VALUE CHAINS BETWEEN EU COUNTRIES AND OTHER MEMBER COUNTRIES OF THE UNION FOR THE MEDITERRANEAN,

WITH SPECIAL REFERENCE TO SMALL AND MEDIUM-SIZED FIRMS

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Executive Summary

The need to reconfigure global value chains (GVCs) provides an opportunity to strengthen the integration of non-EU UfM countries into European GVCs, as both hosts for the relocation of production previously offshored by European firms to distant countries and as investment destinations for new GVCs. This work analyses the GVCs established between the EU-27 and the rest of the countries that make up the UfM (non-EU UfM) in order to identify the sectors with the greatest potential for expanding GVCs in the region.

The member states of the Union for the Mediterranean that are not part of the European Union comprise a broad group of countries that are very heterogeneous in terms of size, per capita income and economic dynamism. There are also large differences in their logistics performance, a key factor for participation in GVCs.

However, these countries share some characteristics that determine their competitiveness. All of them, with the exception of Israel, have a competitiveness position similar to the average for upper middle-income countries. Their particularly low score in innovation capacity indicates the importance of their involvement in GVCs in order to access technological advances from foreign partners. Moreover, with the exception of Türkiye and Israel, these countries play a limited role in international markets, with a share in world merchandise exports of less than 0.2 per cent. Their share in world services exports is also low. In addition to Türkiye and Israel, Egypt and Morocco - two countries with high tourism revenues - stand out. Becoming more involved in GVCs could be particularly important for promoting the trade integration of non-EU UfM countries.

Trade agreements are an important element that contribute to stimulate international value chains. All non-EU UfM countries except Mauritania have bilateral trade agreements with the EU-27. These agreements date back to the late 1990s/early 2000s and follow the free trade agreements template of other agreements negotiated by the EU during that period. After the Arab Spring, the European Commission made initial exploratory contacts with some Middle East and North African (MENA) countries to enhance the current frameworks, which were not fruitful. Consequently, they generally do not include measures to facilitate trade in services, data flows or intellectual property rights, areas with a growing impact on GVCs. The inclusion of such provisions in trade agreements between the EU and the rest of the UfM will promote greater engagement in GVCs. On the other hand, the status of EU candidate countries in the Western Balkans countries -Albania, Bosnia-Herzegovina, North Macedonia and Montenegro- and Türkiye implies considerable support from European institutions to implement the necessary reforms and improve their competitiveness in order to gradually align with the Union's rules with a view to future membership.

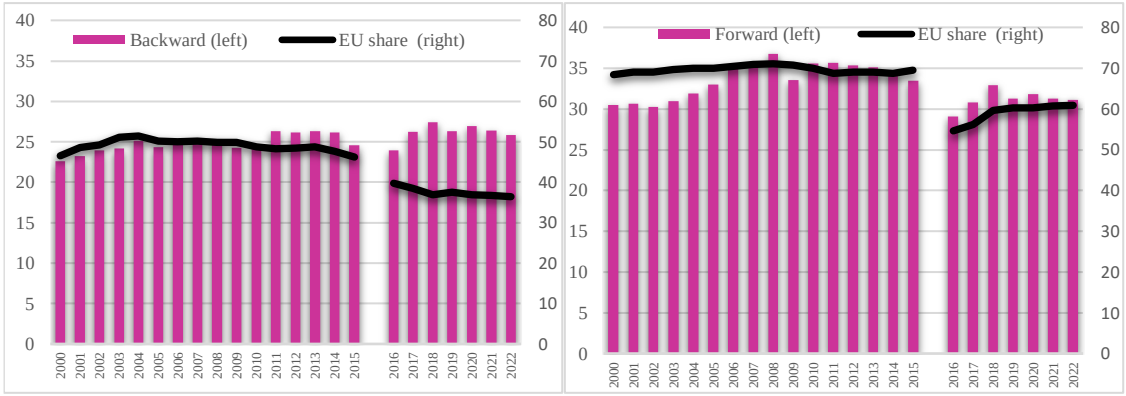
Analysis of supply chains

A key element in promoting economic integration is the development of global value chains. GVCs are the result of the international fragmentation of the production process. When a production process is split into different stages located around the world, all firms and countries involved in it need to cooperate closely to ensure that the strategy is successful and that everyone benefits from participating. Leading firms in advanced countries benefit because relocating labour-intensive stages of production to low-cost countries can reduce costs, increase productivity levels and improve competitiveness. Firms in developing countries can also improve their competitiveness by engaging in GVCs as they can benefit from both bilateral trade relations that promote more efficient production and technology transfer from partners in GVCs. They do not need to be competitive in the whole production process but can specialise in a few tasks where they have a comparative advantage. Theoretical and empirical literature has highlighted the contribution of supply chains to economic integration.

GVC linkages between the EU and the rest of the UfM countries increased from 2000 until the global financial crisis. Since then, the participation of non-EU UfM countries in European supply chains has stagnated, in line with global trends. The EU-27 is the main GVC partner for this group of countries, particularly as a destination for their intermediate inputs embedded in foreign exports (forward participation), while its presence as a supplier of inputs used in the production of exports (backward participation) is lower.

Backward and forward participation of non-EU UfM and EU share in value added linked to GVCs.
(Percentages)

A) Backward Participation B) Forward Participation



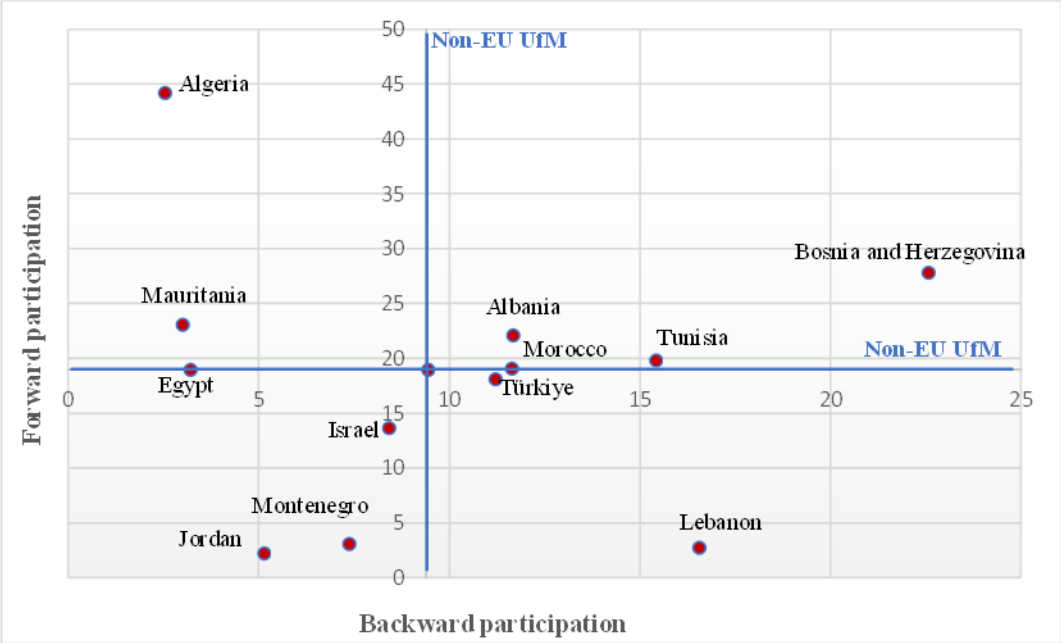
Source: EORA database and authors' calculations.

Moreover, while the EU has increased its presence in the forward participation of non-EU UfM countries, it has decreased its backward participation since 2003. Thus, in 2022, the EU-27 provided less than half of the foreign value-added content of non-EU UfM exports. This is the result of an increase in inputs provided by countries outside the

UfM, with China standing out. These trends indicate that non-EU UfM countries tend to be positioned upstream in European value chains and that their GVC participation as assemblers of foreign-produced parts has become more global.

Productive integration with the EU-27 varies across countries. Albania, Bosnia and Herzegovina, Morocco, Tunisia and Türkiye have the strongest GVC linkages with European economies. The first two are the most integrated countries in European GVCs, participating as suppliers of inputs and also as transformers and assemblers of intermediate inputs from the EU. Their status as EU candidate countries facilitates closer integration through the support of EU programmes for progress in the *acquis **c**ommunautaire*, the removal of trade barriers and the improvement of competitiveness.

Backward and forward participation in European GVC by countries, 2022
(Percentages of total exports of each country)



Source: EORA database and authors' calculations.

The other three countries -Morocco, Tunisia and Türkiye- focus their participation on European supply chains in the transformation and assembly of intermediate inputs, which is reflected in the high European inputs content of their exports. All of them have adopted strategies to reduce obstacles to foreign direct investment (FDI) and facilitate its reception, ranging from public incentives for establishment to the creation of free trade zones or public-private programmes to help firms improve their competitiveness. Türkiye's trade integration is facilitated by its status as an EU candidate country, the size of its economy and its high degree of trade openness.

Resource endowments and product specialisation determine the type of GVC participation of countries. While resource-rich countries (Algeria, Mauritania) have a

clear bias towards forward participation in European supply chains, in other countries, such as Lebanon, backward participation is prominent.

The country-level analysis shows that supply chains between the EU-27 and the rest of the members in the UfM is limited to a small number of European countries which have a highlighted position as both suppliers and destinations of intermediate flows. While larger EU countries (Germany, France, Italy and Spain) maintain productive links upstream and downstream in the supply chain, the production networks of the rest of the EU-27 with non-EU UfM countries are very limited. Germany plays a central role in Mediterranean GVCs, as it usually does in European supply chains. Therefore, there is potential for strengthening trade integration in the UfM by increasing the participation of European countries in the Mediterranean network.

As usual, the backward participation of non-EU UfM countries in GVCs is higher in manufacturing than in services. Dependence on European parts and components is particularly high in a few industries that are ranked as the most involved in GVCs. The first is transport equipment. The European automotive value chain extends to both the Western Balkans, with parts and components from Albania and Bosnia and Herzegovina, and North Africa, where the main European companies are located. This involvement in the European automotive value chain has been crucial for the development of industrial activities and has been accompanied by a progressive upgrading along the value chain from the assembly stages to more sophisticated and higher value added stages. The boom in electric vehicles offers new opportunities to strengthen the GVC position of non-EU UfM countries.

The presence of Southern Mediterranean countries in the European automotive industry is well known, but it is also worth noting the increasing participation of Moroccan and Tunisian firms in the aerospace GVC. The development of the automotive and aerospace industries shows the potential available for other related transport equipment industries, such as railway equipment, especially in view of the major projects to improve and extend North African railway lines.

The second industry with significant backward participation is petroleum, chemical and non-metallic mineral products. Non-EU UfM involvement in this GVC is linked to resource endowments, particularly in North African countries (Algeria, Morocco and Tunisia). They are fully integrated into international phosphate production networks and related activities (fertilisers, LFP batteries, etc.). The European Commission's identification of phosphate rock as one of 20 critical raw materials for ensuring a sustainable supply to the EU points to the increasing integration of these countries with the EU. There also seem to be opportunities for strong integration into European networks linked to the rest of the critical raw materials supplied by non-EU UfM countries.

The third industry is textiles and wearing apparel, which is a central industry in the development of Mediterranean GVCs between EU countries and the rest of the UfM. Finally, there is the electrical equipment and machinery industry. With production processes highly internationalised at the global level, links with European countries are

particularly important for access to intermediate inputs necessary for the competitiveness of non-EU UfM exports.

The positive relationship between the increase in backward linkages and the growth of domestic value added suggests that the two are complementary and shows how greater productive and trade integration between the EU and the rest of the UfM countries would be a boost to industrialisation and income growth.

In terms of forward participation, the most natural resource-intensive sectors (agriculture and mining and quarrying) dominate the external supply of intermediate inputs to the EU-27. The importance of both sectors in GVC-related trade is particularly important in countries specialised in forward participation, such as Algeria and Mauritania. Services embodied in European exports are only significant in the exports of a few countries (Bosnia and Herzegovina, Tunisia, Egypt). The expansion of information and communication technologies has driven the development of business services, which are largely linked to inflows of foreign direct investment (FDI).

Finally, the analysis of European direct investment in non-EU UfM countries shows the low relevance of these countries in the EU's outward FDI and foreign affiliates of the EU. Türkiye and Israel are the countries with the highest ranking as recipients of EU investments, followed by Egypt and Morocco. This ranking is very similar to the one obtained for the activity of European affiliates in non-EU UfM countries, which confirms the relatively high presence of European-owned companies in Türkiye, Morocco and Tunisia.

Small and medium-sized manufacturing (SMEs) firms actively participate in GVCs in non-EU UfM countries. Using a broad definition of GVC firms participation, i.e. those that both import and export, 13 per cent of manufacturing SMEs are involved in GVCs. This share exceeds 25 per cent in countries such as Albania, Bosnia and Herzegovina, Jordan, Lebanon and North Macedonia. Moreover, almost half of the SMEs involved in GVCs have an international certification attesting to the quality of their products.

However, SMEs involvement in GVCs is not straightforward. A negative relationship can be observed between the evolution of the share of SMEs in the total number of manufacturing firms and the growth of GVC participation. Some of the countries with markedly increased participation in GVCs show a decrease in the shares of SMEs. It suggests that GVC involvement based on the attraction of foreign investment has had a favourable effect on the participation of larger firms in GVCs. Garment and food are the sectors with the highest share of SMEs participating in GVCs. Therefore, there is potential for a deeper integration of SMEs in GVCs.

Qualitative analysis

The qualitative analysis confirms the sectors in which GVCs between the EU and the rest of the UfM are most active. These include traditional sectors such as textiles and agriculture, as well as those linked to resources (fishing, energy, mineral products). In some cases, more sophisticated sectors such as chemical, pharmaceutical, electrical

products and the automotive industry are also integrated into GVCs. In general, the stages developed in the EU-27 are more complex and sophisticated, using equipment, intermediate inputs and staff workers from the leading GVC countries.

Current GVCs in the region could be affected, positively or negatively, by the recent trend of GVCs reconfiguration. On the one hand there could be a return to the EU of production previously located in non-EU UfM countries (less likely in traditional and resource-intensive industries). On the other, some production currently hosted in Asia could be reallocated to non-EU UfM countries. The latter strategy opens up opportunities to expand GVCs in EU and non-EU UfM countries. According to respondents, the presence of GVCs between the EU and the rest of the UfM countries is already significant, mainly with the Maghreb countries, Türkiye and North Macedonia. GVCs with third non-EU countries (the United States, the United Kingdom) are less frequent and less intense. As participation in GVCs has a notable impact, particularly through an increase in economic activity and technology transfer, greater integration into the European network would have a positive effect on non-EU UfM countries.

Non-EU UfM countries have some competitive advantages that make them attractive to host parts of the value chains from the EU-27. The most important ones compared with EU countries are related to labour cost, labour market regulations, the tax burden and environmental regulations. However, there are also disadvantages compared with Southeast Asian countries, particularly in terms of costs and prices. On the other hand, trade agreements with the EU-27, geographical proximity and the ability to contract small lot sizes provide a differential advantage for non-EU UfM countries. The main weaknesses stressed by respondents are the lack of trained labour and issues related to logistics and transport, which are crucial for the competitiveness of the entire value chain.

According to respondents, local SMEs from both the EU-27 and the non-EU UfM are actively involved in GVCs. However, they also point to the existence of barriers to SME participation in GVCs. In their view, these obstacles could be overcome to a large extent. The main barriers are related to the economic and legal situation. The relevance of these obstacles varies among non-EU UfM countries. In particular, in Bosnia and Herzegovina, Israel and Türkiye, no significant barriers to SME participation in GVC are identified.

Regarding the sectors, respondents consider that energy, agriculture and food and beverage are the activities with the greatest potential to participate in value chains between EU and non-EU UfM countries. Tourism is also important, although to a lesser degree. In addition, some specificities in terms of sectoral potential to boost GVC participation are detected across countries.

Introduction

The Union for the Mediterranean (UfM) is an intergovernmental organisation that emerged from the Barcelona Process launched by the European Union in 1995. It is made up of all the member states of the European Union (EU-27) and 16 countries bordering the Mediterranean in North Africa and the Middle East. The aim of the UfM is to promote cooperation and boost economic integration between the countries of the Mediterranean region.

A key element in promoting economic integration is the establishment of global value chains (GVCs) that involve firms from different countries in the region. When a production process is internationally fragmented, all firms and countries involved in it need to cooperate closely to ensure that the strategy is successful and that everyone benefits from participating. Leading firms in advanced countries benefit because relocating labour-intensive stages of production to low-cost countries can reduce costs, increase productivity levels and improve competitiveness. Firms in developing countries can also improve their competitiveness by engaging in GVCs as they can benefit from both bilateral trade relations that promote more efficient production and technology transfer from partners in GVCs. They do not need to be competitive in the whole production process but can specialise in a few tasks where they have a comparative advantage (World Bank, 2020a). Moreover, empirical research shows that it is mostly GVC-related trade rather than conventional trade that contributes positively to per capita income and productivity (Ignatenko et al., 2019).

However, at the global level, after a period of rapid growth in the 1990s, the progress of GVCs has stagnated since the financial crisis, warning of a possible reversal of globalisation. This trend can be explained by factors such as the narrowing of the wage gap between advanced economies and some emerging economies, in particular China; changes in the composition of demand towards less internationalised production; the maturation of GVCs; the escalation of protectionism and the crisis of the multilateral trading system. The events of recent years -Sino-US trade tensions, the outbreak of Covid-19, the invasion of Ukraine and the disruptions of value chains- have highlighted the vulnerability of GVCs and accelerated the need to reconfigure them.

The reorganisation of GVCs is not an easy task. In addition to facing rising trade costs and seeking better resilience to supply and demand shocks, it must take into account some significant global challenges such as the risks of productive and trade dependence, climate change and geopolitical tensions.

Firms may adopt different strategies to cope with the new conditions. They may diversify suppliers, overstock, establishing parallel supply chains for key production, or move away from the current location, driven by a previous split of the production process, to the home country (reshoring), to neighbouring countries (nearshoring) or to trusted countries with similar economic principles and a lower probability of geopolitical risks (friendshoring). These strategies for building resilience suggest that GVCs will be more

diversified and shorter in the future. Many firms are considering bringing supply closer to demand, and geopolitics and trade regulations are also moving in this direction to strengthen strategic autonomy and increase domestic supply in critical industries (World Economic Forum, 2023).

However, despite great media interest and high acceptance rates in business opinion surveys, empirical analyses that attempt to quantify the impact of reshoring and nearshoring show a very limited implementation of these strategies (Dachs et al., 2019; De Lucio et al., 2023; Marvasi, 2022). In recent years, GVCs have proved to be more resilient than previously thought, coping with severe supply and demand shocks without radical changes in their geographical configuration. Overall, the presence of sunk costs has prevented a radical reconfiguration of GVCs, and it seems that the reconfiguration of GVCs will take place mainly through the location of new investments. In this respect, the events of recent years have changed the main drivers of location decisions in GVCs, and it is expected that cost reduction will not have the predominant role that it had in the configuration of GVCs in the 1990s. Other elements such as resilience, sustainability, geographical and economic distance, skills and technological capacity have gained importance.

These trends open up new opportunities for the peripheral countries of the EU-27, in particular the non-EU UfM countries. These countries can play an important role in the redesign of European value chains. Their large natural resources endowment and labour advantages over EU countries facilitate a better tradeoff between reducing GVC risks and the efficiency losses of moving away from low-cost locations. Their geographical proximity to the European market gives them a significant comparative advantage. Geographical proximity makes it possible to supply the European market in a short time, identify market trends and respond quickly to changes in demand, which are key issues in distribution strategies. In light of the climate crisis, the reconfiguration of European GVCs towards non-EU UfM countries means progress in the sustainability of production networks.

In this context, the aim of this work is to analyse the GVCs established between the EU-27 and the rest of the countries that make up the UfM. Special attention will be paid to small and medium-sized enterprises (SMEs) involved in European supply chains. In addition to examining the degree of regional integration at an aggregate level, the objective is to identify the main sectors in which GVCs operate and their configuration, explore the strengths and weaknesses for the development of new GVCs and determine the sectors with the greatest potential for expanding GVCs in the region.

The study is structured as follows. Following this introduction, Chapter 1 provides a brief institutional overview of the non-EU UfM countries by examining their main macroeconomic indicators and their determinants of competitiveness, aspects that may influence the dynamics of trade integration in the UfM. As being part of a regional trade agreement is an important driver of GVC participation, a description of the characteristics of the trade agreements between the EU and the rest of the UfM members is also included.

Chapter 2 analyses supply chains in the Union for the Mediterranean. In particular, it focuses on the economic and trade relations established through supply chains between EU-27 countries and the other members of the UfM. Following the methodology proposed by Koopman (2010 and 2014), indicators of GVC participation are estimated from the *UNTAD-EORA Global Value Chain Database*. At the aggregate level, the study presents empirical evidence on the European value chain integration of non-EU UfM countries between 2000 and 2022: its trends, the type of participation and the main partners. The sectoral analysis shows the dominant sectors in the supply chains in which EU countries and the rest of the UfM countries participate together. It distinguishes between backward and forward participation.

As Foreign Direct Investment (FDI) is a key driver of value chains, Chapter 2 includes as an annex an analysis of its flows between the EU-27 and the rest of the Mediterranean region. It focuses on the examination of FDI stock from EU and EU affiliates located in non-EU UfM countries.

Chapter 3 explores the involvement of SMEs in non-EU UfM countries in GVCs using data from the *World Bank Enterprise Survey (WBES).* The analysis is centred on manufacturing, whose industries have strong production linkages with the EU-27. To delimit firms participating in GVCs, we follow the definitions proposed by Dovis and Zaki (2020). The starting point is that firms involved in GVCs are engaged in simultaneous export and import transactions. From there, stricter conditions are imposed to refine the delineation of firms operating in GVCs.

Chapter 4 provides a qualitative analysis aimed at identifying and validating the sectors with consolidated value chain networks between EU countries and the rest of the UfM and what the role of SMEs is in these GVCs. It also aims to identify the strengths and weaknesses of non-EU UfM countries in terms of their participation in GVCs and hence the sectors with potential for expanding value chains. To this end, a survey will be carried out.

The study concludes with some policy considerations.

Chapter 1. Institutional framework of the Union for the Mediterranean

In this introductory section, we offer a brief institutional overview of the non-European Union (EU) member countries of the UfM and an analysis of the characteristics of the trade agreements between them and the EU.

First, we briefly characterise the countries that make up the UfM. We begin with an examination of the main macroeconomic indicators to highlight the features that currently define the Mediterranean economies not integrated into the EU, aspects which can influence the dynamics of their economic links with the EU-27.

In terms of economic size measured by Gross Domestic Product (GDP), only Türkiye stands out as it is among the top 20 economies in the world, occupying 19th place in the world ranking according to World Bank data (Table 1.1). In fact, this country is the only non-EU UfM economy that belongs to the G-20. Its production capacity for final goods and services is 57 per cent that of Spain, which is in 14th place. The next two countries that stand out in economic size are Israel and Egypt, in 26th and 34th place, respectively, so they can be considered large economies in the global scenario. Algeria and Morocco could be defined as economies of medium size, with values of final production of goods and services around $150 billion US dollars. The rest of the countries in the group are small economies with an annual GDP that did not exceed $50 billion dollars in 2022. However, there are large differences in the values of their GDP, from Tunisia and Jordan, whose GDP is close to $50 billion dollars (88th and 89th place, respectively, in the world ranking), to Mauritania and Montenegro, whose GDP is less than $10 billion USD.

