Registered carrier departures worldwide are domestic takeoffs and takeoffs abroad of air carriers registered in the country.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low
INFRIND13	Road Infrastructure (% of population)	**Road Infrastructure (% of population):** Road Infrastructure at 31 December by country, total length in km	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low

INFRIND14	Liner shipping connectivity index	**Liner shipping connectivity index**: LSCI is generated from five components: (a) the number of ships; (b) the total container-carrying capacity of those ships; (c) the maximum vessel size; (d) the number of services; and (e) the number of companies that deploy container ships on services to and from a country's ports. The data is derived from Containerisation International Online. The index is generated as follows: For each of the five components, a country's value is divided by the maximum value of that component in 2004, and for each country, the average of the five components is calculated. This average is then divided by the maximum average for 2004 and multiplied by 100. In this way, the index generates the value 100 for the country with the highest average index of the five components in 2004.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Medium
INFRIND15	Roads, total network (km)	Total road network includes motorways, highways, and main or national roads, secondary or regional roads, and all other roads in a country. A motorway is a road designed and built for motor traffic that separates the traffic flowing in opposite directions.	**Availability:** Very Limited **Update:** Rare **Computation:** Simple **Interpretation:** High Difficulty **Usefulness:** Low
INFRIND16	Roads, paved (% of total roads)	Paved roads are those surfaced with crushed stone (macadam) and hydrocarbon binder or bituminised agents, with concrete, or with cobblestones, as a percentage of all the country's roads, measured in length.	**Availability:** Very Limited **Update:** Rare **Computation:** Simple **Interpretation:** Medium Difficulty **Usefulness:** Low

INFRIND17	SAIDI (in hours per customer)	System average interruption duration index (SAIDI) (DB16-19 methodology)	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Easy **Usefulness:** High
INFRIND18	SAIFI (Interruptions per customer)	System average interruption frequency index (SAIFI) (DB16-19 methodology)	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Easy **Usefulness:** High
INFRIND	Infrastructure Indicator	Weighted Overall Indicator	
OTHERIND	**Other Indicators**		
OTHERIND01	GDP per capita	GDP per capita in $, constant prices 2010	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Easy **Usefulness:** High
OTHERIND02	Energy intensity level of primary energy (MJ/$2011 PPP GDP)	Energy intensity level of primary energy is the ratio between energy supply and gross domestic product measured at purchasing power parity. Energy intensity is an indication of how much energy is used to produce one unit of economic output. Lower ratio indicates that less energy is used to produce one unit of output.	**Availability:** High **Update:** Frequently **Computation:** Simple **Interpretation:** Easy **Usefulness:** High

ABOUT EMEA and EMNES

The Euro-Mediterranean Economists Association (EMEA) is a Barcelona-based regional think-tank established in 2012 that serves as a leading independent and innovative policy research institution; a forum for debate on the political and socio-economic reforms in Mediterranean and Africa; and promoter of actions and initiatives that fulfill objectives of sustainability, inclusiveness, regional integration and prosperity. It strives to contribute to the rethinking of the Euro-Mediterranean and Africa partnerships in view of the new dynamics of an emerging multi-polar world and amidst of protracted crises. EMEA has a large network of economists, high-level experts and institutional partners (research institutes, think tanks and universities) in the Euro-Mediterranean and Africa. EMEA builds on the collaborative research network MEDPRO (funded by the EU's Seventh Framework Programme (2009-13) and provides forward-looking thinking and political and socio-economic integrated analyses on the Euro-Mediterranean region. EMEA is also the promoter and co-funder of the Euro-Mediterranean Network for Economic Studies (EMNES), co-funded by the European Commission (DG NEAR) between 2015 and 2019. EMNES is a regional network composed of 30 institutions and more than 100 experts and researchers in the Mediterranean region. From January 2020, EMEA coordinates EMNES.

The Euro-Mediterranean Network for Economic Studies (EMNES) aims to provide a renewed vision for socio-economic development in the Mediterranean region, mainly focussing on employment creation, social inclusion, sustainable development and regional integration. It performs economic and policy research, exploring the pillars of inclusive and sustainable economic models in the Euro-Mediterranean region, along the following **research areas**:

1. Institutions and institutional reforms;
2. Private sector, micro, small and medium sized enterprises and social business development;
3. Entrepreneurship and innovation;
4. Human capital development, education, labour markets and migration;
5. Demographics, health and social protection;
6. Macroeconomic policy , inequality and social inclusion;
7. Inclusive and sustainable finance;
8. Regional integration, trade, investment and infrastructure;
9. Energy, water, environment and sustainable development;
10. Euro-Mediterranean partnership;
11. Scenario analysis and foresight;
12. Other evolving research areas.

EMNES is a network of research institutions and think tanks from Algeria, Belgium, Egypt, France, Germany, Greece, Italy, Jordan, Morocco, Slovenia, Spain, Tunisia, Turkey and the UK. Between 2014-2019, EMNES was co-funded by the European Commission – under Grant Contract N° ENPI/2014/354-488 and EMNES Partners and Associates. EMNES is built on four core principles: independence, excellence, policy relevance and a deep knowledge of Euro-Mediterranean affairs.