Table 1.1: Key indicators for monitoring economic integration: main economic indicators.

	GDP		**GNI per capita**		**Labour productivity**
	$ millions 2021	Rank/207 2021	PPP $ 2021	Rank/197 2021	Growth 2016-21 (%)
Albania	18,256	120	15,490	90	1.7
Algeria	163,044	57	11,860	112	0.3
Bosnia and Herzegovina	23,365	111	17,120	83	1.9
Egypt	404,143	34	12,320	109	4.1
Israel	488,527	26	44,060	35	2.5
Jordan	45,744	89	10,080	120	0.5
Lebanon	23,132	112	13,700	104	-3.6
Mauritania	9,996	147	5,750	143	0.8
Montenegro	5,861	161	23,770	66	1.9
Morocco	142,866	58	8,730	128	2.6
North Macedonia	13,825	135	17.410	82	-0,9
Tunisia	46,687	88	10,910	117	0.3
Türkiye	819,035	19	30,290	54	4.9

Source: authors' elaboration from World Development Indicators data (The World Bank).

In terms of income level measured by Gross National Income (GNI) per capita at purchasing power parity (PPP), only Israel is in the group of high-income countries. Its per capita income exceeds $44 thousand dollars. This is slightly lower than that of Malta or Italy, which exceed the threshold of $45 thousand dollars, and close to but higher than that of the Czech Republic, Slovenia, Estonia and Spain, which are between $40 and $43 thousand dollars, which places it 35th in the world ranking according to World Bank data. Among the upper-middle-income economies in the global scenario are Türkiye (with a GNI per capita that is three quarters that of Spain, occupying 54th place), Montenegro (whose income does not reach $24 thousand dollars and occupies 66th place) and Bosnia and Herzegovina and Albania, with incomes around $16 thousand dollars. The rest of the countries are in the group of medium-low-income economies, with incomes of around $10 thousand dollars.

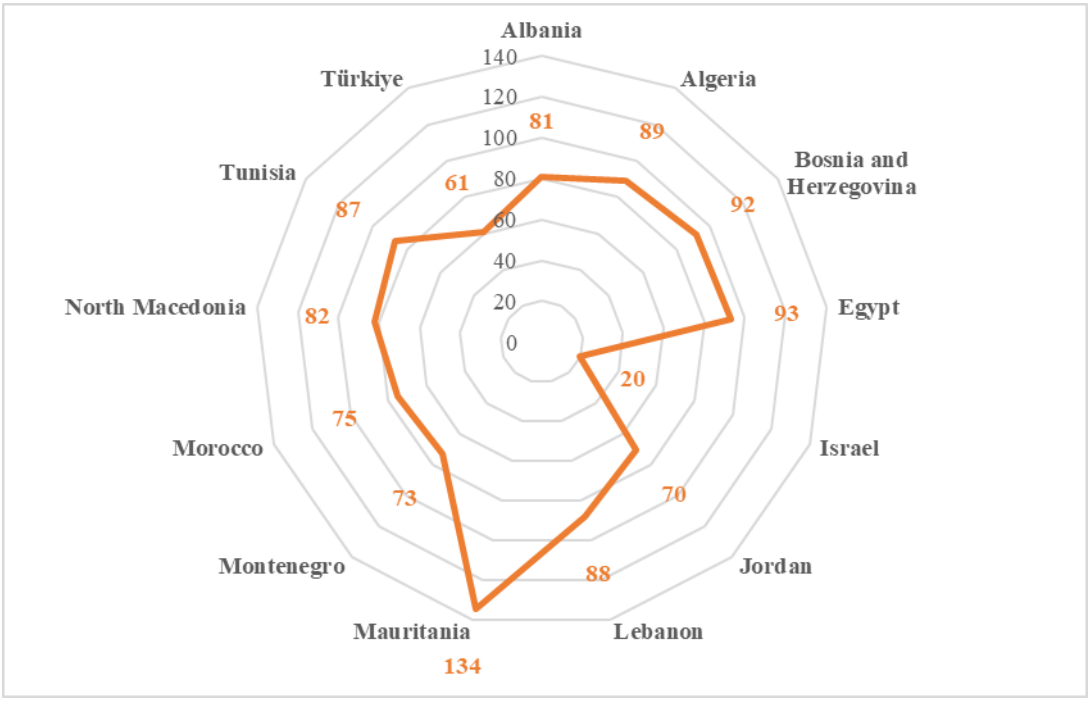
If we look at their economic dynamism measured by the growth of labour productivity (GDP per person employed) in the last five years, Türkiye and Egypt would be in the lead, exceeding 4 per cent, quadrupling the average growth of high-income countries (0.9 per cent) and more than doubling the world average (1.9 per cent). Also above this global growth are Morocco and Israel. Bosnia and Herzegovina, Montenegro and Albania have shown growth in their labour productivity similar to the world average. For the remaining economies, the growth of labour productivity has been modest.

1.1 Competitiveness

Next, we try to make an approximation to the determinants of competitiveness in the economies that make up the non-EU UfM, in order to delimit the competitive strengths and weaknesses that condition their trade integration with the EU through GVCs. To do this, we carry out a descriptive examination based on the indicators included in the global competitiveness index elaborated by the World Economic Forum. The last report which contained data on all UfM economies was the 2019 edition.

The country whose economy is ranked highest in terms of its competitiveness index is Israel, in 20th place (three ahead of Spain), with a value of the indicator slightly better than the average for high-income countries (Figure 1.1). Israel is followed at a considerable distance by the bulk of countries, which range from Türkiye (61st) and Jordan (70th) to Egypt (93rd), all scoring fairly similar to each other and to the average for upper-middle-income countries.

Figure 1.1. Global Competitiveness Index: Performance Overview, Rank/141 countries.



Source: authors' elaboration from Global Competitiveness Index 4.0 2019 edition (World Economic Forum).

The global competitiveness index is broken down into several components (12 pillars) to address the different aspects or pillars that define the competitiveness of an economy: institutions, infrastructure, ICT adoption, macroeconomic stability, health, skills, product market, labour market, financial system, market size, business dynamism and innovation capability.

In Table 1.2, we offer both the overall score for each country and the distance of the score of each pillar from the overall score. The latter is displayed only for those pillars for which gaps are more frequent and larger. This larger gap can be positive (greater than one), showing strength compared to the average for the country in competitiveness, or negative (less than one), revealing a weakness with respect to the average score. All the countries show a score higher than their overall score in the competitiveness pillar based on health, a dimension of competitiveness in which they show a slight strength. It is also very common to find positive deviations from the overall score in macroeconomic stability, examples of which are particularly high in Mauritania, Morocco and Bosnia and Herzegovina. By contrast, almost all non-EU UfM countries (except Israel) show a markedly lower score than the overall score in innovation capability, suggesting that there is room for improvement. The last component of competitiveness in which deviations from the average are observed for various countries is market size. Here the score is higher than the overall score for Egypt and Türkiye, so these two countries show strength in market size relative to the other pillars of competitiveness. The opposite occurs for Albania and Montenegro, whose market size score is particularly low in relation to the overall score, showing a relative weakness in their competitiveness in this area.

Table 1.2: Global Competitiveness Index
(Overall score and components with highest distance to overall score)

	Overal	Macroecon. Stability	Health	Market size	Innovation capability
	(Score)	**Distance of each component to overall score:** (component score/overall score)			
Albania	57.6	1.2	1.5	0.7	0.5
Algeria	56.3	1.3	1.5	1.2	0.6
Bosnia and Herzegovina	54.7	1.4	1.5	0.8	0.5
Egypt	54.5	0.8	1.2	1.4	0.7
Israel	76.7	1.3	1.3	0.8	1.0
Jordan	60.9	1.1	1.4	0.8	0.6
Lebanon	56.3	1.2	1.5	0.9	0.7
Mauritania	40.9	1.7	1.6	0.8	0.6
Montenegro	60.8	1.2	1.3	0.5	0.6
Morocco	60.0	1.5	1.2	1.0	0.6
North Macedonia	57,3	1.3	1.4	0.7	0.6
Tunisia	56.4	1.2	1.5	0.9	0.6
Türkiye	62.1	1.0	1.4	1.3	0.7

Note: the figures in blue are those countries with highest scores in that component compared to the overall score. The figures in orange are those countries with lowest scores in that component compared to the overall score.

Source: authors' elaboration from Global Competitiveness Index 4.0 2019 edition (World Economic Forum).

Now we address the importance of these economies in the international economic context from the perspective of trade flows, which offers an idea of their degree of trade integration in the global economy. To do this, we calculate the shares in world trade in goods and in services separately from the double perspective of exporting and importing (Table 1.3).

Türkiye and Israel have a certain role in international markets, exceeding 1 per cent of world trade in world merchandise trade and services exports in the case of Türkiye and in services exports only in the case of Israel, after remarkable growth since the beginning of the century. The much more moderate role of Israel in international merchandise exchanges is the result of a considerable setback in the last two decades. The weight of the rest of the economies in international trade is low, although in Egypt, Morocco and Algeria it is noticeably higher than that of the others: between 0.2 and 0.4 per cent of world trade.

Table 1.3: Key indicators for monitoring trade: share in World trade.

	Merchandise				Services			
	Exports		Imports		Exports		Imports	
	2021 (%)	Change 2000-21 (p.p.)	2021 (%)	Change 2000-21 (p.p.)	2021 (%)	Change 2000-21 (p.p.)	2021 (%)	Change 2000-21 (p.p.)
Albania	0.02	0.01	0.03	0.02	0.07	0.04	0.03	0.01
Algeria	0.16	-0.18	0.16	0.02	0.05	No data	0.12	No data
Bosnia and Herzegovina	0.04	0.02	0.06	0.01	0.04	0.01	0.01	0.00
Egypt	0.19	0.11	0.37	0.15	0.35	-0.23	0.39	-0.06
Israel	0.27	-0.22	0.41	-0.16	1.23	0.30	0.60	-0.14
Jordan	0.04	0.01	0.10	0.03	0.07	-0.02	0.07	-0.02
Lebanon	0.02	0.01	0.06	-0.03	0.10	No data	0.09	No data
Mauritania	0.02	0.01	0.02	0.01	0.00	No data	0.01	No data
Montenegro	0.00	No data	0.01	No data	0.03	No data	0.01	No data
Morocco	0.16	0.05	0.26	0.08	0.25	0.02	0.14	0.04
North Macedonia	0.04	0.02	0.05	0.02	0.03	0.01	0.03	0.01
Tunisia	0.07	-0.02	0.10	-0.03	0.05	-0.11	0.05	-0.02
Türkiye	1.00	0.58	1.20	0.38	1.02	-0.13	0.52	0.04

Note: the figures in blue are those countries with the highest share in world trade and the largest increases in that share in the period 2000-2021. The figures in red are those countries with the largest decreases in the share in world trade in the same period.

Source: authors' elaboration from World Development Indicators data (The World Bank).

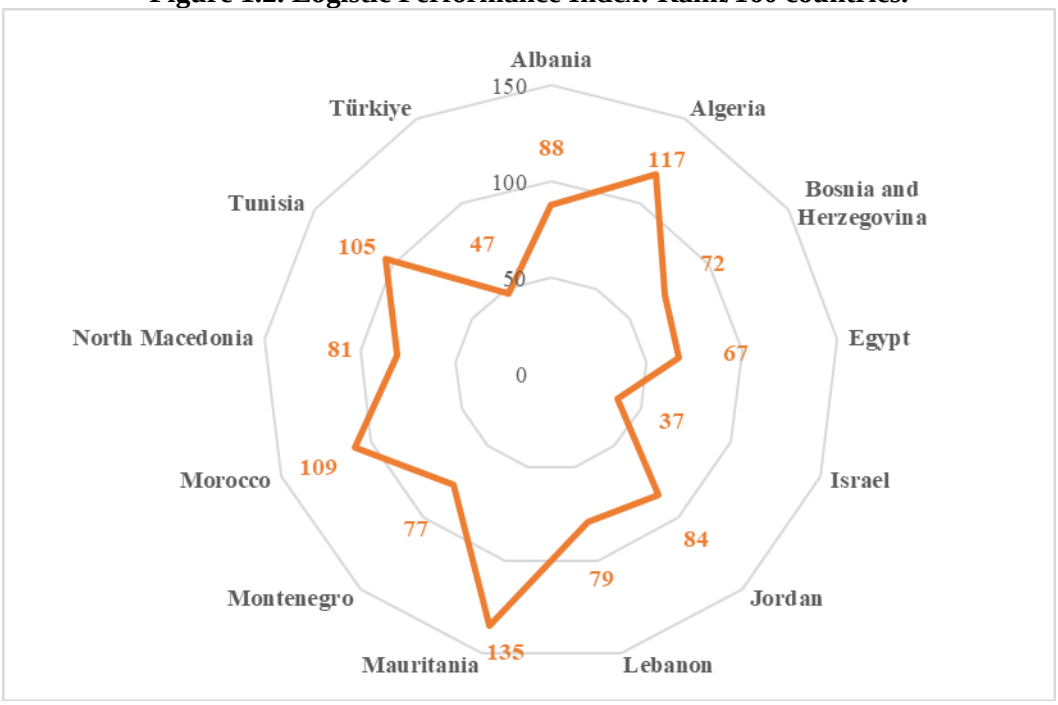
One key factor for encouraging trade integration is the quality of trade logistics in a country. Here it is important to identify both what areas could be improved and where the strong points are. We use three categories of indicators which provide a complementary yet consistent understanding of logistics performance: (1) the survey-based Logistic Performance Index (LPI), which covers six aspects of logistics performance (efficiency of customs and border management clearance, quality of trade- and transport-related infrastructure, ease of arranging competitively priced international shipments, competence and quality of logistics services, ability to track and trace consignments, and frequency with which shipments reach consignees within the scheduled or expected delivery time); (2) some new key performance indicators which complement the LPI by measuring the actual speed of trade around the world based on supply chain tracking information (Big Data); and (3) liner shipping connectivity, which measures the level of each country's integration in global liner shipping networks. The two first indicators are constructed and published by the World Bank, and the third is from the Conference on Trade and Development (UNCTAD).

It is important to note that the LPI data come from the 2023 LPI survey, which was conducted from September 6th to November 5th, 2022. It allows for comparisons across 139 countries. The six components of the LPI are assessed at the country level on a 5-point scale. LPI scores are broken down into four performance groups, based on score quintiles: poor logistics performers or logistics-unfriendly, which are those countries with severe logistics constraints, such as the least developed countries (bottom LPI quintile); partial performers, which are those with a level of logistics constraints most often seen in

low and middle-income countries (third and fourth LPI quintiles); consistent performers**,** which rated better on logistics performance than most others in their income group (second LPI quintile); and logistics-friendly, which are top-performing countries, most of them high-income economies (top LPI quintile).

Israel occupies the top position (37th) in the LPI ranking with a score of 3.3, which is the same value (and similar position in the ranking) as other EU countries such as Estonia, and Slovenia. The score for Spain is 3.8 and occupies 17th place. Hence, Israel is in the group of logistics-friendly countries. According to their score and positions, Türkiye (47th place), Egypt (67th), Bosnia and Herzegovina (72nd), Montenegro (77th) and Lebanon (79th) belong to the group of consistent performers. North Macedonia, Jordan, Albania, Tunisia, Morocco and Algeria can be defined as partial performers (Figure 1.2).

Figure 1.2. Logistic Performance Index: Rank/160 countries.



Source: authors' elaboration from LPI Report 2018 (The World Bank).

With respect to the overall index, there are marked differences for some countries in three of the six dimensions of logistics performance (infrastructure, international shipments and timeliness) included in the LPI (Table 1.4). Tunisia's score in frequency with which shipments reach consignees within the scheduled or expected delivery time is higher than the overall index, advancing its ranking in this dimension to 70th. Most economies exhibit better results in frequency with which shipment reach consignees within the scheduled or expected delivery time, mainly Albania, Lebanon, and Montenegro, in addition to Tunisia. By contrast, Tunisia shows a lower score in the quality of trade and transport-related infrastructure than the overall index and Israel in ease of arranging competitively priced international shipments.

Table 1.4: Key indicators for monitoring supply chain integration.

	Logistic Performance Index				Supply chain tracking data: Consolidated dwell time (days)		Liner shipping connectivity index
	LPI (score)	Infrastructure	International shipments	Timeliness	Import (Median)	Export (Median)	Maximum 2006=100 (China)
Albania	2.7	0.9	1.1	1.2	6.6	5.4	3.7
Algeria	2.5	1.0	1.0	1.1	16.4	0.7	12.3
Bosnia and Herzegovina	2.8	0.9	1.0	1.1	12.4	No data	No data
Egypt	2.8	1.0	1.0	1.1	12.2	4.9	68.5
Israel	3.3	1.0	0.8	1.1	4.6	2.5	43.1
Jordan	2.7	1.0	0.9	1.2	3.3	4.8	33.7
Lebanon	2.7	1.0	1.0	1.2	9.9	4.4	37.4
Mauritania	2.3	1.0	0.9	1.1	7.1	12.8	6.1
Montenegro	2.8	0.9	1.0	1.2	No data	No data	5.0
Morocco	2.5	1.0	1.0	1.1	7.2	5.8	71.9
North Macedonia	2,7	0.9	1.1	1.1	9.0	No data	No data
Tunisia	2.6	0.8	1.0	1.3	13.4	3.0	5.6
Türkiye	3.2	0.9	1.0	1.0	5.7	7.8	64.8

Note: the figures in blue are those countries with highest scores in that component compared to the overall score. The figures in orange are those countries with lowest scores in that component compared to the overall score.

Source: authors' elaboration from The World Bank and UNCTAD.

From the indicators based on supply chain tracking data, we select consolidated dwell time to measure import and export delays. We choose it because it is the only one that offers information for most non-EU UfM countries. Dwell time refers to the lead time between the first and last events at the same location in a supply chain and is used mostly in the context of ports and airports. Consolidated dwell time is defined as port dwell time plus time spent at inland multimodal clearance facilities for a container. Data from this specific indicator come from TradeLens, which is a blockchain-based data and document-sharing platform designed to simplify and accelerate trade workflows for participants in the supply chain ecosystem. The TradeLens dataset used covers about 20 per cent of global containerised shipping during the period covered (May–October 2022). We distinguish between median dwell time for imports and for exports. Starting with the indicator for import, Jordan shows the best performance since the number of days is the lowest (3.3). Following Jordan are Israel, Türkiye, Albania, Mauritania, Morocco, North Macedonia and Lebanon, all of whose dwell times are less than 10 days. Countries with dwell times of more than 10 days are Egypt, Bosnia and Herzegovina, Tunisia and Algeria. These figures change notably for exporting. Algeria exhibits the best performance based on the lowest dwell time (less than one day), followed by Israel and Tunisia (both with less than three days), then Lebanon, Jordan, Egypt, Albania and Morocco (all with around five days). Longer dwell times are found in Türkiye (around eight days) and Mauritania (around 13 days). By comparison, dwell times in Spain are 8.5 for importing and 9.8 for exporting.

The last indicator, liner shipping connectivity, measures the level of each country's integration in global liner shipping networks. It is based on an index set at 100 for the maximum value of country connectivity in the first quarter (Q1) of 2006. The country that held this value is China. The index comprises six components: scheduled ship calls, annual twenty-foot equivalent units (TEU) capacity, number of regular liner shipping services and shipping companies, average size (in TEU) of ships, and number of direct liner shipping services to other countries. Maritime transport is the most important transport mode for goods, including in the Mediterranean region (OECD, 2021a). An essential factor in the success of port connectivity depends on how well countries are positioned in global transportation networks, shipping and other services (OECD, 2021b).

According to the data for Q4 2022, a first bloc of countries consists of Morocco, Egypt and Türkiye, which exhibit the highest level of integration into global liner shipping networks (around 30 to 35 per cent lower than China's maximum level). By comparison, the indicator for Spain is over 90 per cent. A second bloc comprises Israel, Jordan and Lebanon, whose level of integration is less than half that of China's. A third group comprises Algeria, Mauritania, Tunisia, Montenegro, and Albania, which have low levels of integration.

1.2 Trade Agreements

To end this section, we carry out an analysis of the trade agreements that exist between the EU and the non-EU UfM member countries as these agreements play a crucial role in favouring trade between countries (Boffa et al., 2019). The bilateral agreements and their dates of signing and entry into force are presented in Table 1.5.

Table 1.5: Trade agreements between the EU and non-EU UfM countries

Agreement	Year (entry in force)	Type	Coverage
EC-Türkiye	1996	CU	Goods
EC-Tunisia	1998	FTA	Goods
EC-Israel	2000	FTA	Goods
EC-Morocco	2000	FTA	Goods
EC-Jordan	2002	FTA	Goods
EC-North Macedonia	2004	FTA & EIA	Goods
EC-Egypt	2004	FTA	Goods
EC-Algeria	2005	FTA	Goods
EC-Lebanon	2006	FTA	Goods
EC-Albania	2009	FTA & EIA	Goods & Services
EC-Montenegro	2010	FTA & EIA	Goods & Services
EC-Bosnia and Herzegovina	2015	FTA	Goods

Source: authors' elaboration from WTO.

It is particularly interesting to know which types of agreements exist between countries. The agreements are classified by the World Trade Organization as follows: Customs Unions (CU), Free Trade Agreements (FTA), Partial Scope Agreements, Economic Integration Agreements, Free Trade Agreements & Economic Integration Agreements (FTA& EIA), and Customs Unions & Economic Integration Agreements. The EU has trade agreements with each of the non-EU UfM countries except Mauritania. Mauritania is a signatory to the Cotonou Agreement between the European Union (EU) and the group of African, Caribbean and Pacific (ACP) countries which was adopted in 2000 and expired in February 2020. Under this agreement, those countries enjoy free access to the EU market. Moreover, due to its least-developed country status, Mauritania also benefits from duty-free access to the EU market under the Everything-But-Arms initiative.

Most of the bilateral agreements between the EU and non-EU UfM countries are free trade agreements, and they cover only goods. The exceptions are, on the one hand, the agreement with Türkiye, which is a customs union in manufacturing goods and, on the other hand, the three agreements with North Macedonia, Albania and Montenegro, which are free trade agreements and economic integration agreements and cover both goods and services. These four UfM countries, together with Bosnia and Herzegovina, have been granted candidate status by the EU and, consequently, their integration and, consequently, progress is expected in their degree of integration with the EU.

Moreover, we analyse the depth of these agreements, which extend beyond traditional trade areas and cover new aspects such as services, investment and competition policy (Ruta, 2017). Here we use two sources to define depth.

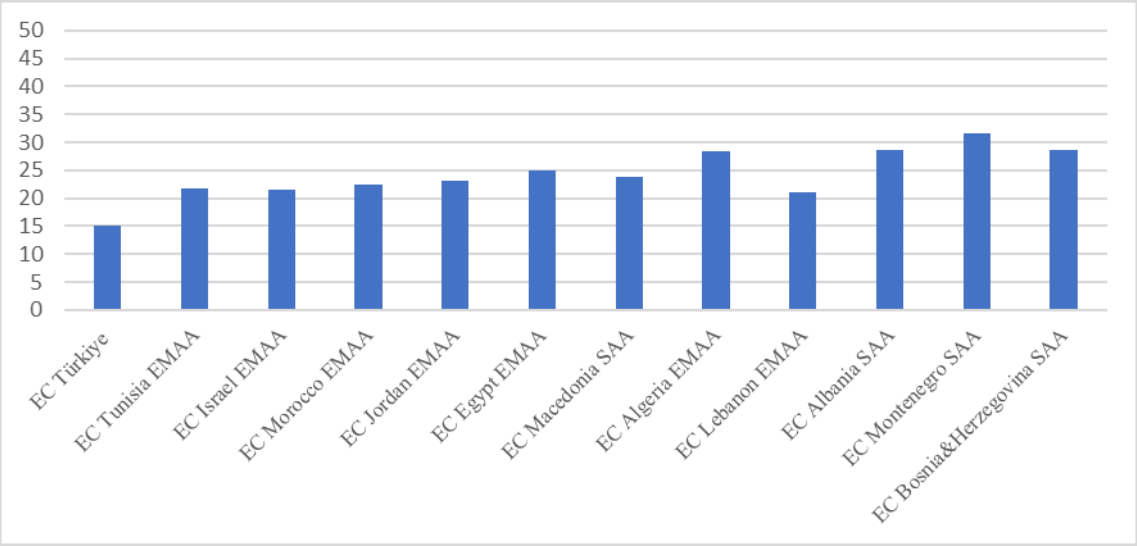
First, we classify these agreements according to their depth following the Fontagné et al. (2021) classification. Using the Deep Trade Agreements database 2.0, which provides detailed information on the content of a sub-sample of 18 policy areas most frequently covered in a set of 283 agreements currently notified to the WTO between 1958 and 2017 (Mattoo et al., 2020), these authors rely on a clustering approach to identify three groups of trade agreements based on the content of their provisions. By estimating a gravity model, they obtain that these three groups of agreements have a different impact on trade flows. One of the clusters exhibits a statistically large impact on trade, revealing the agreements included in it as the deepest agreements. The agreements with the lowest impact are considered shallow, and the other cluster includes agreements with a medium level of depth. According to the Fontagné et al. classification, none of the agreements between the EU and the non-EU UfM countries are deep agreements (those with a large impact on trade flows).

Secondly, following Dür et al. (2014), depth can be measured by adding up the number of different provisions included in the agreement, so the greater the number is, the greater the depth. Information on specific provisions included in each agreement comes from the Design of Trade Agreements (DESTA) Database, which codifies trade agreements by including fine-grained data with information related to the following 17 cooperation areas: market access, services, GVCs, investments, temporary entry of business persons, intellectual property rights, competition, public procurement, technical barriers to trade, sanitary and phytosanitary measures, regulatory cooperation and

transparency, trade defence instruments, e-commerce, data flows, capital movement and exchanges rates, non-trade issues and dispute resolution.

Figure 1.3 shows the sum of provisions included in each trade agreement signed between the EU and the non-EU UfM countries (ordered by date of entry into force). As can be seen, this number has been growing, and some of the more recently adopted agreements contain a high number of provisions. Based on this variable, none of these agreements could be defined as deep since they contain less than one third of the total provisions collected in the DESTA database (303). For reference, the agreement between the EU and Vietnam signed in 2019 contains two thirds of the total possible provisions, so this can be defined as a deep agreement.

Figure 1.3. Depth of the trade agreements between the EU and the non-EU UfM countries
(percentage of provisions included in each agreement over total provisions).



Source: author's elaboration from DESTA 2.1 (Dür et al., 2014).

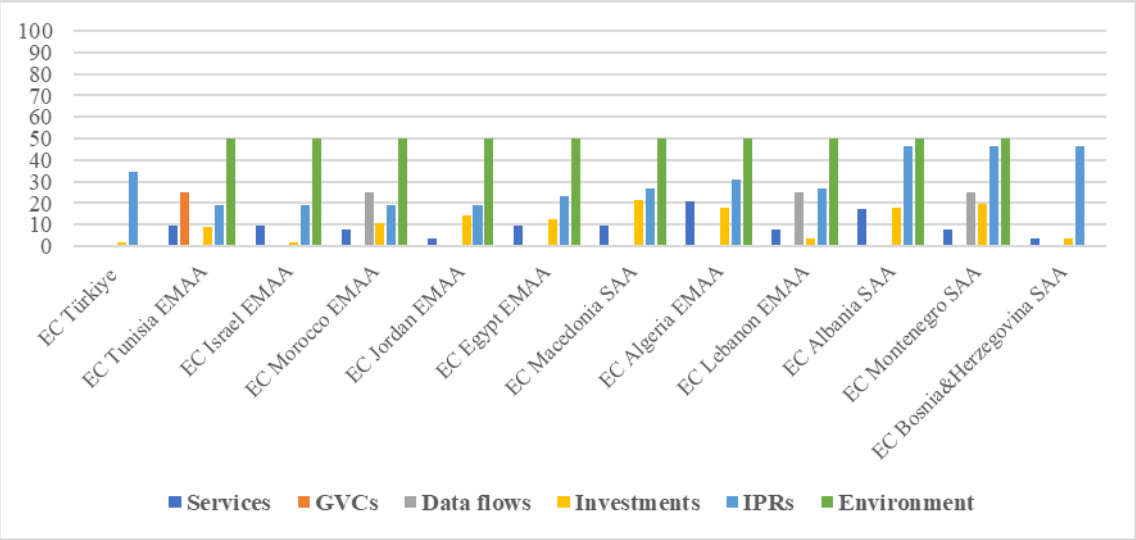
Furthermore, we focus on specific provisions that are particularly important in facilitating trade flows linked to GVCs that favour the creation of sharing production networks. These provisions are related to trade in services, investment, protection of intellectual property rights, GVCs and free movement of data. Trade in services has not only weathered successive crises in recent decades (financial, pandemic and war in Ukraine) but is also gaining importance in world trade, such that trade in services, in particular trade in intermediate services, seems to be the future of trade (Baldwin, 2022). These exchanges of intermediate services are essential for the proper development of GVCs. Previous literature has shown that deep trade agreements with services provisions boost intermediate services, a positive effect which is particularly strong for intermediate services from EU countries. Therefore, those deep trade agreements seem to allow the EU to exploit its comparative advantage in services and, consequently, strengthen intra-EU GVCs and GVCs with non-EU countries (Díaz-Mora et al., 2022).

In addition, digital technologies have opened a new channel of globalisation thanks to a growing dependence on foreign digital services (Blázquez et al., 2023). These new ways of integrating into GVCs can be hampered by regulatory restrictions that usually affect these flows. Hence, we emphasise the importance of adopting deep trade

agreements which, in addition to reducing barriers to flows of goods, incorporate measures to facilitate trade in services, data flows and investments between countries, along with provisions for the protection of intellectual property rights.

To illustrate the scope in those areas of trade agreements between the EU and non-EU UfM countries, Figure 1.4 offers information on the depth of those agreements, using the percentage of provisions collected from the total possible within each area as an indicator. As can be seen, the depth in environmental issues is the greatest in most agreements (50 per cent, which corresponds to one of the two provisions related to this policy area). The exceptions are the agreements with Türkiye and Bosnia and Herzegovina, where no provision in this area is included. The area with the second greatest depth is protection of intellectual property rights. Here, the three most recent agreements are the deepest in this area (almost half of 26 total provisions). The remaining agreements cover between 20 and 35 per cent of total provisions within this area. In the areas of investment and services, all agreements can be defined as shallow since none of them reach 25 per cent of total provisions. These two policy areas are the most detailed areas according to the high number of total provisions collected in DESTA (around 50). Agreements with North Macedonia and Albania are the deepest ones, and those with Türkiye (and with Israel in the case of investment) are the shallowest ones. In the other two policy areas, GVCs and data flows, the depth is very low: only three agreements (those with Morocco, Lebanon and Montenegro) include one of the four possible provisions regarding cross-border data flows, and only one agreement (the one with Tunisia) includes one of the four possible provisions in the GVC area. Hence, these are particularly underdeveloped areas in the agreements between the EU and non-EU UfM countries given the low number of provisions included in them. To develop and boost GVCs within UfM countries and considering the growing importance of the digital component in GVC participation, the inclusion of those provisions in trade agreements would clearly be an aspect to strengthen.

Figure 1.4. Depth of the trade agreements between the EU and the non-EU UfM countries, by area of policy (percentage of provisions over total provisions within each area).



Source: authors' elaboration from DESTA 2.1 (Dür et al., 2014).

Chapter 2. Supply chains between EU and non-EU countries in the Union for the Mediterranean

The COVID-19 outbreak and the resulting disruptions in global value chains (GVCs) have highlighted the risks associated with the international fragmentation of production and raised concerns about the future of GVCs. The Russian invasion of Ukraine and its impact on Black Sea shipping logistics and commodity prices have contributed to a growing disaffection with GVCs, highlighting the need to reshape this form of production organisation. The future of GVCs is being questioned, and some voices are pointing to a process of repatriation of offshored activities or nearshoring and a reversal of globalisation (Javorcik, 2020).

However, recent studies show that reshoring strategies have been less common than thought (De Lucio et al., 2023; Marvasi, 2023; World Bank, 2021). GVCs seem to have been resilient to the supply and demand shocks of the last decade. The presence of sunk costs has prevented a radical reconfiguration of GVCs, leading to a hysteresis in GVC participation. Moreover, GVCs have played an important role in coping with recent economic shocks, and countries involved in GVCs have been more stable and efficient than less interconnected countries (Arriola et al., 2020). Therefore, a retrenchment in GVCs and globalisation is unlikely unless political tensions move towards trade protectionism (Antràs, 2020).

Thus, GVCs remain important for economic development and continue to be a driving force for international economic integration. When firms fragment their production process and allocate separate tasks to different countries, all companies and countries involved in the process need to cooperate closely. Supply chains contribute significantly to regional economic development by strengthening bilateral trade relations, creating networks and transferring technological knowledge between partners. In addition to multinational enterprises (MNEs), which are usually the leaders in GVCs, small and medium enterprises (SME) can also participate in supply chain trade. This is because they only have to carry out the parts (tasks) of the production process in which they have a comparative advantage rather than having to engage in the entire process. Therefore, participation in GVCs is an effective way to enable the internationalisation of SMEs.

This chapter analyses supply chains in the Union for the Mediterranean (UfM). In particular, it focuses on the economic and trade relations established through supply chains between the EU-27 countries and the other members of the UfM (non-EU UfM).

The chapter is organised as follows. The next section describes the methodology and data used. Section 2.2 presents empirical evidence on the extent of UfM countries' participation in supply chains between 2000 and 2022 at the aggregate level (goods and services). The analysis provides an overview of supply chain participation between non-EU UfM countries and the EU-27, its trends, the predominant type of participation in GVCs between two areas and the main European trading partners in GVCs. The sectoral analysis is carried out in Section 2.3.

2.1 Methodology and data.

Using value-added trade indicators is the most common way to quantify the extent to which a country is engaged in a GVC. Value-added trade is a statistical approach that has been specifically developed to better track global production networks and supply chains. The estimates of trade in value added are derived from multiregional input-output tables that show the interdependence between countries and industries. They make it possible to identify the value added that is generated by each industry and country in the production of each good or service for export.

Koopman et al. (2010 and 2014) developed an accounting framework to discover the value-added structure of a country's exports. They break gross exports into various value-added components and build GVC participation indicators which consider that a country can be involved in GVCs in two ways depending on whether its links in the GVC are upstream or downstream. The first one, 'backward participation', refers to a downstream position in the GVC. The country uses foreign value added embodied in its exports. Processing exports, which usually contain high foreign inputs, are characteristic of this type of participation. The second one, 'forward participation', refers to an upstream position in the GVC. The country provides domestic value added that other countries incorporate into their exports. This type of GVC participation is typically found in economies that export natural resource-based products, but also in high-tech sectors where lead firms from advanced countries are located upstream, providing both the most sophisticated parts and components for assembly and high value-added services (such as R&D).

Indices of participation in GVCs are defined for both forms of participation. Backward participation is measured by the foreign value added embodied in exports as a share of gross exports of the exporting country. Forward participation is measured by the domestic value added embodied in foreign exports as a share of gross exports of the source country.

We construct these GVC indicators using data from the UNTAD-EORA Global Value Chain Database. We choose this database over other more consolidated databases for analysing GVCs, such as the OECD's Trade in Value Added database (TiVA), because it covers 190 countries and provides data for all EU-27 and 12 non-EU UfM countries. Therefore, only two UfM countries are excluded from the analysis: Palestine and North Macedonia. By contrast, the latest revision of TiVA (2021) includes only four non-EU UfM countries: Israel, Morocco, Tunisia and Türkiye.

In addition, the Eora database contains a complete series from 1990 to 2022, although the most recent year's results are based on the IMF's Economic Outlook. The series is split into two blocks. The first covers the years 1990-2015 and the second the period 2016-2022. As the database methodology warns, there may be some gaps in the series between 2015 and 2016. For this reason, it has been decided to present the two periods separately in the time analysis. A methodological background to the Eora database can be found in Casella et al. (2019).

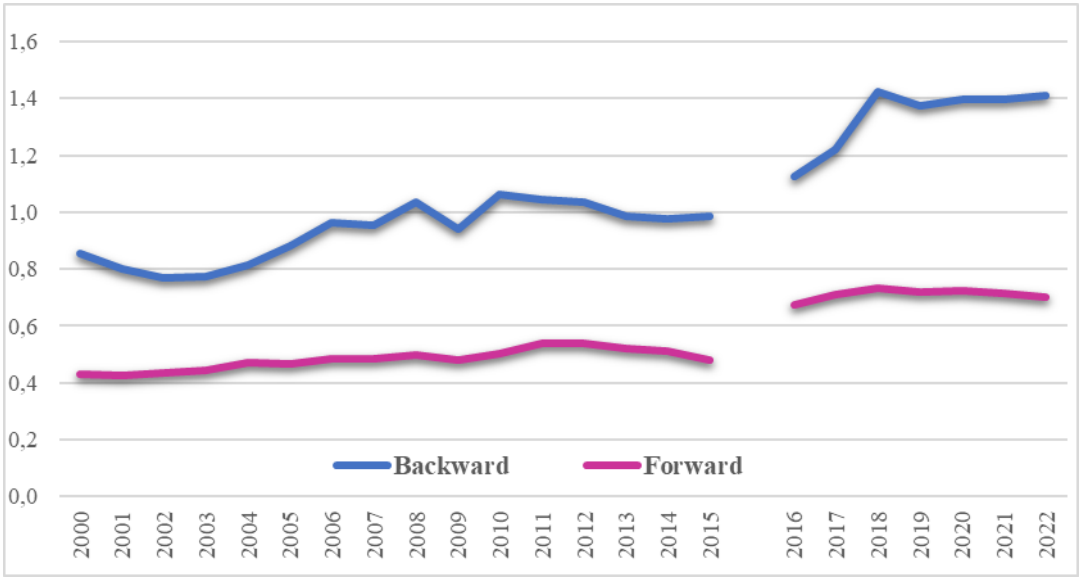
The Eora database offers the key GVC indicators: foreign value added (FVA), domestic value added, which is embodied in the country's exports (DVA), and domestic

value added of a country, which is embodied in the exports of other countries (DVX). All information is provided on nominal values. Following Koopman (2010), we estimate the GVC indicators as the ratios of FVA to the total value added embodied in the exports of the exporting country (backward participation) and DVX to the total value added embodied in the exports of the source country (forward participation). These measures facilitate comparison across countries and industries.

2.2. Global value chain integration in the Unión for the Mediterranean

Figure 2.1 shows the EU-27's backward and forward participation with non-EU UfM countries from 2000 to 2022. Both account for an insignificant share of EU-27 exports. Intermediate inputs from non-EU UfM countries that are used in the production of EU-27 exports (backward participation) barely reached 1.5 per cent of EU exports of goods and services in 2022. In turn, European exports of intermediate inputs embedded in non-EU UfM countries' exports (forward participation) are even lower.

Figure 2.1. Regional chains between EU and the rest of countries of UfM (percentages**)**



Source: EORA database and authors' calculations.

Naturally, the extent of engagement in regional chains varies across European countries. In 2022, intermediate inputs from non-EU UfM countries accounted for more than 2 per cent of total exports of goods and services in Cyprus, Bulgaria, Romania, Belgium, Croatia and Greece, and the total share of EU inputs embodied in non-EU UfM export is greater than 1.5 per cent in Bulgaria, Greece, Romania, and Croatia.

Backward and forward linkages increased from 2000 until the financial crisis. Since then, participation in UfM supply chains has slowed down in line with the pace of global GVC integration (World Bank, 2021). However, backward participation has increased

since 2016, and non-EU UfM countries are increasing their contribution to EU exports. By contrast, forward participation remains at the same level.

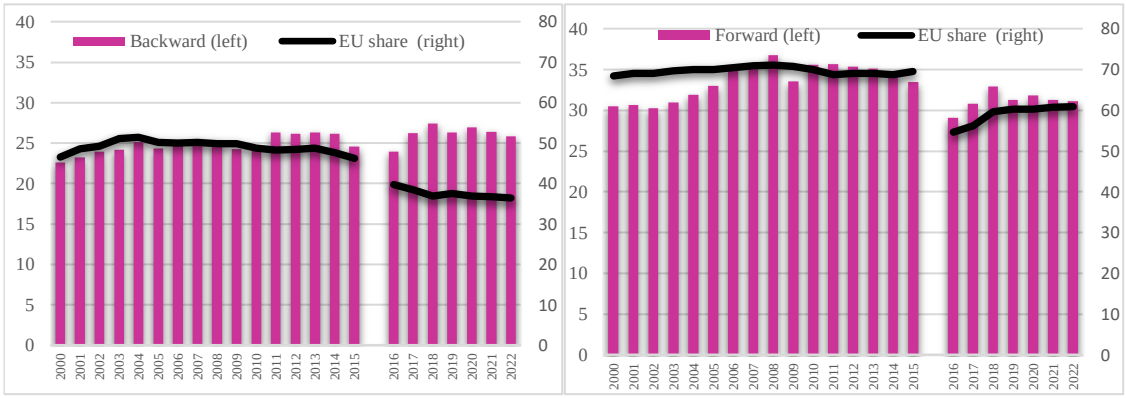
The differences between the indices of GVC participation point to the importance of backward participation, which has increased over the last 20 years, rather than forward participation. This trend suggests that non-EU UfM countries contribute to European GVCs mainly by providing primary and intermediate inputs to EU-27 countries. This issue is discussed in more detail in the remainder of this section, which focuses on regional chains from the perspective of non-EU UfM countries.

Non-EU UfM value chains with EU-27 countries.: Aggregate Analysis.

Figure 2.2 shows the backward and forward participation of non-EU UfM countries. In general, non-EU UfM countries have maintained their participation in GVCs since the financial crisis. Their contribution to the rest of the world's exports (forward) was higher throughout the period (31.2 per cent of non-EU UfM exports in 2022) than the share of foreign value added in their export basket (25.8 per cent of non-EU UfM foreign value added in this year). As noted above, this suggests that non-EU UfM countries tend to be positioned upstream in global supply chains.

Figure 2.2: Backward and forward participation of non-EU UfM and EU share in value added linked to GVCs.
(Percentages)

B) Backward Participation B) Forward Participation



Source: EORA database and authors' calculations.

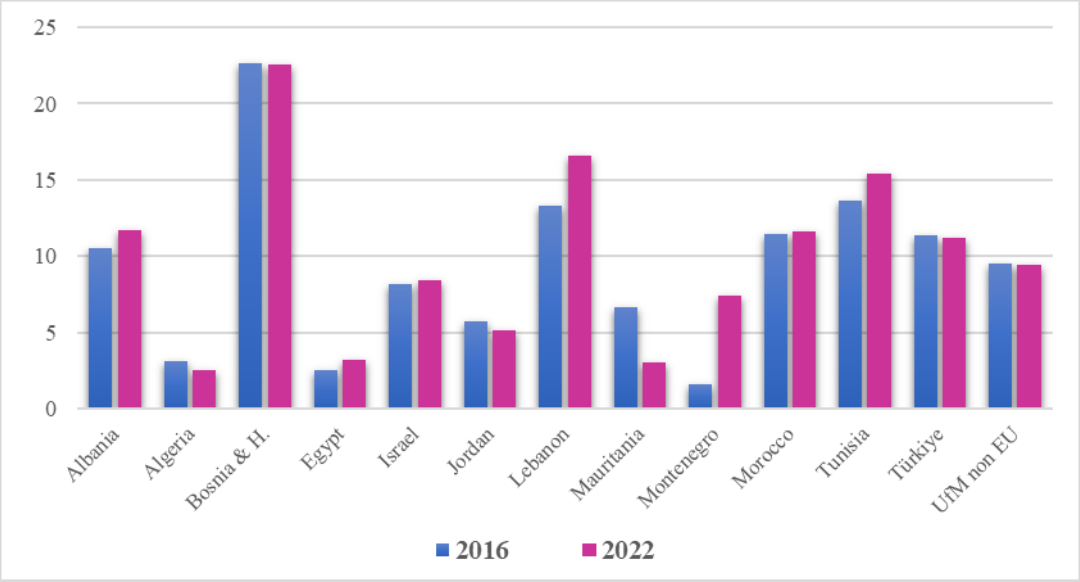
Positioning in the global production network is relevant because it determines both the gains that can be made and the impact of supply and demand shocks on firms involved in GVCs. In this respect, Lebastard et al. (2023) show for the universe of French exporters that upstream firms were the least negatively affected by the COVID-19 crisis, probably because they were better insulated from supply bottlenecks. As the type of participation can be determined by the sectoral composition of gross exports (manufacturing, services, commodities, etc.), the sectoral analysis in the next section will contribute to a better understanding of regional GVCs.

The black line in Figure 2.2 represents the EU share of value added linked to GVCs. There is a significant difference in the presence of the EU-27 between backward and forward participation. The EU is the destination of 60 per cent of the value added of non-EU UfM countries embedded in foreign exports during the period, and its presence has increased since 2016. The EU-27 is, therefore, the main destination partner for non-EU UfM countries participating in GVCs.

By contrast, in 2022, the EU-27 accounted for less than 40 per cent of the foreign value added content of non-EU UfM exports. Moreover, the EU's share has declined since 2004, when it peaked and more than half of the foreign value added came from the EU. The decline in the role of the EU-27 as a source of value added embedded in non-EU UfM exports was common to all member states and reflects the fact that these countries rely more on inputs from other geographical areas. Although supply chains maintain strong links with the EU-27, there has been an increase in extraregional sources, particularly from China, which provided 3 per cent of non-EU UfM imported inputs in 2000 and 12.8 per cent in 2022. This strengthening of links with partners from other geographical regions is striking as several studies highlight that supply chains appear to have become increasingly regional over the past decade, particularly in Europe and Asia (Cigna et al., 2022; McKinsey, 2019; Stöllinger et al., 2018).

However, depending on the extent and nature of their involvement in GVCs, the intensity of productive integration with the EU-27 can vary across countries. Figure 2.3 shows the backward participation of non-EU UfM countries in relation to the EU-27 since 2016. Although this was a very turbulent period, with trade disputes and the COVID-19 crisis strongly affecting global value chains, the European content of non-EU UfM exports remained fairly stable. Mauritania, Jordan and Algeria, three countries with a low level of integration, suffered the most pronounced decline.

Figure 2.3. Backward Participation: EU value added content in non-EU UfM exports
(Percentages of total exports of each country)

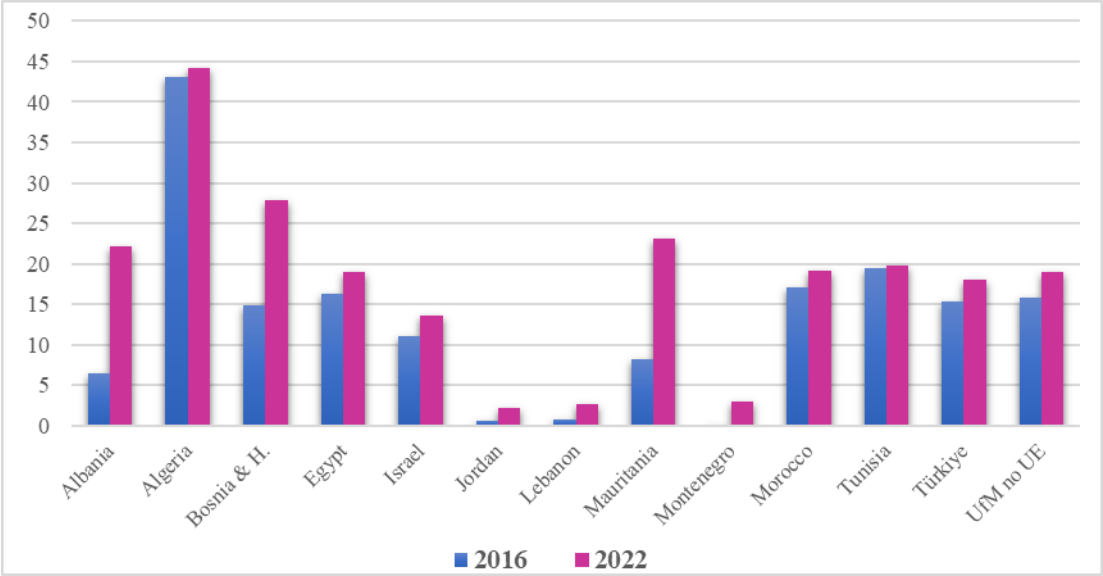


Source: EORA database and authors' calculations.

Moreover, half of the countries in the group increased their dependence on EU-27 inputs over this period. This is the case for Albania, Egypt, Israel, Lebanon, Montenegro and Tunisia. In these countries, the increase in backward integration with the EU-27 was made possible by a fast pace of integration into global value chains. This was even more pronounced in extra-regional chains than in European chains as the EU-27's share of foreign value added increased only in Montenegro, while it decreased by more than 10 percentage points in Albania.

Figure 2.4 considers the EU-27 as the destination of intermediate inputs for exports from non-EU UfM countries, i.e., the forward participation of these countries in relation to the EU-27. The graph shows a general increase in forward participation with the EU-27 since 2016. It seems that the shock of the pandemic did not have a contractive effect on non-EU UfM countries' supply of inputs to the EU-27. Moreover, upstream integration in the European production network grew stronger.

Figure 2.4. Forward participation: non-EU UfM value added content in EU exports
(Percentages of total exports of each country)



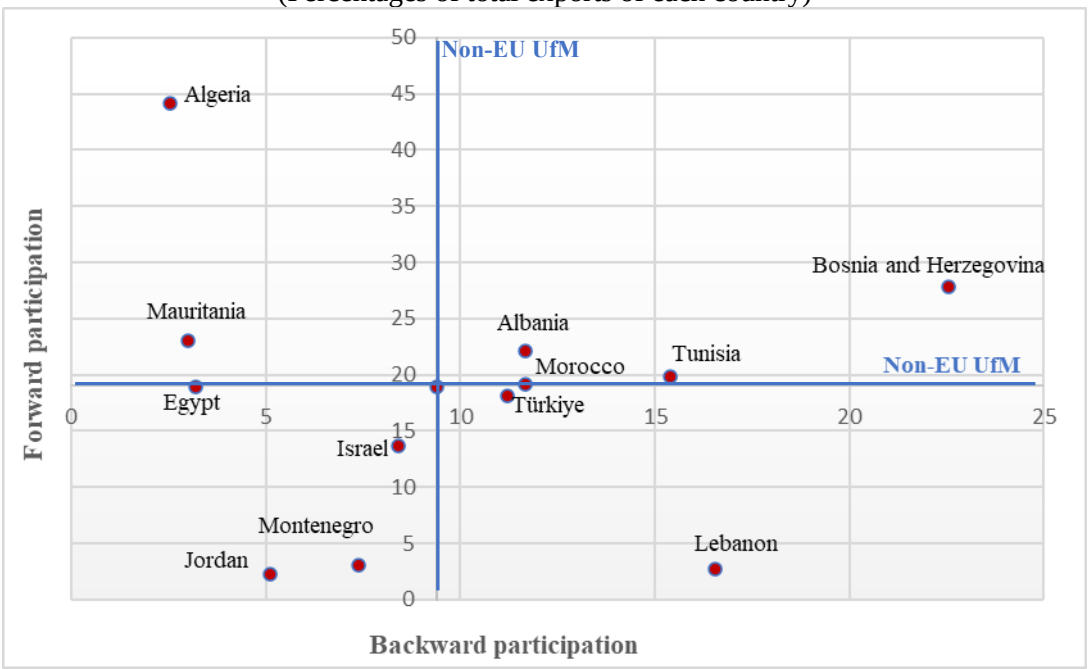
Source: EORA database and authors' calculations.

Albania, Bosnia and Herzegovina and Mauritania have the largest increases. These countries plus Algeria are the four countries with forward indicators above the regional average (19.0 per cent in 2022). In general, these are resource-abundant countries that trade in primary inputs. For all of them, the EU is the main destination market. In Algeria and Bosnia and Herzegovina, the EU-27 concentrates more than 70 per cent of the domestic value content of world exports, while in Albania and Mauritania, the share is close to 60 per cent. These countries therefore show a high degree of integration in the EU-27 as suppliers. Among the leading countries, Algeria stands out, with sales of domestic inputs to the EU accounting for around half of its total exports of goods and services.

Figure 2.5 shows the value of the indicators for the two types of participation in GVCs with the EU-27. The values of the group indicator divide the graph into four quadrants. Countries in the top right quadrant participate in both types, backward and forward, to a degree above the average of non-EU UfM countries. Their high scores indicate a prominent degree of integration in the European supply chain. For the two European countries in this quadrant, Albania and Bosnia and Herzegovina, high scores are linked to their geographical location in Europe. As noted above, both countries experienced a significant increase in forward participation and maintained (Bosnia and Herzegovina) or slightly increased (Albania) their backward participation over the period. This behaviour suggests that both countries are strengthening their contribution to European supply chains as suppliers of inputs that are incorporated into EU-27 exports, but they are also participating in European value chains by transforming intermediates inputs. They are certainly benefiting from their comparative advantages, and proximity to high-income European countries. In addition, their status as EU candidate countries allows them to benefit from EU support to make progress in aligning with the EU's internal market acquis (free movement of goods, services, capital, technology and labour), removing trade barriers. An example of this support is the Economic and Investment Plan for the Western Balkans, adopted in 2020. It aims to achieve closer integration and support connectivity with the EU in energy, transport and digital economy, as well as promote human capital development and innovation (European Commission, 2022a).

Figure 2.5. Backward and forward participation in European GVC by countries, 2022

(Percentages of total exports of each country)



Source: EORA database and authors' calculations.

Tunisia, Morocco and Türkiye are also in this quadrant, but, as can be seen from the graph, they exceed the group average only in backward participation. Their relatively high foreign content in exports was previously highlighted by the OECD (2021), which analysed these countries' integration into GVCs using the TiVA database for 2005-2016. In 2022, these countries maintained a high level of integration in GVCs with European countries. In the context of the non-EU UfM, they tend to participate in downstream stages as transformers of inputs coming from Europe, usually in manufacturing industries. It is worth noting that these three countries have adopted decisive strategies to reduce barriers and attract FDI, such as financial incentives, corporate tax reductions and the establishment of free trade zones, where foreign products can enter and leave duty-free when they are destined for export to third countries. They have also implemented programmes to improve the competitiveness and participation of domestic firms in GVCs (training of workers, international standards, etc.).[1]

The countries in the top left quadrant, Algeria, Egypt and Mauritania, have a clear bias towards providing inputs for European exports. Their backward participation rates, as mentioned earlier, are particularly low. This type of participation is usually found in resources-rich countries.

In the bottom left quadrant, there are three countries: Jordan, Israel and Montenegro. Their low integration in forward participation, especially in Jordan and Montenegro, where domestic inputs embedded in European exports account for a fraction below 3 per cent of their total exports, is common to backward participation. These countries are the least connected to European production networks.

Finally, in the bottom right quadrant is Lebanon, with a backward score above the group average and a forward score below it, indicating its orientation towards the downstream stages of the European supply chain in which it is involved. It is the only country in the Middle East with a higher level of backward participation than the UfM average, doubling the level of integration of the other countries in the region (Israel and Jordan). However, like Jordan, its intermediate exports are concentrated in Middle Eastern and North African countries (Giovannetti and Marvasi, 2019).

In summary, the evidence suggests that non-EU UfM countries have different levels of integration and play different roles in European supply chains. This depends on their resource endowments and specialisation in production and trade, but also on the agreements that govern trade and the drivers of competitiveness analysed in Chapter 1, such as transport-related infrastructure, logistics or innovation capability.

In addition to the integration of non-EU UfM countries into value chains with the EU-27, it is interesting to examine which European countries participate in supply chains with non-EU UfM countries. We address the following questions: Which EU-27 countries are active partners in supply chains with non-EU UfM countries? Are there European leaders in supply chains with non-EU UfM countries? What are the GVC relationships between each EU-27 country and non-EU UfM countries?

[1] An overview of recent developments in European direct investment and affiliates in non-EU UfM countries is presented in Annex 2.1, at the end of this chapter.

We analyse these issues in Tables 2.1 and 2.2, which provide a detailed description of the trade relationship between each non-EU UfM country and each EU-27 member state. The first table presents non-EU UfM backward indicators for each EU-27 country. Marked in red are the ratios in which the foreign value added from the European country (row) is greater than 1 per cent of the total exports of the non-EU UfM country (column). European intermediate inputs embodied in exports are concentrated mainly in four countries, Germany, France, Italy and Spain, the largest countries in the EU-27.

Table 2.1. European backward participation of non-EU UfM, 2022
(Percentage of total exports of non-EU UfM countries)

	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Mauritania	Montenegro	Morocco	Tunisia	Türkiye
Austria	0.3	0.1	1.8	0.1	0.2	0.1	0.4	0.0	0.2	0.1	0.3	0.4
Belgium	0.1	0.1	0.3	0.1	0.8	0.2	0.6	0.1	0.2	0.4	0.6	0.5
Bulgaria	0.6	0.0	0.3	0.0	0.1	0.1	0.2	0.0	0.1	0.0	0.1	0.5
Croatia	0.1	0.0	5.4	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republic	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Denmark	0.1	0.0	0.2	0.1	0.1	0.1	0.3	0.0	0.3	0.1	0.1	0.1
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Finland	0.1	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.1
France	0.4	0.7	0.7	0.4	1.0	0.5	2.6	0.6	0.4	3.1	4.4	1.2
Germany	0.9	0.3	3.1	0.6	1.8	1.2	2.7	0.3	0.6	1.1	2.1	2.6
Greece	4.9	0.0	0.3	0.1	0.2	0.2	0.7	0.0	0.3	0.1	0.2	0.3
Hungary	0.1	0.0	1.0	0.0	0.1	0.1	0.2	0.0	0.2	0.1	0.1	0.1
Ireland	0.1	0.1	0.3	0.2	0.6	0.2	0.6	0.1	0.4	0.3	0.3	0.5
Italy	2.5	0.3	2.8	0.5	1.0	0.8	3.2	0.1	0.3	1.2	3.1	1.3
Latvia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0
Luxembourg	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.1	0.4	0.1	0.1	0.1
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.0	0.1	0.0
Netherlands	0.2	0.1	0.6	0.2	0.9	0.4	1.0	0.1	0.3	0.5	0.6	0.7
Poland	0.2	0.1	0.5	0.1	0.2	0.1	0.4	0.1	0.4	0.2	0.3	0.4
Portugal	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.1
Romania	0.2	0.0	0.3	0.1	0.2	0.2	0.4	0.1	0.3	0.1	0.2	0.8
Slovakia	0.1	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.1	0.1
Slovenia	0.1	0.0	3.2	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
Spain	0.3	0.6	0.5	0.3	0.6	0.5	1.7	0.5	0.5	3.5	1.9	0.9
Sweden	0.1	0.0	0.3	0.1	0.3	0.2	0.6	0.0	0.2	0.2	0.3	0.4
EU-27	**11.7**	**2.5**	**22.6**	**3.2**	**8.4**	**5.1**	**16.5**	**3.0**	**7.4**	**11.7**	**15.4**	**11.2**

Source: EORA database and authors' calculations.

Germany plays a central role as a supplier in UfM chains. This result is in line with previous studies that show the centrality of Germany in European GVCs (Baldwin and López-González, 2015; Blázquez et al., 2020) and confirms how Germany extends its leadership beyond European borders to Mediterranean countries. Sources of inputs from Germany are especially relevant for Bosnia and Herzegovina, Lebanon, Tunisia and Türkiye's exports.

The non-EU UfM countries most integrated in European backward supply chains can be divided into two groups. The first includes Albania and Bosnia and Herzegovina, two well-integrated countries (upper right quadrant in Figure 2.5). Albania mainly transforms inputs from its neighbours, Greece and Italy. Bosnia and Herzegovina seems to have a more diversified source of supply, which consists of several Central European countries: Germany, Italy, Austria, Croatia, Hungary and Slovenia.

The second group includes Morocco, Tunisia, Türkiye and Lebanon. These countries are linked mostly to suppliers from larger European countries: Germany, France, Italy and Spain. It seems that industrial and commercial policies aimed at attracting foreign investment and facilitating engagement in international supply chains have been successful and the countries in this group possess the conditions required to be the natural extension of European production chains beyond their borders, positioning themselves in the downstream stages of GVCs.

Table 2.2 presents the forward participation indices. Marked in red are the ratios for which the domestic value added of the non-EU UfM (column) embodied in EU exports of the row country is greater than 1 per cent of total exports of the non-EU UfM country. There are more coloured cells when the measure is forward participation than when the measure is backward participation. This reflects, as was noted above, a more pronounced trade relationship with EU-27 countries as destinations for intermediate inputs from non-EU UfM members.

There are two distinctive features of backward participation. First, the destinations of the inputs exported by non-EU UfM countries are more diversified. While the analysis of backward participation highlighted the role of Germany as a major supplier of inputs to most of the non-EU UfM countries, there are now three relevant destination countries: France, Germany and Italy. In all three, imports of inputs account for more than 1 per cent of total exports in all non-EU UfM countries except Jordan, Lebanon and Montenegro.

Second, in addition to the four largest EU-27 countries which, as in the case of backward participation, occupy a prominent position as a destination of intermediate inputs embodied in exports, Belgium and the Netherlands are also frequent partners in GVCs. The importance of these two countries is probably linked to the prominent role of their ports in international trade.

In general, the inputs used in the exports of European partners represent a relevant share of the exports of non-EU UfM countries. For example, a quarter of Algeria's total exports are inputs that are incorporated into exports from France (13.8 per cent) and Belgium (10.6 per cent). As in backward participation, Germany plays a central role, this time as a destination of inputs from the non-EU UfM countries. Its imports of inputs

represent more than 5 per cent of total exports in Albania, Algeria, Bosnia and Herzegovina and Türkiye.

Table 2.2. European forward participation of non-EU UfM, 2022
(Percentage of total exports of non-EU UfM countries)

	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Mauritania	Montenegro	Morocco	Tunisia	Türkiye
Austria	0.5	0.6	1.9	0.3	0.3	0.0	0.0	0.2	0.1	0.3	0.3	0.5
Belgium	0.5	10.6	0.6	1.1	2.0	0.1	0.4	2.6	0.1	1.6	1.8	1.1
Bulgaria	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.5
Croatia	0.1	0.0	5.9	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republic	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denmark	0.3	0.3	0.2	0.2	0.2	0.0	0.1	0.3	0.1	0.2	0.1	0.4
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Finland	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.8	0.1	0.2	0.1	0.1
France	2.0	13.8	1.1	1.9	1.2	0.2	0.5	5.7	0.2	4.8	4.8	1.4
Germany	6.3	6.1	5.1	4.1	3.3	0.4	0.5	3.5	0.5	3.0	3.7	6.0
Greece	1.8	0.5	0.1	0.6	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.3
Hungary	0.2	0.2	0.7	0.1	0.3	0.0	0.0	0.1	0.1	0.2	0.1	0.3
Ireland	0.2	0.3	0.2	0.3	1.3	0.1	0.1	0.2	0.1	0.5	0.5	0.4
Italy	6.8	1.3	4.6	3.9	0.8	0.2	0.2	3.0	0.2	1.5	3.6	1.6
Latvia	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Lithuania	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.1
Luxembourg	0.3	0.9	0.2	0.2	0.3	0.0	0.1	0.5	0.1	0.3	0.3	0.3
Malta	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.0	0.1	0.0
Netherlands	0.9	5.6	1.0	3.2	2.1	0.5	0.2	0.8	0.2	2.4	1.7	2.1
Poland	0.3	0.4	0.6	0.3	0.4	0.1	0.1	0.5	0.2	0.4	0.3	0.6
Portugal	0.1	0.2	0.1	0.3	0.1	0.0	0.0	0.3	0.1	0.4	0.2	0.2
Romania	0.3	0.1	0.3	0.3	0.2	0.1	0.2	0.1	0.2	0.1	0.1	1.0
Slovakia	0.2	0.1	0.3	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.2
Slovenia	0.1	0.2	3.9	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Spain	0.5	2.6	0.3	1.2	0.5	0.1	0.2	3.2	0.1	2.4	1.6	0.6
Sweden	0.1	0.2	0.2	0.1	0.2	0.0	0.0	0.3	0.1	0.2	0.1	0.2
EU-27	**22.1**	**44.2**	**27.8**	**19.0**	**13.6**	**2.3**	**2.7**	**23.1**	**3.1**	**19.1**	**19.8**	**18.1**

Source: EORA database and authors' calculations.

The country-level analysis shows that the supply chain between the EU-27 and the rest of the members within the UfM is limited to a small number of European countries which have a prominent position with non-EU UfM members as both suppliers and destinations of intermediate flows. While larger countries, Germany, France, Italy and

Spain maintain production links upstream and downstream from Mediterranean GVCs, the production networks of the rest of the EU-27 with non-EU UfM countries is very limited. Consequently, there is potential for strengthening trade integration in the UfM.

It is worth noting that although the EU is the main trading partner, non-EU UfM countries also have increased value chain linkages with other countries outside the EU-27. In 2022, China is among the top five suppliers of intermediate inputs in all these countries. In Egypt, Israel, Jordan, and Lebanon, Germany is the only EU-27 country among the top five suppliers. It seems that the internationalisation of production in these countries is also taking place with other countries as the United States and the United Kingdom.

2.3. Sectoral Analysis

The sectoral analysis provides a more comprehensive overview of the involvement of non-EU UfM countries in GVCs. The Eora Database offers country information in a harmonised classification of 26 sectors, including 12 branches for trade in goods (agriculture, fishing, mining and nine manufacturing industries), energy and a breakdown of 13 sectors for trade in services. Unfortunately, this classification is not available for Israel and Türkiye. Therefore, the analysis is limited to 10 of the non-EU UfM countries.

Table 2.3 presents the backward *sectoral* indicators. The European content of sectoral exports shows the intensity of the involvement of non-EU UfM countries in European supply chains. A high percentage indicates that the sector's production and exports are heavily dependent on European inputs and that the country is positioned at downstream stages of the value chain, where imported EU inputs are transformed.

The degree of backward participation in European networks varies substantially between industries. Intensive input industries located in the upstream stages in the value chain, such as agriculture, exhibit very low ratios in all countries. Marked in red are the ratios for which the share of EU-27 foreign value added in the sectoral exports of the country in the row accounts for more than 20 per cent.

As usual, backward participation in GVCs is higher in manufacturing than in services, which are less involved in GVCs. As Ignatenko et al. (2019, p. 9) point out, *'the nature of GVC participation by services and manufacturing sectors is markedly different, with services exhibiting more forward linkages*'. Only Bosnia and Herzegovina exhibits a high percentage (over 20 per cent) in services (specifically, in transport and public administration), probably because of its geographical location and strong integration into European supply chains.

In 2022, backward participation was concentrated in four industries that are highly dependent on European inputs. These are transport equipment, electrical and machinery, petroleum, chemical and non-metallic mineral products and metal products. The countries most involved in these GVCs are Albania, Bosnia and Herzegovina, Lebanon and, in North Africa, Algeria, Morocco and Tunisia.

Table 2.3 (A) European value content of exports by industry/country in 2022.
(Percentage of sectoral exports of non-EU UfM countries)

UE GVC	Agriculture	Fishing	Mining and Quarrying	Food & Beverages	Textiles and Wearing Apparel	Wood and Paper	Petroleum, Chemical and Non-Metallic Mineral Products	Metal Products	Electrical and Machinery	Transport Equipment	Other Manufacturing	Recycling	Electricity, Gas and Water	Construction	Maintenance and Repair	Wholesale Trade	Retail Trade	Hotels and Restraurants	Transport	Post and Telecommunications	Financial Intermediation and Business Activities	Public Administration	Education, Health and Other Services	Private Households	Others
Albania	0,8	0,7	4,6	22,2	21,3	28,9	32,2	27,2	29,0	33,1	27,6	15,6	5,2	12,4	8,8	8,5	6,8	13,4	19,8	11,1	8,3	17,6	13,4	13,5	14,1
Algeria	0,2	0,2	1,0	7,2	15,6	17,7	22,8	24,1	28,3	29,7	23,2	9,5	0,9	6,0	2,5	2,6	3,6	4,0	5,2	2,4	7,5	13,7	11,2	8,9	9,2
Bosnia & H.	5,0	6,9	9,1	25,4	21,0	27,1	31,3	28,5	32,5	37,3	31,3	20,3	8,2	18,4	10,5	8,8	7,0	16,0	21,3	11,9	11,4	22,6	16,8	16,6	17,4
Egypt	0,6	0,5	1,4	3,0	4,3	5,3	7,2	6,2	7,3	9,2	5,9	4,8	0,7	3,9	1,7	1,8	1,7	3,0	3,6	1,7	2,7	6,9	4,5	4,2	4,3
Jordan	1,1	1,8	1,9	6,3	5,2	7,5	5,5	7,7	10,2	11,8	7,9	5,5	3,5	6,3	4,4	4,6	3,0	5,3	4,5	2,7	2,2	5,4	4,4	4,1	3,6
Lebanon	5,6	8,8	11,6	15,2	18,2	22,9	22,3	22,3	22,5	24,5	20,4	15,6	9,4	13,0	6,1	5,1	4,9	7,5	12,7	8,8	4,1	8,1	6,1	7,5	7,7
Mauritania	0,1	0,4	2,0	1,9	10,3	9,2	9,7	12,8	16,1	20,9	13,9	11,9	1,0	5,2	5,2	2,4	2,2	3,2	6,2	3,7	3,3	7,8	4,6	10,5	10,9
Montenegro	2,2	12,0	11,9	9,6	12,7	9,8	8,8	10,7	7,7	10,1	12,3	13,6	8,6	4,6	12,4	3,7	3,7	5,0	8,5	7,5	2,3	3,2	3,4	13,5	11,2
Morocco	1,1	2,6	6,7	7,5	12,8	15,2	20,7	17,0	18,4	23,9	17,6	15,8	6,7	11,0	6,5	6,3	5,0	9,8	12,6	6,6	5,8	12,8	8,9	9,3	8,9
Tunisia	2,1	2,0	10,2	10,7	14,0	17,6	21,3	21,2	24,1	27,7	20,7	15,2	7,8	14,1	7,2	7,3	6,7	10,1	10,5	6,1	8,5	17,1	12,2	12,1	11,5

Table 2.3 (B) European contribution to overall exports in 2022.
(Percentage of gross exports)

EU GVC	Agriculture	Fishing	Mining and Quarrying	Food & Beverages	Textiles and Wearing Apparel	Wood and Paper	Petroleum, Chemical and Non-Metallic Mineral Products	Metal Products	Electrical and Machinery	Transport Equipment	Other Manufacturing	Recycling	Electricity, Gas and Water	Construction	Maintenance and Repair	Wholesale Trade	Retail Trade	Hotels and Restraurants	Transport	Post and Telecommunications	Finacial Intermediation and Business Activities	Public Administration	Education, Health and Other Services	Private Households	Others	Backward Participation
Albania	0,3	0,0	0,1	0,7	2,2	0,9	1,6	1,1	1,3	0,3	0,7	0,1	0,1	0,2	0,1	0,3	0,1	0,3	0,4	0,2	0,0	0,2	0,2	0,1	0,1	**11,7**
Algeria	0,0	0,0	0,9	0,0	0,0	0,0	1,2	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,2	0,0	0,0	0,0	0,0	0,0	0,0	**2,5**
Bosnia & H.	0,3	0,0	0,5	1,0	3,1	2,5	2,5	2,7	4,9	1,0	0,9	0,1	0,1	0,3	0,1	0,3	0,1	0,4	0,8	0,2	0,0	0,2	0,3	0,1	0,1	**22,6**
Egypt	0,1	0,0	0,3	0,2	0,5	0,1	1,1	0,2	0,2	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	**3,2**
Jordan	0,1	0,0	0,3	0,4	0,2	0,2	1,5	0,2	1,0	0,2	0,2	0,0	0,0	0,0	0,0	0,0	0,0	0,1	0,4	0,0	0,0	0,0	0,1	0,0	0,0	**5,1**
Lebanon	0,6	0,0	0,1	1,7	0,9	1,7	2,7	1,0	4,2	0,5	1,1	0,1	0,0	0,3	0,0	0,1	0,1	0,2	0,7	0,1	0,0	0,1	0,2	0,0	0,0	**16,5**
Mauritania	0,0	0,0	0,4	0,7	0,1	0,0	0,1	0,1	0,1	0,1	0,0	0,1	0,0	0,1	0,1	0,1	0,0	0,1	0,4	0,1	0,0	0,1	0,1	0,1	0,0	**2,9**
Montenegro	0,2	0,1	0,2	0,2	0,4	0,3	0,3	0,5	0,4	0,4	0,2	0,5	0,1	0,3	0,5	0,2	0,3	0,2	0,0	0,1	0,0	0,2	0,3	0,6	0,1	**6,7**
Morocco	0,2	0,1	0,3	1,3	1,9	0,2	1,6	0,3	4,4	0,3	0,1	0,0	0,0	0,0	0,0	0,1	0,0	0,1	0,5	0,1	0,0	0,0	0,1	0,0	0,0	**11,7**
Tunisia	0,2	0,0	0,6	0,5	3,3	0,5	2,9	0,4	3,4	1,5	0,4	0,0	0,0	0,1	0,0	0,2	0,0	0,2	0,8	0,1	0,0	0,0	0,2	0,0	0,0	**15,4**

Source: EORA database and authors' calculations.

The high ratios exhibited in transport equipment, where GVCs tend to be organised in regional networks, reflect the intensive participation of non-EU UfM countries in European value chains. Albania and Bosnia and Herzegovina are present in the European automotive value chain, producing parts and simple components for export. The boom in electric vehicles offers new opportunities for Albania, which is a major producer of copper and could become a hub for the production of copper wire and sub-assemblies for electric motors (Sachdeva et al., 2023).

The presence of Southern Mediterranean countries in the European automotive industry is well known. The economic policies implemented to facilitate foreign investment in Morocco, Tunisia and Algeria have been particularly important in the automotive sector, attracting the major European companies: Renault, Volkswagen, Mercedes-Benz and Stellantis (Peugeut, Citroen, Fiat, Opel and Alfa Romeo). These large companies have in turn attracted global suppliers as car manufacturers want first-tier suppliers to be close to their factories, thus facilitating the development of a local automotive industry that has moved up the value chain from labour-intensive and low-cost stages to more sophisticated and higher value added stages.

Upgrading in the automotive GVC has been particularly prominent in Morocco (Bernhardt, 2020). This country has recently announced two innovative projects that demonstrate the upgrading of its position in the automotive network: the first car model from a Moroccan car manufacturer, Neo Motors, which is expected to be launched in 2024, and *Namx*, the prototype of a Hydrogen Utility Vehicle (HUV), which presents Morocco as a competitive platform for automotive production in a context of environmental protection. The shift towards high-tech products is also reflected in Morocco's positioning as a potential hub for the European electric vehicle (EV) value chain. The chip production line that the Franco-Italian company STMicroelectronics has installed in Bouskoura supplies advanced semiconductors to automakers such as Tesla and Renault and will probably attract more investors to ensure automotive supply chain resilience to global shortages.

However, participation in transport equipment networks is not limited to the automotive industry. Previous research (Giovannetti and Vivoli, 2021) has highlighted the comparative advantage of the aerospace industry in Tunisia and Morocco, where a large number of European multinational companies, mainly from France but not exclusively, are present (Latécoère Group**,** Sabena Technics, Zodiac Aerospace, Airbus, Safran, SABCA). Canadian (Bombardier Aerospace) and American (Boeing, Pratt & Whitney) companies also have subsidiaries in both countries, which are positioned as attractive aerospace hubs. Both countries have been able to attract foreign investments in the sector because of their strategic location, low labour cost, skilled workforce and government incentives (particularly in special economic zones).

The development of the automotive and aerospace industries shows the potential available for other related productions such as the railway equipment industry, especially in view of the major improvement and extension projects on the North African railway lines.

Dependence on EU-27 inputs is also significant for electrical and machinery. These industries, like transport equipment, are characterised by highly fragmented production processes. In 2022, foreign value added represented more than half of the sector exports in Albania, Algeria, Lebanon and Montenegro, and more than 40 per cent in Bosnia and Herzegovina and Tunisia. As Table 2.3 shows, regional integration with the EU-27 is prominent in Albania, Algeria, Bosnia and Herzegovina, Lebanon and Tunisia. Moreover, in all these countries except Lebanon, the EU is the main supplier of foreign inputs for electrical equipment and machinery. Thus, their highlighted participation in the global supply chain is driven by their integration in European networks. Their involvement in GVCs is mainly regional. By contrast, Lebanon is also highly integrated in other international production processes in addition to its participation in European chains: China is the largest supplier of inputs, and the USA is the third, after Italy. Montenegro, for its part, is weakly integrated in European chains: its main suppliers are China, the USA, Vietnam and Australia.

The abundance of resources (oil, gas) has allowed the development of petroleum and chemical industries in the region, especially in the North African countries. One of the most important GVCs involving the non-EU UfM is that of phosphates and their derivatives. Morocco holds 70 per cent of the world's reserves of phosphates, with Algeria and Tunisia also holding significant shares. These three countries are among the world's largest producers of this mineral. Consequently, they, and particularly Morocco, play a central role in this GVC, extracting and selling phosphates as raw materials and processing phosphates to produce fertilisers and feed supplements to animals (Amachraa and Quelin, 2022). The food crisis caused by Russia's invasion of Ukraine, economic shocks, climate change, extreme weather events and price increases suggest that there will be an increasing need for fertilisers to improve crop productivity, which could be exploited by strengthening integration within the UfM.

In addition to fertilisers, phosphates could also be used in LFP (lithium ferro phosphate) batteries, which are essential for producing electric vehicles. This is why the European Commission has identified phosphate rock as one of 20 critical raw materials for ensuring a sustainable supply to the EU. Some non-EU UfM countries have a significant share of EU imports of this mineral -Morocco (26.7 per cent), Algeria (9.5 per cent), Egypt (6.2 per cent), Israel (4.5 per cent) and Tunisia (0.4 per cent)- highlighting the strategic importance of this GVC for the EU-27 and its great future opportunities.

Other critical raw materials supplied by non-EU UfM countries to the EU are antimony, borate, lithium, natural graphite and rare earth elements (Türkiye), barite, cobalt and fluorspar (Türkiye and Morocco), bauxite (Türkiye and Bosnia and Herzegovina), coking coal and silicon metal (Bosnia and Herzegovina), magnesium (Israel and Türkiye), tungsten (Israel) and vanadium and tantalum (Morocco and Lebanon) (Amighini et al., 2023). There also seem to be opportunities for strong integration into the European networks linked to these productions.

The analysis above shows the degree of dependence of each country or sector on European inputs, but it does not take into account the different importance of the sectors

in total exports or the contribution of European value added to each country's total exports. Table 2.3(B) shows the share of European value added in total exports and illustrates the magnitude of the contribution of industrial GVCs to exports.

Table 2.3(B) presents two relevant differences with respect to Table 2.3(A). The first is the emergence of textiles and wearing apparel as a central industry in the integration of European value chains. International fragmentation is a prominent strategy in the textiles and apparel industry. Its dynamic is that European companies tend to export fabrics and parts of garments to low-cost countries and reimport them after processing. Although the share of European value added only exceeds 20 per cent of exports in Albania and Bosnia and Herzegovina, clothing GVCs also play a notable role in the integration between the EU and North Africa (Morocco, Tunisia and Egypt). The participation of these countries in GVCs is facilitated by their proximity to European markets, which allows for rapid supply in response to changes in demand. Although European multinationals, especially Italian (Armani) and Spanish (Inditex), lead GVCs in the clothing sector, many small domestic and foreign firms are involved as suppliers. However, the development of GVCs has been linked to changes in markets regulations and in particular to the end of the Multifibre Arrangement, which has led to a dramatic increase in Asian competition since 2005. The trend towards closer GVCs might improve the attractiveness of these locations, thereby creating new opportunities.

The second feature is that, despite the degree of fragmentation of production, backward linkages in material transport show a limited contribution to gross exports because of a low relative share in value added exports. This suggests the need to strengthen these European networks in order to benefit more from them.[2]

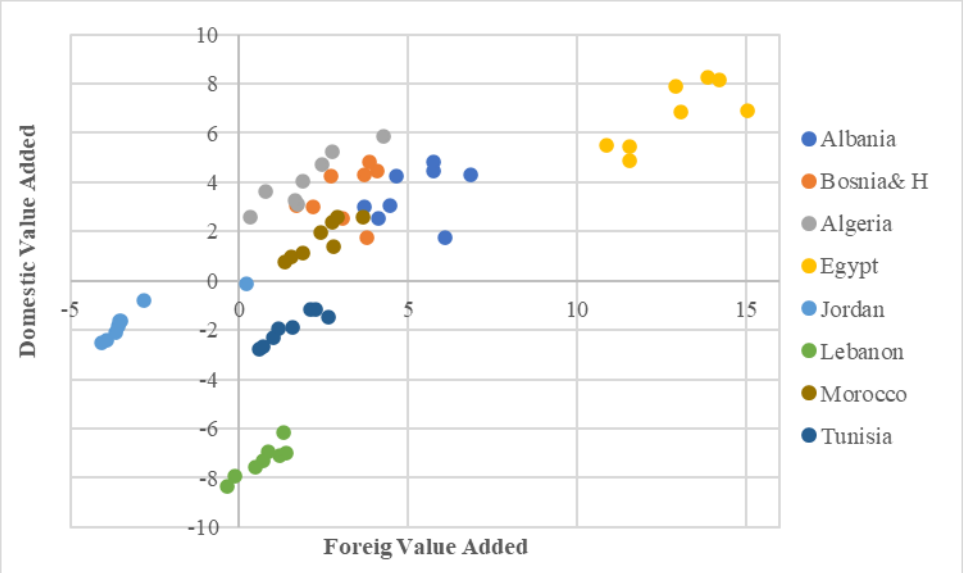
Finally, it is important to highlight the positive relationship between manufacturing backward participation and domestic value added growth. As can be seen in Figure 2.6, in most countries, manufacturing sectors with a high rate of increase in foreign value added from the EU-27 show a higher increase in domestic value added. This result reflects the complementarity between domestic value added and the import content of manufacturing and suggests that European backward integration increases manufacturing output, improves competitiveness and increases income in non-EU UfM countries.

Forward participation is more concentrated than backward participation (Table 2.4). Natural resource-intensive industries (agriculture and mining and quarrying) are the most common sectors supplied by non-EU UfM countries for incorporation into EU-27 production. However, the importance of both sectors in GVC-related trade is very uneven across countries. In countries where forward participation is clearly dominant, agriculture and mining account for the lion's share of GVC-related trade. This is the case in Algeria and Mauritania, where they account for 77 per cent and 56 per cent, respectively. On the other hand, in more export-oriented manufacturing countries and high backward

[2]However, on this point, there are some discrepancies between the Eora Database and the TiVA Database, which, for countries such as Morocco, shows a contribution of the transport equipment industry to exports similar to that of electrical equipment or textiles, wearing apparel, and leather and related products. The TiVA results are consistent with the development of the automotive and aeronautical industries described in the literature (Amachraa and Quelin, 2022).

participation, such as Bosnia, Lebanon or Tunisia, agriculture and mining account for less than 15 per cent of GVC trade.

Figure 2.6: Changes in Foreign and Domestic Value-Added content in manufacturing export (Cumulative annual rate for the period 2016-2022)



Source: EORA Database and author´s calculations

Financial intermediation and business activities is the only service sector that seems to have some relevance for forward participation. Bosnia and Herzegovina, Egypt and Tunisia are the countries most actively involved in GVCs in these services, followed by Morocco and Albania. As these countries are also the most involved in backward participation with European countries, it could be assumed that engagement in business services GVCs requires certain capacities facilitated by the development of manufacturing GVCs. Del Prete et al. (2018) argue that the development of information and communication technologies (ICT) has been a driver of the promotion of business services in North African countries (Tunisia and Egypt) such as a call centres, accounting services and even higher value-added services like software development and testing.

Table 2.4 Forward Participation by industry in 2022.
(Percentage of sectoral exports of non-EU UfM countries)

UE GVC	Albania	Algeria	Bosnia & H.	Egypt	Jordan	Lebanon	Mauritania	Montenegro	Morocco	Tunisia
Agriculture	12,7	1,2	3,3	6,2	0,3	0,3	2,2	0,4	7,0	3,0
Fishing	0,2	0,0	0,0	0,0	0,0	0,0	0,7	0,0	0,3	0,1
Mining and Quarrying	1,7	34,9	4,3	2,9	0,5	0,1	12,3	0,0	1,6	1,2
Food & Beverages	0,1	0,0	0,2	0,2	0,0	0,1	0,2	0,0	0,7	0,1
Textiles and Wearing Apparel	0,4	0,0	1,3	0,8	0,0	0,0	0,0	0,0	0,4	0,7
Wood and Paper	0,4	0,0	1,7	0,3	0,0	0,1	0,1	0,0	0,4	0,5
Petroleum, Chemical and Non-Metallic Mineral Products	0,5	0,3	1,7	2,2	0,5	0,2	0,3	0,0	1,4	1,8
Metal Products	0,6	0,1	2,3	0,8	0,1	0,2	0,2	0,0	0,7	0,5
Electrical and Machinery	0,4	0,1	1,9	0,5	0,2	0,2	0,2	0,0	1,4	1,7
Transport Equipment	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,1	0,3
Other Manufacturing	0,1	0,0	0,1	0,1	0,0	0,0	0,0	0,0	0,1	0,1
Recycling	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Electricity, Gas and Water	0,3	3,8	1,1	0,3	0,0	0,0	2,3	0,1	0,6	0,8
Construction	0,2	0,3	0,3	0,3	0,0	0,0	0,5	0,2	0,1	0,3
Maintenance and Repair	0,0	0,0	0,1	0,0	0,0	0,0	0,1	0,0	0,0	0,0
Wholesale Trade	1,1	0,5	2,4	0,9	0,0	0,3	0,9	0,4	1,0	1,8
Retail Trade	0,1	0,1	0,2	0,1	0,0	0,1	0,2	0,4	0,1	0,2
Hotels and Restraurants	0,2	0,1	0,4	0,1	0,0	0,1	0,2	0,1	0,1	0,3
Transport	0,8	1,3	1,5	0,7	0,1	0,3	0,9	0,1	0,7	2,0
Post and Telecommunications	0,3	0,5	0,7	0,3	0,1	0,1	0,3	0,1	0,4	1,1
Financial Intermediation and Business Activities	1,7	0,8	3,8	2,0	0,3	0,5	1,3	0,5	1,8	2,8
Public Administration	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,2	0,0	0,0
Education, Health and Other Services	0,1	0,0	0,2	0,1	0,0	0,1	0,1	0,3	0,1	0,3
Private Households	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Others	0,0	0,0	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Total sectors	**22,1**	**44,2**	**27,8**	**19,0**	**2,3**	**2,7**	**23,1**	**3,1**	**19,1**	**19,8**

Source: EORA database and authors' calculations.

Annex 2.1. Recent developments in European investments and affiliates in non-EU Union for the Mediterranean countries.

In a globalised economy, firms can make investments abroad to establish a commercial or territorial presence in foreign markets. International trade and foreign direct investment (FDI) are the main defining features and key drivers of GVCs. Because of their strong complementarities, we briefly analyse FDI flows from EU-27 to non-EU UfM economies in order to provide additional evidence on the relevance of GVCs within the UfM area. We focus on FDI stocks, which measure the total value of direct investment at a given point in time. Information is available for the period 2013-2021.

Data on the EU's outward stock of FDI held in non-EU UfM countries show that none of these countries are among the principal destinations of the EU's outward stocks of FDI. Non-EU UfM economies together accounted for 1.94 per cent of total EU FDI stocks abroad in 2021. At the end of 2021, Türkiye had the biggest share (0.47 per cent) of EU FDI stocks abroad, valued at €44.1 million euros; the second largest partner was Israel (0.65 per cent), followed by Egypt and Morocco (0.23 per cent) and, at some distance, Algeria (0.11 per cent). The remaining non-EU UfM countries exhibit lower figures (Table A.1 and Figure A.1).

Table A.1: EU's outward FDI stocks, by non-EU UfM partner, 2013-2021
(Data in millions of euros)

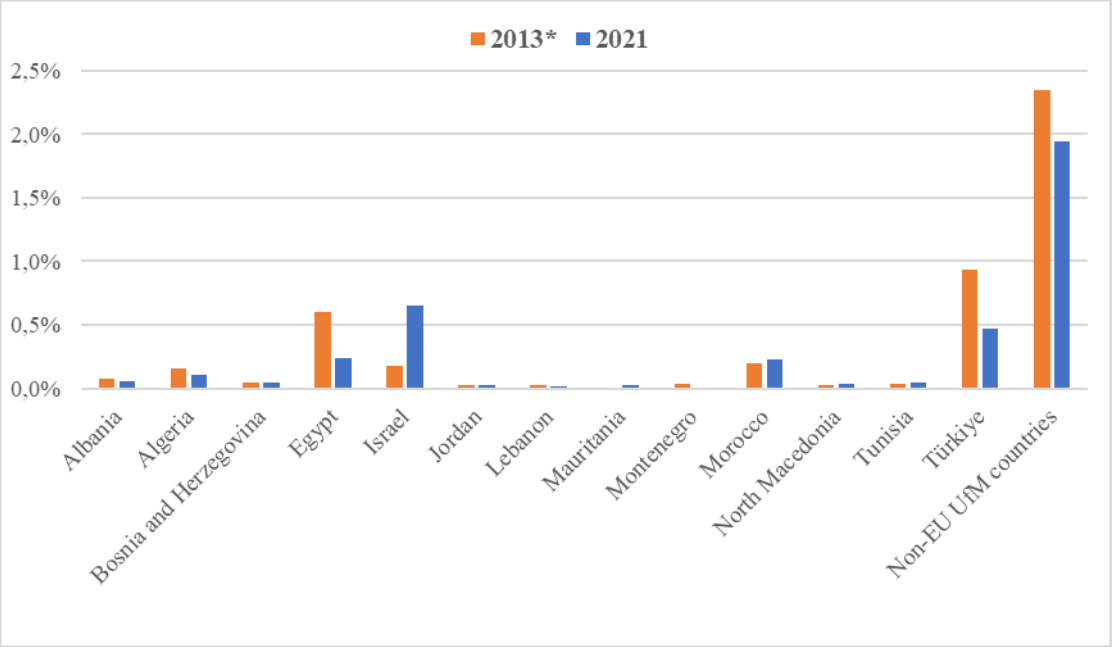
	2013	2014	2015	2016	2017	2018	2019	2020	2021
Albania	:	5.687	5.856	5.387	5.386	5.287	5.304	5.119	5.118
Algeria	:	:	:	:	:	13.921	14.936	15.583	10.160
Bosnia and Herzegovina	3.070	2.442	3.377	3.407	3.578	3.548	3.833	3.910	3.900
Egypt	36.961	41.933	:	:	:	39.814	37.708	20.801	21.700
Israel	10.898	15.407	16.776	:	27.125	40.619	43.164	48.799	60.505
Jordan	:	2.035	:	:	:	2.886	3.402	2.784	2.806
Lebanon	:	:	1.778	2.374	2.194	2.141	2.346	1.990	1.185
Mauritania	231	805	1.125	3.271	:	3.119	3.099	3.090	2.571
Montenegro	:	:	2.927	1.516	1.516	1.476	1.469	1.670	521
Morocco	:	14.013	14.753	15.006	15.967	17.179	17.016	17.580	21.193
North Macedonia	:	2.037	:	:	:	2.214	2.566	2.870	2.956
Tunisia	:	:	2.963	4.145	4.183	4.049	5.306	3.826	3.863
Türkiye	57.721	62.216	69.547	71.185	65.753	57.001	56.728	51.094	44.071

Source: Eurostat, EU direct investment positions, flows and income, by countries (BPM6).

Regarding evolution over time, an upward trend in most countries is not observed. The exceptions are Israel, Morocco and North Macedonia, where the EU's outward stock of FDI held in them increased around 50 per cent between 2013 and 2021. For Israel and Morocco, the growth is higher than that of total EU outward stocks of FDI and, consequently, their share in the EU's outward stocks of FDI has increased to 0.65 and 0.23 per cent, respectively. By contrast, Egypt and Türkiye have drastically decreased their share in EU outward stocks of FDI. In the case of Egypt, the downward trend took

place in 2020 and 2021, when the figures were barely half those of pre-pandemic figures. In the case of Türkiye, the downward trend started earlier, in 2017, after having reached the highest figure for the period in 2016, exceeding €70 billion euros.

Figure A.1: EU's outward FDI stocks, by non-EU UfM partner, in 2013* and 2021
(% of total extra-EU FDI stocks)



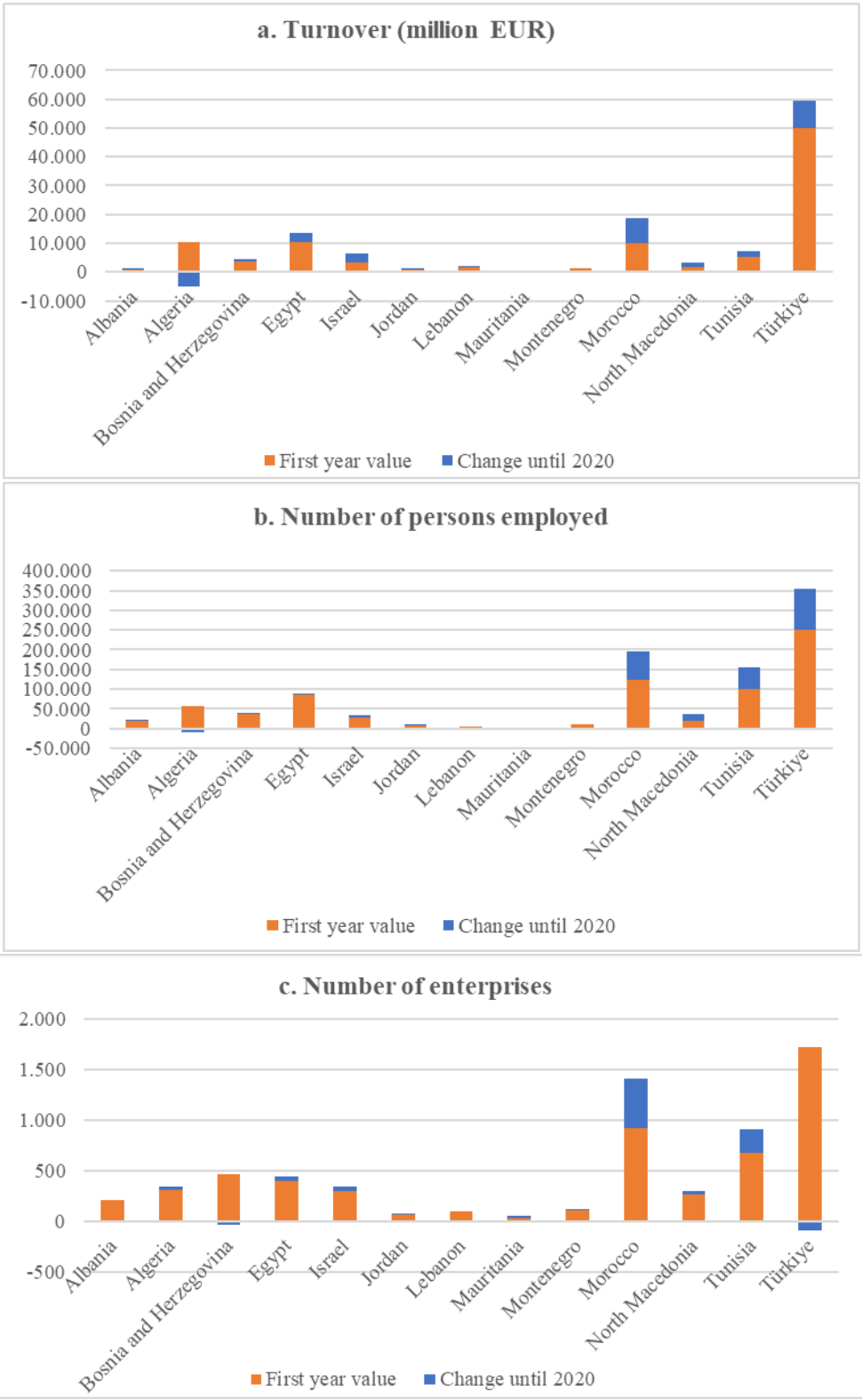
Note (*): Data for year 2013 is not available for confidentiality reasons in several countries. For them, data for the first year available is used: 2014 for Albania, Jordan, Morocco, and North Macedonia; 2015 for Lebanon, Montenegro and Tunisia; and 2018 for Algeria.

Source: Eurostat, EU direct investment positions, flows and income, by countries (BPM6).

An alternative data source is the Foreign Affiliates Statistics (FATS), which measure commercial presence through affiliates in foreign markets. Outward FATS describe the activities of foreign affiliates abroad controlled by the compiling country. The countries collect and deliver the following three characteristics on a mandatory basis: turnover, number of enterprises and number of persons employed. Information is available for the period 2013-2020.

In 2020, the turnover of EU affiliates located in non-EU UfM countries was almost €133 billion euros, which represented 3.1 per cent of the turnover of total EU affiliates outside the EU-27. The number of persons employed was over a million (7.6 per cent of total persons employed for EU affiliates abroad), and the number of firms was almost 7,000 (6.8 per cent of total firms of total EU affiliates abroad). Therefore, the scale of activities of European-controlled foreign affiliates in non-EU UfM countries again seems to show the low relevance of those countries in outward FATS for the EU. The figures for each characteristic and each country are represented in Figure A.2 and Figure A.3.

Figure A.2: Turnover, number of persons employed and number of firms in EU affiliates located in non-EU UfM countries in 2013 and change until 2020



Note (*): Data for year 2013 is not available for confidentiality reasons in several countries. For them, data for the first year available is used: 2014 for Tunisia; 2015 for Bosnia and Herzegovina; 2018 for Mauritania and Montenegro.

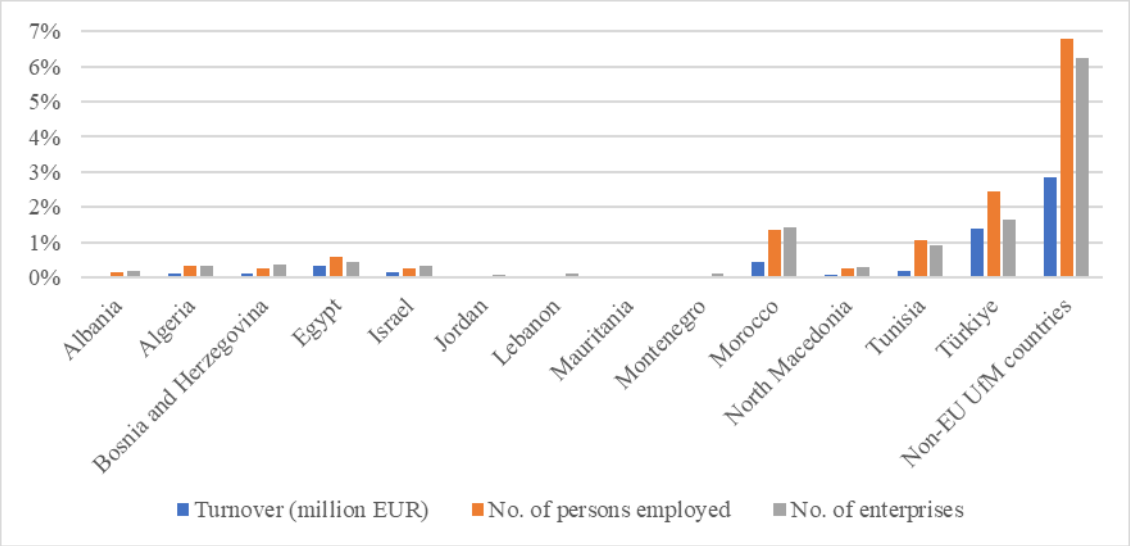
Source: Eurostat, Foreign affiliates of EU enterprises - outward FATS.

For the three characteristics, Türkiye is the non-EU UfM country that achieves the highest figures throughout the entire period. For 2020, the turnover of EU affiliates located in this country is around €60 billion euros (1.4 per cent of the total), the number of persons employed is over 350 thousand (2.4 per cent of the total) and the number of firms is 1,622 (1.6 per cent of the total). While in the first two variables an increase is observed, in the last one there is a reduction compared with 2013.

The second most important country is Morocco. The number of firms is only slightly lower than that of Türkiye (1,400 companies) in 2020. The number of persons employed is slightly more than half that of Türkiye (around 195,000) and the turnover is considerably lower (around €18.5 billion euros), around a third of Türkiye's. The most remarkable aspect of Morocco is the sharp increase in all three variables between 2013 and 2020. Only three other non-EU UfM countries exhibit an increase in all three variables: Israel, Tunisia and North Macedonia.

The third important country is Tunisia, with 907 firms and almost 155 thousand persons employed, which represents around 1 per cent of total EU affiliates located abroad in both variables. However, based on the turnover of EU affiliates located in Tunisia, this country would be in fourth place, after Egypt. In the rest of the non-EU UfM countries, the figures are notably lower.

Figure A.3: Turnover, number of persons employed and number of firms in EU affiliates located in non-EU UfM countries
(% of total EU affiliates located abroad in 2020)



Source: Eurostat, Foreign affiliates of EU enterprises - outward FATS.

Chapter 3. Small and medium-sized firms in global value chains in non-EU Union for the Mediterranean countries

Small and medium-sized firms (SMEs) are an essential component of the business sector in every developed and developing country, contributing to economic growth, job creation, innovation, export growth, entrepreneurship and industrial development (Chege and Wang, 2020; Nyeko et al., 2013). The role of SMEs in economic development is even more crucial in developing countries, where they help encourage innovation and induce structural changes in the market (Singh and Kaur, 2019).

Decline in transport costs and other barriers in recent decades have reconfigured global trade by enabling the fragmentation of production processes across borders, thereby facilitating the participation of SMEs in GVCs (Kristensen and Lilja, 2011). By participating in GVCs, SMEs do not have to explicitly develop domestic capacities to perform all major production steps or be adept at performing import-export operations. There is opportunity for SMEs to make better use of the comparative advantage, which may involve benefits in the form of development within the firm: through the improvement of information flows and learning opportunities, the introduction of new business practices and more advanced technologies (Sabotic, 2021). Thus, the expansion of global production networks represents the chance for firms, particularly SMEs in developing and emerging economies, to produce and export as part of a supply chain and enhance their competitiveness, productivity and output growth (Del Prete et al., 2016; González et al., 2019). For SMEs in developing countries, participation in GVCs provides a platform for knowledge flow through inter-firm cooperation and is an indispensable source of learning (Alcacer and Oxley, 2014; Saliola and Zanfei, 2009; Soontornthum et al., 2020). Moreover, taking into account that, as some studies reveal (Rocha and Winckler, 2019), the female labor share is higher for trading firms and even more so for global firms, i.e. that participate in GVCs, the involvement of SMEs in GVCs can be a source of employment opportunities for women. Opening up to trade in key sectors can further create powerful opportunities for women to reap the benefits of trade (World Bank, 2020b). Integrating SMEs into GVCs not only brings SMEs benefits acquired from their GVC linkages but also produces positive spillover effects that developing economies are very much in need of (Kuzmisin and Kuzmisinova, 2017; Tajoli and Felice, 2018).

The statistical reference framework used for trade analysis in Chapter II does not include information on the characteristics of firms participating in GVCs. This section addresses the involvement of SMEs in GVCs using other statistical sources with a special focus on the non-EU UfM countries. We focus the analysis on manufacturing firms to ensure that there is international fragmentation of the production process. As shown in chapter 2, GVCs in services have a reduced presence in these countries, both in terms of backward participation, where manufacturing prevails, and in forward participation where there is only a slight presence in financial and business services in Egypt and

Bosnia & Herzegovina. Furthermore, a large part of service firms in these countries are distribution and transport firms.

The statistical information used to identify manufacturing firms involved in GVCs comes from the *World Bank Enterprise Surveys* (WBES)**.**[3] This firm-level dataset offers an expansive array of economic data on 194,000 firms in 155 countries. The WBES dataset provides information on firm size measured by the number of employees (5-19 employees for small, 20-99 for medium and 100+ employees for large-sized firms). The percentage of manufacturing SMEs in total manufacturing firms included in WBES, particularly for non-EU UfM countries[4], is high in most of them (above 60/70 per cent) and even above 95 per cent in Algeria (Table 3.1).

Table 3.1. Number of manufacturing firms and percentage of manufacturing SMEs in non-EU UfM countries included in WBES

	Year (*)	Total manufacturing firms	% manufacturing SMEs
Albania	2019	146	65.8
Algeria	2007	383	97.9
Bosnia & Herzegovina	2019	134	61.2
Egypt	2016	1.173	75.3
Israel	2013	201	89.1
Jordan	2019	291	72.5
Lebanon	2019	268	88.4
Mauritania	2014	52	82.7
Montenegro	2019	65	86.2
Morocco	2019	463	61.8
North Macedonia	2019	133	49.6
Tunisia	2020	365	76.2
Türkiye	2019	1.065	71.8

(*) Last year surveyed.

Source: Authors' elaboration using the WBES dataset.

Following Dovis and Zaki (2020), we can make a first estimate of the percentage of manufacturing SMEs involved in GVCs in non-EU UfM countries. The authors use four different definitions of what constitutes a firm's integration into a GVC:

i) being an exporter and importer simultaneously, that is, a firm that engages in two-way trade activity (gvc1),

ii) being an exporter and importer simultaneously and also having an international certification (gvc2),

[3] Enterprise Surveys (http://www.enterprisesurveys.org), The World Bank.
[4] WBES dataset does not provide statistical information for Palestine.

iii) being an exporter and importer simultaneously and holding foreign-ownership status (gvc3),
iv) being a two-way firm that holds both an international certification and foreign ownership (combines the three previous criteria) (gvc4).

The starting point is that firms participating in GVCs are engaged in simultaneous import and export transactions (Antràs, 2020); this is the broader definition. Thereafter, narrower conditions are added to identify a firm as being integrated into a GVC. An international certification may be required in vertically fragmented production processes to provide another indicator of GVC integration. Foreign ownership status may also be another indicator as foreign-owned firms may serve as exporting platforms for foreign countries. According to Dovis and Zaki (2020), international certification and foreign ownership can also be seen as complements (gvc4): foreign companies with certification can invest in domestic firms and implement their certification in this new firm, or a domestic firm's initial possession of an international certification can attract foreign company investments.

Table 3.2 shows the most recent distribution of manufacturing firms that can be identified as integrated into a GVC based on the different definitions given above. When we consider the narrowest definition of being integrated into a GVC (gvc4), the percentage of manufacturing SMEs is very small in all countries and zero in some of them. Overall, for all countries, this group of firms does not exceed 0.8 per cent of the total number of manufacturing SMEs. Bosnia and Herzegovina show the highest percentage: 3.7 per cent of manufacturing SMEs (82 in 2019) with a foreign ownership and an international certification are engaged in two-way trade activity. Jordan and Tunisia follow with 2.8 per cent and 2.5 per cent of total number of manufacturing SMEs in each country.

When the definition of integration into a GVC is broader, the share of SMEs that qualify increases, although the number of two-way manufacturing SMEs with foreign ownership (gvc3) is also small (does not exceed 1.9 per cent, on average) in most non-EU UfM countries. When compared to the total number of firms, by non-EU UfM country, the number of SMEs meeting definition 3 is lower, i.e. the lower presence of foreign capital in smaller firms is confirmed. There is a higher percentage of SMEs in Bosnia and Herzegovina, Mauritania and Tunisia that qualify under this definition than under the most restrictive definition, but it is still less than 10 per cent of all manufacturing SMEs in the country. The share of firms that have two-way trade activity and an international certification (gvc2) is even higher (6.2 per cent of the total, on average) but in no case exceeds 20 per cent of all manufacturing SMEs (except in Bosnia and Herzegovina). When considering the broadest definition, that is, firms that engage in two-way trade activity (gvc1) (13.3 per cent of all manufacturing SMEs), all countries show greater participation of SMEs in terms of GVC integration: in Bosnia and Herzegovina more than half of manufacturing SMEs export and import simultaneously (52.4 per cent), in northern Macedonia and Albania more than a third do so (36.4 per cent and 30.2 per cent respectively) and in Lebanon, Jordan and Tunisia more than a quarter of all

manufacturing SMEs. However, despite the better results on GVC participation when considering the broader definition, these results highlight the difficulty of engaging in GVCs for manufacturing SMEs in these countries.

Table 3.2. Distribution of manufacturing SMEs by alternative GVC definitions in non-EU UfM countries (number and percentages)

	Year	Total manufacturing SMEs	gvc1 (%)	gvc2 (%)	gvc3 (%)	gvc4 (%)
Albania	2019	96	30.2	8.0	5.2	1.0
Algeria	2007	375	1.3	0.3	0.3	0.3
Bosnia & Herzegovina	2019	82	52.4	32.0	7.3	3.7
Egypt.	2016	883	5.8	3.4	0.5	0.3
Israel	2013	179	18.4	14.0	2.0	1.1
Jordan	2019	211	26.1	15.6	2.8	2.8
Lebanon	2019	237	27.0	7.6	0.4	0.0
Mauritania	2014	43	18.6	0.0	7.0	0.0
Montenegro	2019	56	16.1	5.4	2.0	2.0
Morocco	2019	286	8.7	0.3	4.2	0.3
North Macedonia	2019	66	36.4	15.2	3.0	0.0
Tunisia	2020	278	22.7	7.9	6.8	2.5
Türkiye	2019	765	8.5	6.0	0.5	0.5
TOTAL (number)		**3.557**	**13.3**	**6.2**	**1.9**	**0.8**

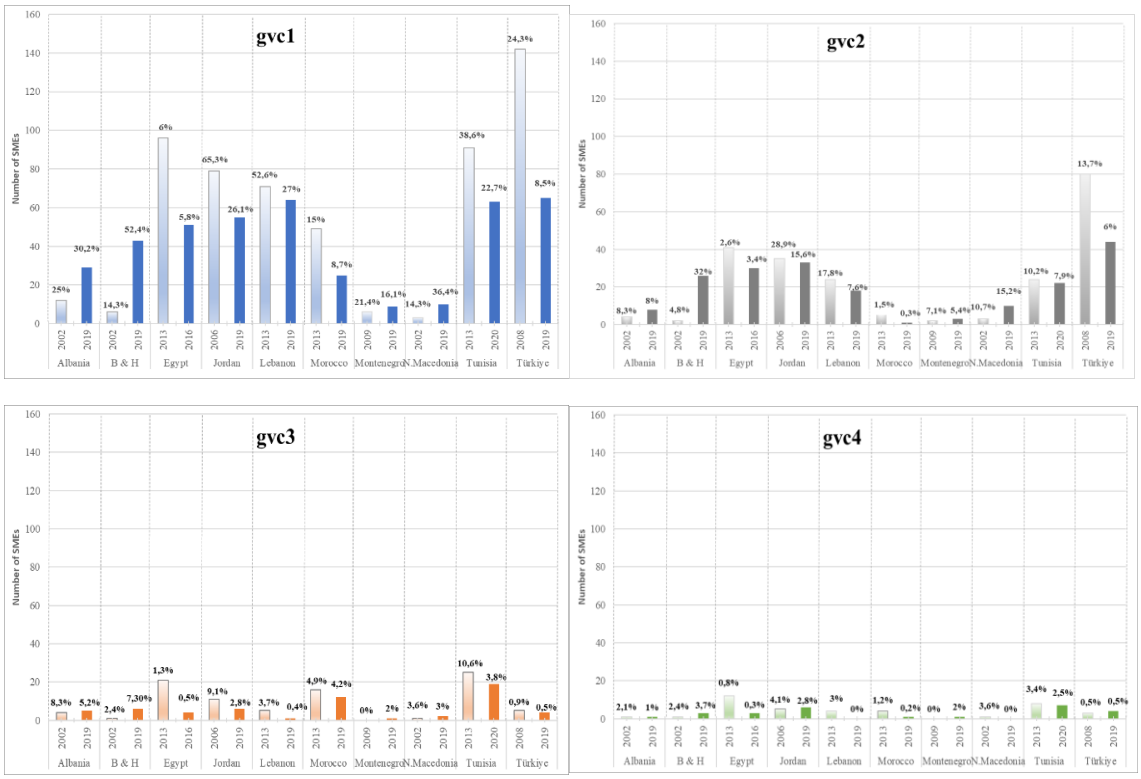
Source: Authors' elaboration using the WBES dataset.

In addition to analysing the most recent GVC participation of non-EU UfM manufacturing SMEs, it is important to determine whether any trends have developed over the last few years. Although with some limitations owing to the statistical source, Figure 3.1 reveals the most relevant changes over time in the number and percentages of SMEs by alternative GVC definitions in non-EU UfM countries.[5] The share of two-way manufacturing SMEs (gvc1) has increased in Albania, Bosnia and Herzegovina and North Macedonia in the first decades of the 21st century. In these countries there has also been a higher number of manufacturing SMEs that engage in two-way trade activity simultaneously. Highlights this fact in Bosnia and Herzegovina. In Jordan, Lebanon, Montenegro, Morocco, Tunisia, and Türkiye, however, both the number of firms and the percentage have been decreased over time.

[5] The Enterprise Surveys collect statistical information about a country in different years. In some cases, it was not possible to obtain the required information for the same year. Comparisons over time cannot be made for Algeria, Israel or Mauritania because it was possible to collect statistical information about them only for a single year.

Figure 3.1. Evolution in manufacturing SMEs by alternative GVC definition in non-EU UfM countries

(Number and percentages over total)



Note: B & H: Bosnia and Herzegovina

Source: Authors' elaboration using the WBES dataset.

When considering SMEs that have an international certification (gvc2), the percentage of manufacturing firms is lower in all non-UE countries; only Bosnia and Herzegovina and Northern Macedonia's share of manufacturing SMEs increased (from 4.8 per cent in 2002 to 32 per cent in 2019 and from 10.7 per cent to 15.2%, respectively). In turn, the share of two-way SMEs with a foreign ownership (gvc3) is even lower; except in Bosnia and Herzegovina, Mauritania and Montenegro, in most non-EU UfM countries the share of manufacturing firms that can be identified as being integrated into a GVC according to this definition is decreasing over time. In terms of the share and number of firms that export and import intermediate inputs simultaneously and have both an international certification and foreign ownership (gvc4), the results reveal that, in these countries, there are hardly any manufacturing SMEs that meet this narrow definition.

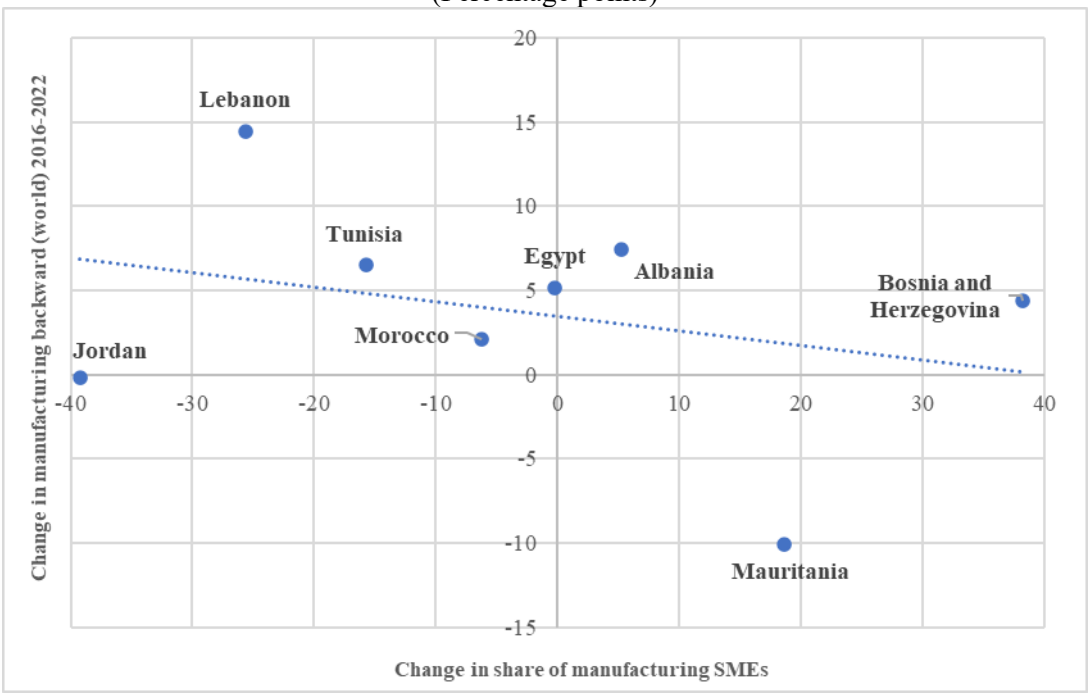
Therefore, when comparing changes in the GVC participation (gvc1) of manufacturing SMEs in non-EU UfM countries with changes in their world manufacturing backward participation, the relationship is negative (Figure 3.2)[6]. As discussed in chapter 2, insertion in GVCs in some of these countries (Tunisia, Morocco,

[6] Montenegro is excluded from the sample.

Argelia or Egypt) happens mainly via FDI, making the presence of SMEs in GVCs more difficult.

Figure 3.2. Changes in share of manufacturing SMEs in non-EU UfM countries and world manufacturing backward participation

(Percentage points)



Source: Authors' elaboration using the WBES dataset.

Going a step further, sectoral analysis will reveal the economic activities of non-EU UfM country SMEs that engage in GVCs. Table 3.3 shows the distribution by economic activities[7] of manufacturing SMEs that met gvc1 (firms that simultaneously export and import intermediate inputs) in non-EU UfM countries. Although it was not possible to obtain the breakdown of economic activities for some countries,[8] it can be stated that a significant share of the manufacturing firms belongs to the garment sector (more than 11 per cent of the total, mainly in Tunisia, Türkiye and Morocco) and the food sector (around 9 per cent, distributed among all countries). The results from the sectoral analysis hold for SMEs that meet the narrowest conditions of integration into GVCs.

The fact that the SME sector is so underdeveloped throughout non-EU UfM countries implies that there is considerable scope for improving the level of interaction and cooperation between local and regional authorities on one hand and SMEs on the other. Improving this interaction is essential because, in one of the paradoxes of globalisation, the competitiveness of national economies is often built upon geographically limited agglomerations, which are in turn often composed of large numbers of SMEs.

[7]The WBES dataset uses Revision 3.1 of the International Standard Industrial Classification of all Economic Activities (ISIC) as a reference for industry classification.

[8] It is not possible to know the manufacturing activity of 178 SMEs, almost 30 per cent of the total.

Table 3.3. Distribution of manufacturing SMEs by economic activities in non-EU UfM countries meeting definition gvc1
(Number of firms)

		gvc1																						
		(15) Food and beverages	(16) Tobacco	(17) Textiles	(18) Wearing apparel	(19) Leather	(20) Wood & cork	(21) Paper	(22) Publising & printing	(23) Coke	(24) Chemicals	(25) Plastics & rubber	(26) non metalic mineral	(27) Basic metals	(28) Metal products	(29) Machinery & equipment	(30) Office, accounting & computing mach.	(31) Electrical machinery	(32) Radio, TV & comunication equip.	(33) Medical, precision and optical instruments	(34) Motor vehicles	(35) Other transport equipment	(36) Furniture	(37) Recycling	Other manufacturing	Total manufacturing SMEs
Albania	2019	3		5	4	2	5		1			1			4			1					3			**29**
Algeria	2007	2																2							1	**5**
Bosnia and Herzegovina	2019	8		1	1		9		1			4		5	6		1	2					4			**42**
Egypt	2016	5		6	5	9	1		1	1	5	7	5		3	1				1			1			**51**
Israel	2013	4			1	1					7	1	1		2	1		4		4			2		4	**32**
Jordan	2019	9			10																				36	**55**
Lebanon	2019																								64	**64**
Mauritania	2014	8																								**8**
Montenegro	2019	2			1		2									1							3			**9**
Morocco	2019	5			8																				12	**25**
North Macedonia	2019																								24	**24**
Tunisia	2020	7			31																				25	**63**
Türkiye	2019	5		11	9										10	14									12	**61**
		58		**23**	**70**	**12**	**17**		**3**	**1**	**12**	**13**	**6**	**5**	**25**	**18**		**9**		**5**			**13**		**178**	**468**

Source: Authors' elaboration using the WBES dataset.

Chapter 4. Qualitative analysis

4.1 Industries where value chains are present according to respondents.

As we can see in Table 4.1, the sectors where the expansion of value chains is most common are those of traditional activities (such as textiles, leather and footwear, and agriculture, food and beverages and energy) that combined account for more than 20 per cent of the sectors identified. These sectors are characteristic of value chains in countries like Albania, Egypt and Morocco. Sectors with a higher degree of technological involvement (such as the chemical, pharmaceutical and electrical industries) are located mostly in Bosnia and Herzegovina, Egypt and Tunisia.

We also find some industries related to the endowment of resources (like fishing, energy or mineral products) that are considered the most noticeable among respondents in the case of Algeria, Egypt, Mauritania and Lebanon. As shown in the sectoral analysis, these activities dominate the forward participation of the first three countries.

The car and transport industry is reported to have part of its value chains in countries like Morocco, Türkiye, North Macedonia and Tunisia. It should be noted that, in addition to the countries highlighted above that stand out in the European automotive network, Morocco and Tunisia, this analysis adds two countries not included in the sectoral analysis of chapter 2: North Macedonia and Türkiye. Finally, it can be said that the industry of services to companies and innovation is considered relevant in the case of value chains that cover Israel.

Table 4.1. Presence of value chains in UfM countries

	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Mauritania	Morocco	North Macedonia	Tunisia	Türkiye
Agriculture, food and beverage		X	X	X			X		X			
Buildings and infrastructure	X				X							
Car and transport industry				X					X	X	X	X
Chemical industry			X	X		X						
Electrical industry			X	X			X				X	
Energy		X		X			X					
Fishing industry	X		X					X				
Mechanical industry			X								X	
Metal industry			X	X				X				
Mineral products				X		X	X					X
Pharmaceutical industry							X					
Plastic			X								X	
Services to companies and innovation					X							
Textile industry, leather and footwear	X			X		X	X	X	X	X	X	X

Source: Authors' elaboration based on survey results.

4.2 Characteristics of value chains per sectors

In the survey, more detailed information about at least the three most important sectors where value chains in the destination country could be identified was requested. Basically, three main topics were addressed: i) the comparison between production in the home and the destination countries; ii) the resources originating in the home country that are used in the destination country; and iii) the possibility of further relocations that may affect the destination country.

4.2.a Comparison of production in EU-27 and Union for the Mediterranean countries

As shown in Table 4.2, the part of the value chain that is produced in home countries is more sophisticated and complex. Both the qualification of the workforce and the quality of the product are considered to be higher for the production stages that take place in the home country than those that are carried out in UfM countries. However, this difference is not present in sectors such as the electric industry, building and infrastructure, fishing or the pharmaceutical industry.

Table 4.2. Comparison of production at home with the UfM countries (1: Lower 3: Higher)

	In terms of:	
	workforce qualification	product quality
Agriculture, food and beverage	2.3	2.7
Buildings and infrastructure	2.0	2.0
Car and transport industry	2.8	2.5
Chemical industry	3.0	2.0
Electrical industry	2.0	2.0
Energy	2.3	2.5
Fishing industry	2.5	2.5
Information and communication activities	2.0	3.0
Mechanical Industry	2.0	2.8
Metal industry	2.0	2.5
Mineral products	2.8	2.4
Pharmaceutical industry	2.0	2.0
Services to companies and innovation	2.7	3.0
Textile industry, leather and footwear	2.5	2.4
Total	**2.4**	**2.5**

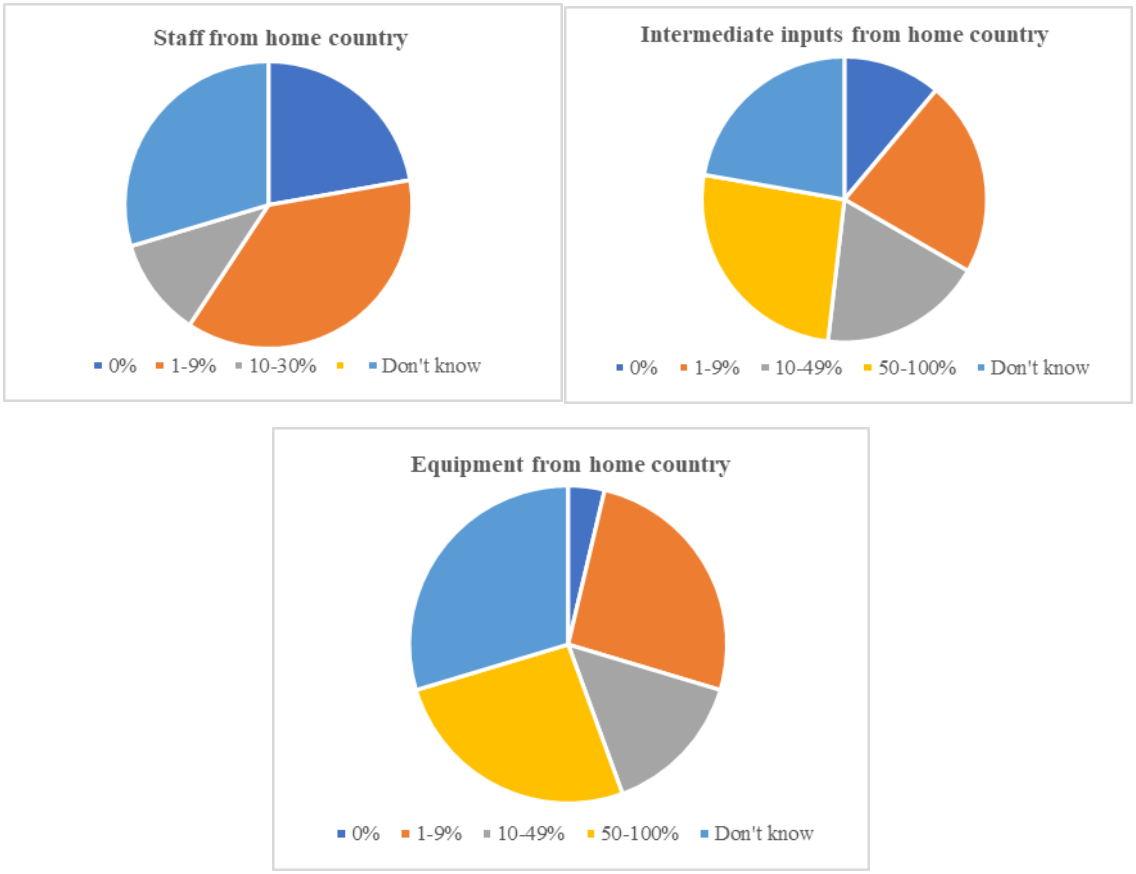
Source: Authors' elaboration based on survey results.

4.2.b Resources from the home country

We can see in Figure 4.1 that almost 50 per cent of the top sectors for which information was collected have staff from their own countries. The use of equipment brought from the home country is more widespread as it happens with the use of intermediate inputs. Given the nature of the information, we can carefully affirm that the

establishment of value chains implies a coordination and integration of activities among firms from different countries.

Figure 4.1: Use of resources from the home country



Source: Authors' elaboration based on survey results.

4.2.c Possibility of geographical changes in the value chains

In order to know whether value chains in UfM countries can be geographically reconfigured, two questions have been raised: the possibility that the EU-27 has to host the production that now is currently carried out in UfM countries (that is, the possibility of backshoring**,** which would entail the dismantling of those parts of the value chains now located in UfM countries) and whether these countries can host production that is now in Southeast Asian countries (an increase in the participation of global value chains by UfM countries at the expense of Southeast Asia). As we can see in the responses collected in Table 4.3, the current situation as it is perceived by the respondents makes important changes in the value chains possible. In most of the sectors, home countries from the EU-27 can host the activities that are now located in UfM countries. The exceptions are in some activities linked to natural resources (mining, fishing, agriculture) and, interestingly, the case of textiles, leather and footwear.

Concerning the capacity to host activities that are now located in Southeast Asian countries, we find the perception that activities in all sectors are susceptible to being hosted in UfM countries. The exceptions (energy, building and infrastructure, services to companies) are activities linked to developing activities that are not susceptible to being moved.

Table 4.3. Percentage of respondents about the possibility of geographical reconfigurations in value chains

	Exist conditions at home to return production	Conditions at UfM country allow to bring production currently in S.E. Asia
Agriculture, food and beverage	83.3	80.0
Buildings and infrastructure	100.0	0.0
Car and transport industry	100.0	100.0
Electrical industry	.	100.0
Electrical industry car and transport industry	100.0	100.0
Electrical industry mechanical industry	50.0	0.0
Fishing industry	50.0	100.0
Information and communication activities	100.0	100.0
Mechanical industry	100.0	100.0
Metal industry	100.0	100.0
Mineral products	50.0	100.0
Pharmaceutical industry	100.0	100.0
Services to companies and innovation	100.0	0.0
Textile industry, leather and footwear	44.4	80.0
Total	**76.6**	**74.4**

Source: Authors' elaboration based on survey results.

4.3 Existence of value chains in Union for the Mediterranean countries and their relative importance

Beyond the country of which respondents may have better knowledge since they are working in an office or agency of it, the presence of value chains in UfM countries seems to be important. As the aggregated data analysed in chapter 2 reveal, respondents indicate that countries where the presence of value chains from EU-27 countries is important (Table 4.4a) are the Maghreb countries (Morocco, Algeria and Tunisia), Türkiye and North Macedonia. On the other extreme, we find that in Montenegro the presence of value chains is reported to be almost non-existent, while in Mauritania and Israel, such presence is considered to be small. The opinions about Lebanon are mixed among the respondents. Table 4.4b reports these same topics for value chains from non-EU-27 countries. In this case, we see that value chains from non-EU-27 countries are also negligible in Montenegro and seem to have great importance only in Bosnia and Herzegovina. The respondents say countries such as Albania, Algeria, Morocco, North Macedonia, Tunisia and Türkiye are important. Only in the cases of Egypt and North

Macedonia are the value chains from non-EU27 countries more important than the ones from the EU-27.

Table 4.4a. Importance of value chains from EU-27 countries out of the one of the respondents

	Importance of value chains from EU-27 countries different from the one of the respondents					Compare with the ones from your country		
	Very important	Important	Small	None /negligible	Don't know	Larger	Similar	Smaller
Albania		X				X		
Algeria	X					X		
Bosnia and Herzegovina	X					X		
Egypt		X				X		
Israel			X					
Jordan					X			
Lebanon		X	X		X	X		
Mauritania			X				X	
Montenegro				X				
Morocco	X						X	
North Macedonia	X					X		
Tunisia	X	X				X	X	
Türkiye	X					X		

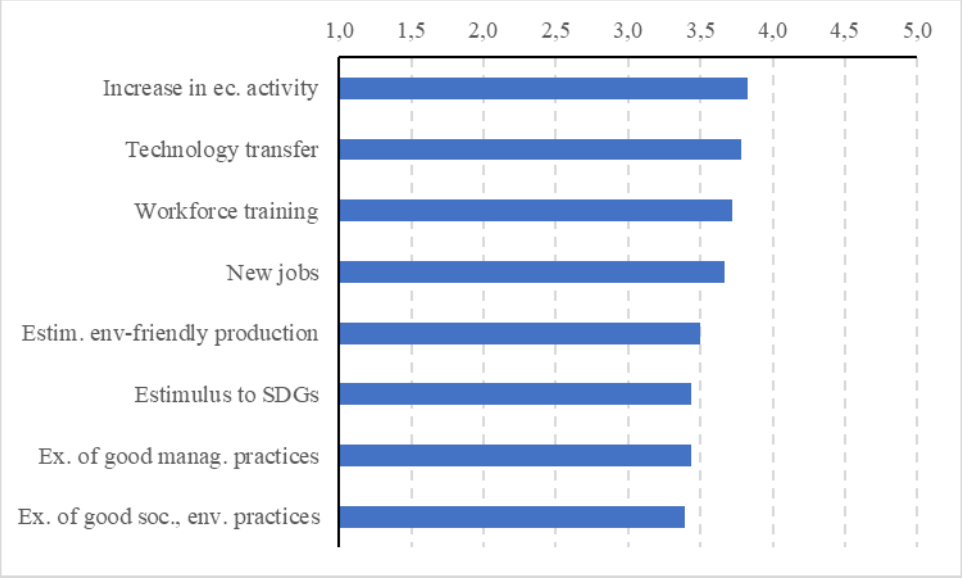
Table 4.4b. Importance of value chains from EU-27 countries out of the one of the respondents

	Importance of value chains from EU-27 countries different from the one of the respondents					Compare with the ones from EU-27		
	Very important	Important	Small	None /negligible	Don't know	Larger	Similar	Smaller
Albania		X						X
Algeria		X						X
Bosnia and Herzegovina	X							X
Egypt		X				X		
Israel			X					
Jordan		X						X
Lebanon			X		X			
Mauritania		X						X
Montenegro				X				
Morocco		X						X
North Macedonia		X				X		
Tunisia		X	X					X
Türkiye		X					X	

4.4 Advantages of value chain participation for Union for the Mediterranean countries

Figure 4.2 reports the advantages of participating in value chains for UfM countries according to the answers provided in the survey. The data show that the most important effects of the presence of value chains in UfM countries are related to technology transfer and an increase in economic activity, which spreads to the creation of new jobs and training. Meanwhile, the impact of environmentally friendly production and the stimulus to achieve United Nations Sustainable Development Goals (SDGs) are also important, while serving as an example is the less valued factors. In any case, it must be noted that all the advantages studied are valued above 3.4 on a scale of 1 to 5.

Figure 4.2. Advantages for UfM countries derived from their participation in value chains



Source: Authors' elaboration based on survey results.

Table 4A.2 in Annex A reveals that there are important differences across countries. The information collected reports that while value chains are important stimuli for the economic activity and workforce training of countries like Morocco and Algeria, this effect is quite less important in the case of Israel. The exemplarity effect seems to be important in countries like Algeria, Egypt, Mauritania and Morocco, and less important for countries like Israel, Albania and North Macedonia.

4.5 Value chains and small and medium size firms

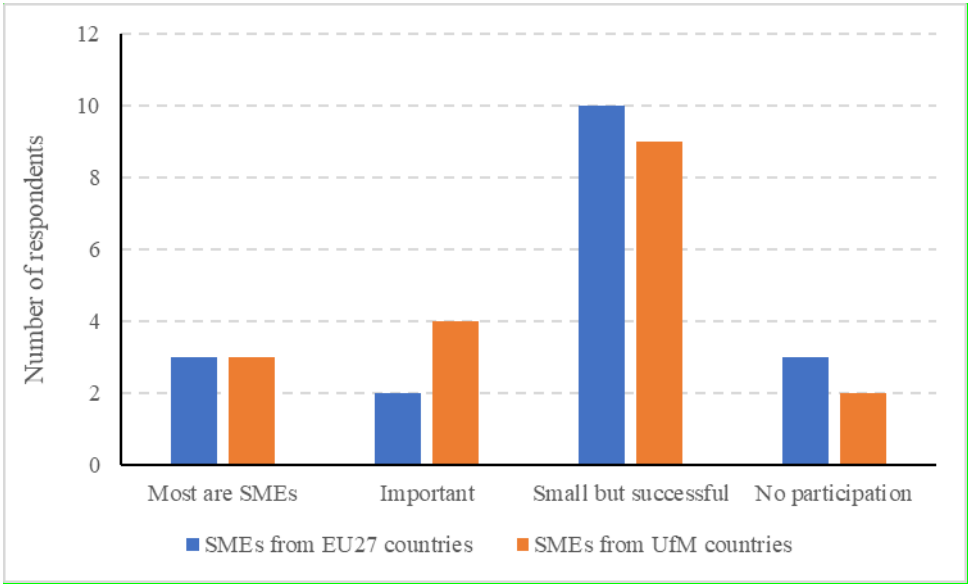
The participation of SMEs in value chains is also a special topic that deserves attention. It must be noted that a firm's size can become a barrier to participating in this kind of operation since many of the inherent operations have important fixed costs and they require human capital and expertise that is not always present in smaller firms. Thus,

our analysis will focus first on the actual participation of this kind of firm and second on the barriers to participating.

The analysis of the participation and presence of SMEs in value chains will pay attention both to whether the firm from the origin country is a SME as well as whether the firm from the UfM country is a SME too. Given that the respondents to the survey are representatives of EU-27 countries, the "origin country" will be one of them. Logically, four options exist (large/small firms from countries of origin contracting large/small firms in the host country), but we will focus on the specificities that SMEs from both sides may have. The reasons that explain why both groups can differ are that the nature and characteristics of both groups can be different and the reasons, advantages, barriers, etc. can also be distinct.

The current participation of SMEs in value chains is analysed for both UfM countries and European countries in Figure 4.3 and Table 4A.3 in the Statistical Annex (Annex A).

Figure 4.3. Participation of SMEs in value chains



Source: Authors' elaboration based on survey results.

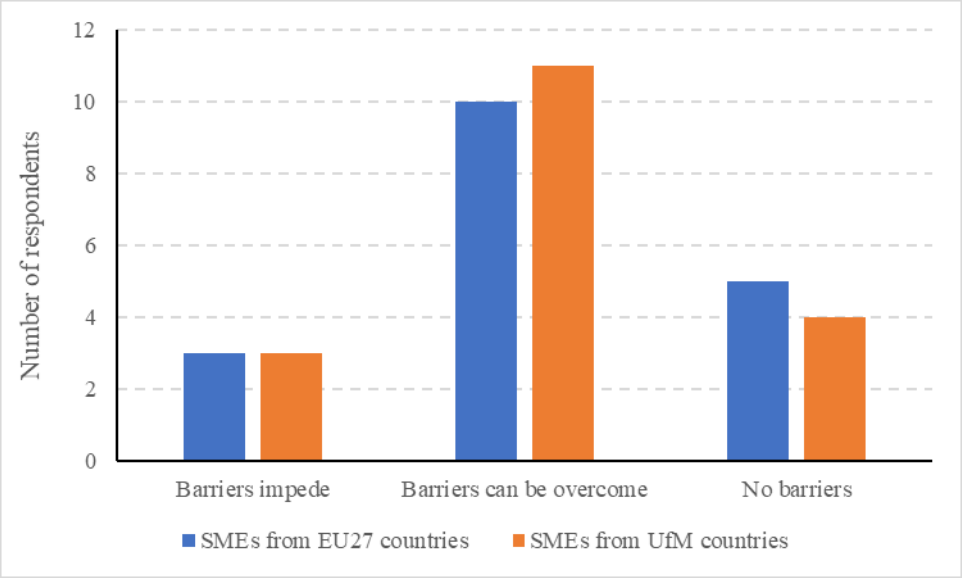
According to the respondents, the participation of SMEs (both from EU-27 as well as from UfM) is successful, although in many cases they consider it as small. This result is in line with the analysis in chapter 3. The survey also reports that the countries in which the participation of SMEs in value chains is more important are Lebanon and Tunisia, although the respondents' result for Lebanon is not conclusive, since the same number of respondents who consider a majority presence of local SMEs in value chains in the country also consider that said presence of SMEs is small. In Algeria, Bosnia and Herzegovina and Mauritania, an important number of local SMEs are participating in value chains. In Albania, Egypt, Jordan, Lebanon, Morocco, North Macedonia and

Türkiye, although the presence of SMEs is small, it works successfully. Finally, according to the respondents**,** local SMEs from Israel and Montenegro do not participate in value chains.

With respect to the presence of EU-27 SMEs in UfM, the respondents indicate it has been successful in various countries, such as Albania, Bosnia and Herzegovina, Egypt, Jordan, Lebanon, Morocco, North Macedonia and Türkiye. In this case, again, the information obtained for Lebanon is not conclusive, since the respondents offer different answers. The presence of SMEs from EU-27 in UfM countries is, according to the respondents, important too.

Although the participation of SMEs seems to be relevant and successful (especially in some countries), it is clear that this kind of firm faces barriers to participating in value chains. Next, we analyse the existence of those barriers.

Figure 4.4. Barriers that SMEs face to participate in value chains



Source: Authors' elaboration based on survey results.

Figure 4.4 reports the perception that the respondents have of the barriers that local SMEs from UfM countries face to participate in value chains. This information is complemented in the Table 4A.4 in the Statistical Annex (Annex A).

According to the respondents, the barriers that SMEs face to participating in value chains are not important or can be overcome in most of the cases. The countries that present the greatest difficulties for local SMEs to participate in value chains are Jordan and Montenegro, where existing barriers do not allow participation. Significant barriers are also detected in Lebanon, but they can be overcome. Likewise, local SMEs can participate in Albania, Algeria, Egypt, Mauritania, Morocco, North Macedonia and Tunisia since barriers to entry that exist in these countries can be overcome. The three most favourable countries in which no relevant barriers to the participation of local SMEs

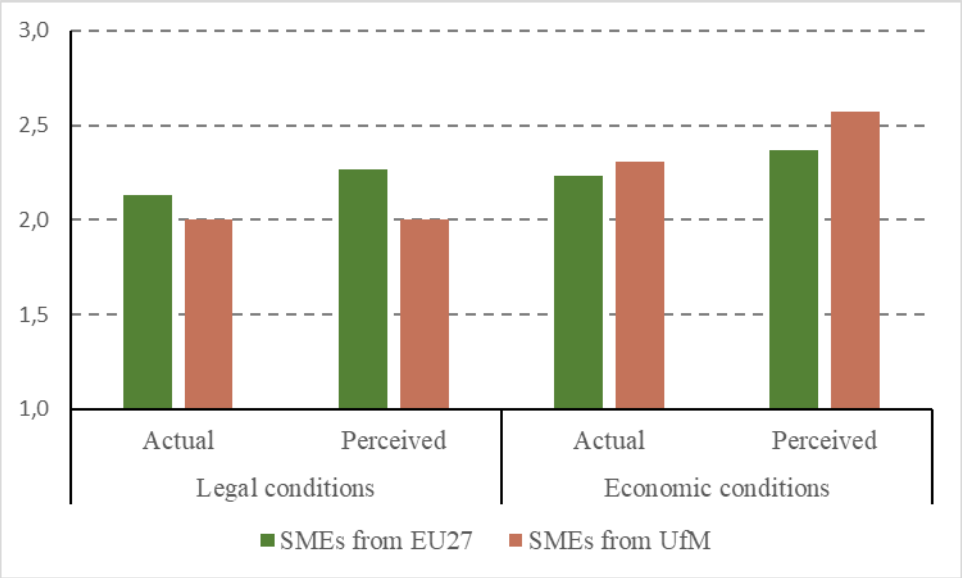
are detected are Bosnia and Herzegovina, Israel and Türkiye. In summary, the group of countries that SMEs can enter and participate in value chains are Albania, Algeria, Egypt, Mauritania, Morocco, North Macedonia, Tunisia, Lebanon, Bosnia and Herzegovina, Israel and Türkiye.

Regarding firms that are SMEs in their home countries, we can see that comparing the barriers described in UfM countries with those faced by European SMEs reveals similar results according to the survey information.

4.6 Barriers to participation of small and medium-size firms

A more detailed analysis of the nature of these barriers is presented in this section. As in the previous section, the participation of SMEs in value chains will distinguish SMEs from the country of origin (this is, the EU-27) from the ones of the destination one (the UfM ones). The barriers to be studied are classified in three dimensions: i) economic-legal; ii) the matching process and the relation between both parties; and iii) industry characteristics related to firm size.

Figure 4.5: Legal and economic barriers to participation of SMEs in value chains
(1: No importance 3: Very important)



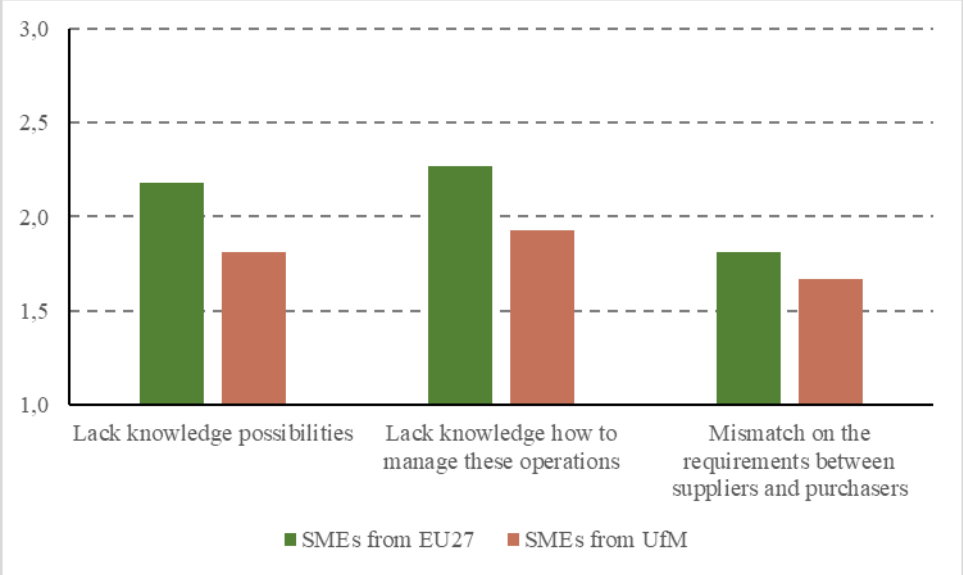
Source: Authors' elaboration based on survey results.

As for the first dimension, it seems important to distinguish between the actual and the perceived economic-legal situation. As can be seen in Figure 4.5, for both the economic and the legal factors, the perceived situation is more important than the actual one according to the respondents. In the same way, the economic element dominates the legal element**,** which includes both general laws (such as the regulation of the labour market or civil contracts) and more particular regulations (like opening and operating permissions). It is also interesting to highlight that while for SMEs from EU-27 countries the legal framework (both perceived and actual) is a more important barrier to

participating in value chains, the opposite holds in the economic situation: SMEs from UfM countries encounter greater barriers than ~~its~~ their counterparts from EU-27 countries.

The analysis according to the destination country included in the Statistical Annex (Annex A) reveals that economic and legal conditions are perceived as a minor barrier in Israel, Mauritania, Morocco and North Macedonia. In Egypt, Lebanon, Montenegro and Tunisia, the barriers related to economic conditions are considered more important than those related to legal conditions. Furthermore, both conditions are perceived negatively, in both the destination countries mentioned and the EU-27 countries, according to survey responses.

Figure 4.6. Managerial barriers to participation of SMEs in value chains
(1: No importance 3: Very important)



Source: Authors' elaboration based on survey results.

The second set of barriers concerns the management of the relation between the participants in the value chain. It addresses, first, to the knowledge of the opportunities, second to how to manage the relation with the other firms and third to the matching requirements between the suppliers and buyers. As can be seen in Figure 4.6, this set of barriers is more important for SMEs from EU-27 countries, especially concerning the possibilities that the UfM countries offer as well as on how to manage the relation.

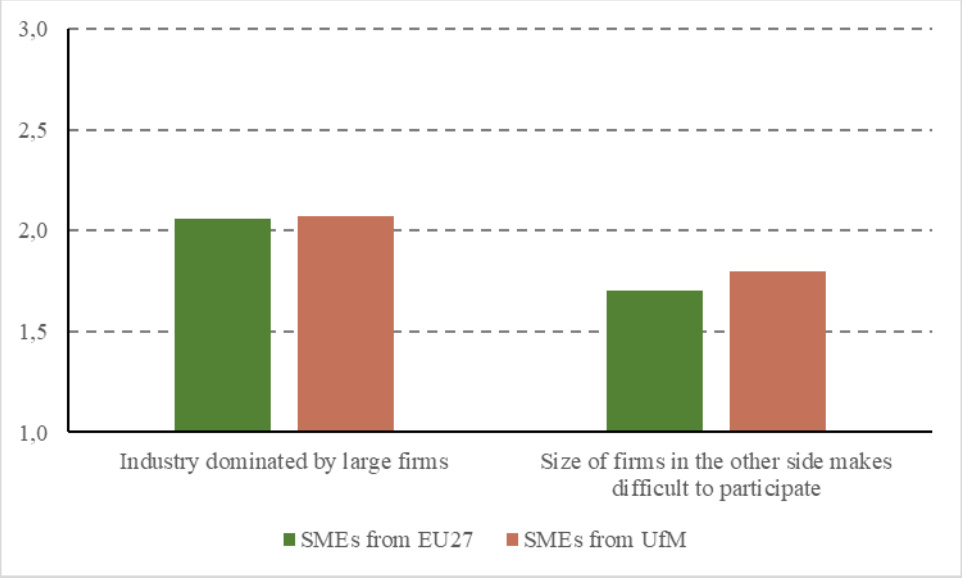
Respondents have indicated that red tape and administrative procedures pose significant barriers in Egypt and Lebanon. This is true for both local firms and firms from the EU-27 that want to participate in value chains. In the case of Egypt, the harshness of the current economic situation and the difficulty of accessing convertible currencies are also considered important.

Algeria, Morocco and Tunisia are the countries in which this kind of barrier is the smallest and least limits the operations of SMEs from these countries and the entry of SMEs from the EU-27.

Respondents have highlighted a lack of knowledge of the possibilities that Lebanon may offer, and the difficulties of managing relations with firms in Bosnia and Herzegovina even stem from linguistic issues.

The third set of factors that may create a barrier to SMEs' participating in value chains concerns the size of the firms in the sector. As we can see in Figure 4.7 and the additional information in the Statistical Annex (Annex A), this is not an important factor that prevents SMEs from participating in value chains.

Figure 4.7. Industry barriers to participation of SMEs in value chains
(1: No importance 3: Very important)



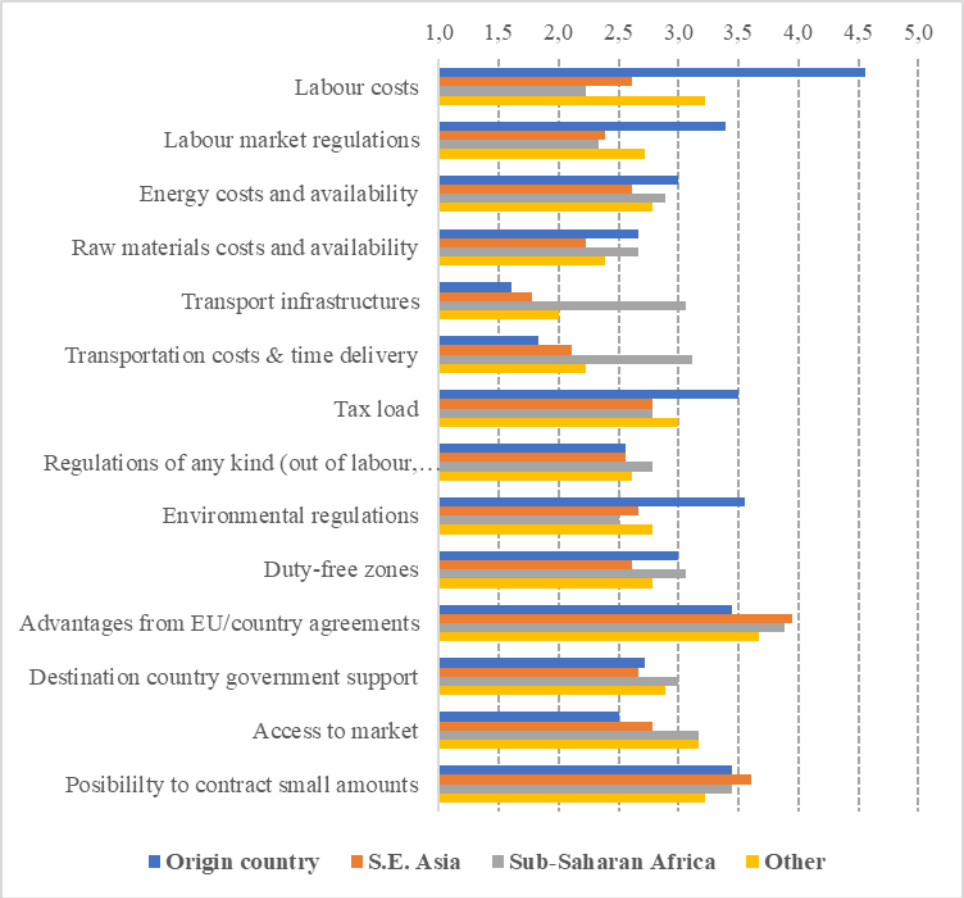
Source: Authors' elaboration based on survey results.

Above all, where this barrier is least important is in Morocco, Tunisia, Montenegro and Lebanon, in this order. The answers given to specific questions highlight that these issues differ depending on the sector. For example, the automotive industry is controlled by large firms with little room for the participation of SMEs, but in sectors related to agriculture, the opposite holds.

4.7 Advantages of participating in value chains for the Union for the Mediterranean countries

The advantages of UfM countries' hosting parts of the value chains from EU-27 countries are analysed based on 14 dimensions that involve economic, legal and institutional factors compared with those in the home country of the respondent, Southeast Asia, Sub-Saharan Africa and the rest of the world. A general vision can be obtained in Figure 4.8.

Figure 4.8: Advantages of UfM countries to host value chains
(1: Large disadvantage 5: Large advantage)



Source: Authors' elaboration based on survey results.

As the results show, the biggest advantages of UfM countries' hosting parts of value chains from EU-27 countries in comparison with them-are found in labour costs, labour market regulations, the tax burden and environmental regulations. The comparison with Southeast Asian countries reveals the importance of the existing agreements that these countries have with the EU-27. They are not homogeneous or established for the whole UfM area, but that specific for each of them (see section 1.2) to participate in value chains.

There are disadvantages of participating in value chains for the set of countries analysed compared with Southeast Asia in the area of transportation infrastructure and its costs. These countries also compare unfavourably in labour costs, labour market regulations, energy costs and availability, environmental regulations, duty-free zones, the tax burden, destination country government support, and access to markets, while their advantages (compared with Southeast Asia) lie in the EU/country agreements and the possibility to contract small amounts.

The advantages that UfM countries have over Southeast Asia hold when the comparison is made with Sub-Saharan African countries. However, with these countries, the transport infrastructures are not a disadvantage and, from labour costs and labour

regulations, it can be concluded that respondents see UfM countries in a better position than Sub-Saharan countries in all 14 of the dimensions considered.

However, if we consider each country separately, for some countries the results differ from those described based on the average value for all of them, as the information in Statistical Annex (Annex A) shows. For example, Türkiye has advantages over Southeast Asia in all the factors except labour costs; Morocco in raw materials costs and everything related to transport; Egypt in labour market regulations and raw materials costs and Algeria in labour market regulations**.** For Israel, the main advantage over Southeast Asia lies in the existing agreements with the EU-27.

The comparison with Sub-Saharan Africa reveals that all the countries are in a more advantageous position. Only in terms of labour costs is Sub-Saharan Africa perceived to have an advantage over most of the UfM countries.

4.8 Weaknesses of Union for the Mediterranean countries' to participating in value chains

The analysis of the advantages of UfM countries' hosting value chains is complemented with the weaknesses that respondents observe. The set of 12 items provides a comprehensive framework for the analysis of this element.

In the survey, respondents were asked to rate a set of factors about the situation of the country from 'not important at all' to 'very important'. Table 4.5 reports whether each factor is considered an important or very important weakness in each country.

The weakness revealed by respondents to be the most important for the operations of the value chains of EU-27 companies in UfM countries is the availability of a trained labour force to carry out production or activities that value chains require. Second, and consistently with the results of chapter 1 issues related to logistics and transport also stand out as a considerable weakness, in particular, transport infrastructure and its functioning. These are also crucial aspects for the viability of the production of companies in foreign countries, along with the availability of a labour force. The next weaknesses, although significantly less important, are labour productivity and telecommunications infrastructure.

If we consider each country separately, we can highlight some additional disadvantages. For example, in Algeria, Jordan, Lebanon and Mauritania**,** cultural differences and the availability of raw materials are signaled as a problem for the respondents. In Egypt and Israel, the availability of raw materials and complications finding suppliers are also problems pointed out in the answers.

Table 4.5. Weakness of the countries to locate parts of the value chains from other country

	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Mauritania	Montenegro	Morocco	North Macedonia	Tunisia	Türkiye
Managing production	X	X	X					X					
Available workforce	X	X	X			X	X	X	X	X	X	X	
Labour productivity		X	X			X		X		X	X		X
Transport infrastructure	X	X	X		X		X	X	X		X		
Function trans infrastructure	X	X	X		X		X	X	X		X		
Fulfilment contracts	X	X		X			X	X		X	X		
Telecom infrastructure		X	X				X	X		X		X	
Cultural differences		X											
Avail. raw materials		X		X	X	X	X	X					
Available energy						X	X	X	X				
Competition to find supplier				X	X	X		X					

Source: Authors' elaboration based on survey results.

4.9 Sectors with potential to expand value chains in Union for the Mediterranean countries

According to respondents, the activities in energy, agriculture and food and beverage are the ones fundamentally considered to have the greatest potential to participate in value chains in UfM countries. Tourism is also important, although to a lesser degree (Table 4.6).

These results are in line with those proposed by the Instituto Español de Comercio Exterior (ICEX), although these reports present some additional sectors for certain countries. For example, in Israel, although telecommunications and innovation services are the most relevant and internationally renowned, energy and textiles are also seen as sectors with potential. In Morocco, agriculture and food and beverage are also suggested as attractive sectors. In Egypt, machinery, transport, the chemical industry, especially fertiliser plants, and telecommunications and big data are also included as sectors with potential. In Algeria, the pharmaceutical industry and tourism are also added.

Some details of the respondents' answers, indicate great opportunities for Spanish firms in Algeria in industries such as renewable energy, water and agriculture since they are highly valued, although most of the opportunities disappeared last June. They also show the possibilities for tourism and infrastructures in Albania, which suffers from internal political strife. An interesting case is the information provided concerning Egypt that points to the cost advantages and the shorter value chains (compared with Southeast Asian countries) as factors that may foster the establishment of value chains with EU-27 countries in the textile industry.

Table 4.6. Main sectors with the greatest potential to participate in supply chains

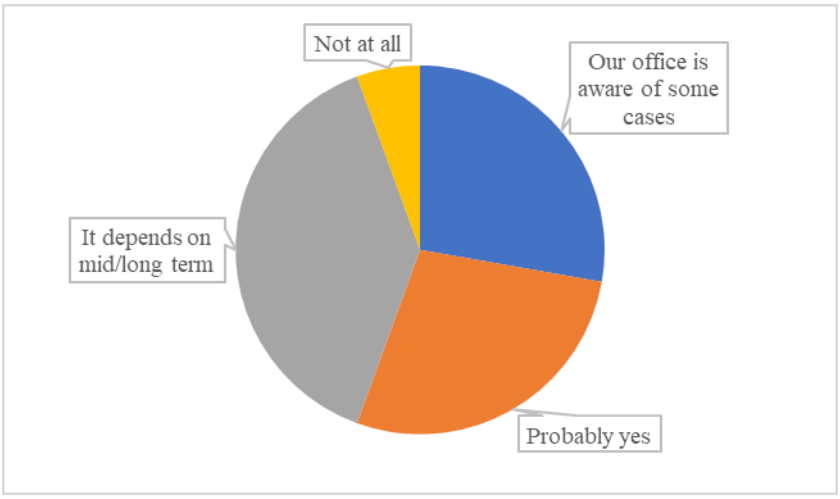
	Albania	Algeria	Bosnia and Herzegovina	Egypt	Israel	Jordan	Lebanon	Mauritania	Montenegro	Morocco	North Macedonia	Tunisia	Türkiye
Energy	X	X					X	X		X			
Agriculture		X		X			X	X	X			X	
Food and beverage		X		X			X	X	X			X	
Tourism	X						X						X
Pharmaceutical industry				X			X						
Building and infrastructure	X									X			
Fishing industry								X					
Textile industry, leather and footwear				X		X							
Mineral industry						X				X			
Chemical industry						X				X			
Services to companies and innovation					X								
Car and transport industry										X			
Mechanical industry										X			

Source: Authors' elaboration based on survey results.

4.10 Impact of recent events on value chains in Union for the Mediterranean countries

Recent years have been characterised by a large and varied set of changes in the international panorama that have created high risk and volatility for international value chains. These changes are in many cases linked (such as the initial impact of COVID-19, the readdressing of the production capacity towards other goods, the subsequent policy of zero COVID implemented by China), and the questions in the survey are focused on the new environment and not on any specific feature of this environment. Some sources have noted that one consequence may be a reduction in purchasing by distant countries (like those in Southeast Asia and China) in favour of geographically closer countries. This change, in both the actual situation and the perception of the businesses in them, is reshaping the appeal (and advantages) of hosting productive activities in different regions of the world. UfM countries have great potential to host part of the value chains of EU-27 firms. One of the survey questions addresses this point in order to collect information on whether these changes are expected to happen. As we can see in the results, there is an expectation that the new volatile, riskier international situation may positively affect the extension of value chains in UfM countries. Moreover, an important number of the respondents (who currently work at embassies and international offices in UfM countries) say they have already noticed cases of firms that have changed their supplies from Southeast Asia to UfM countries.

Figure 4.9. Impact of recent events on value chains



Source: Authors' elaboration based on survey results.

Chapter 5. Policy considerations

The analysis carried out suggests that there is room for policy action to enhance the involvement of non-EU UfM countries in European networks. In this chapter, we present some possible lines of action to promote integration through GVCs.

The first one is related to trade policy and related domestic regulations. Theoretical and empirical studies show positive trade policy effects on GVC participation (Kowalski et al., 2015; Del Prete et al., 2018). According to these findings, the Regional Trade Agreements to remove trade barriers signed between the EU and the Southern and Eastern Mediterranean countries since the launch of the Barcelona Process have promoted production and trade integration between the two regions. However, despite trade liberalisation in Middle East and North African countries (MENA), tariffs on manufactured goods remain among the highest in the world, and the use of non-tariff measures is widespread (Giovannetti et al., 2020; OECD, 2021b). In these countries trade regulations still restrict access to inputs needed to produce competitively and thus limit integration into global networks. More efforts to liberalise trade seem necessary, especially in services, where trade restrictions are the most severe. Moreover, Aboushady (2022) shows that the Middle East and North Africa has the most restrictive services trade policies in the world. Restrictions are higher than in the rest of the economic areas in every group of services considered: professional services, transport, financial services, telecommunications and retail trade. His research for Egypt found that the higher the restrictions on services are, the lower the probability of firms' engaging in GVCs.

In addition, although trade agreements between the EU and the non-EU UfM member countries are in place, their implementation by non-EU members is not always satisfactory. EU-27 firms face trade barriers from some other members of the UfM when exporting goods and services. This limits the development of regional value chains and the benefits of trade integration. Efforts are needed to ensure that trade agreements are properly implemented and enforced (European Commission, 2022b).

A second line of action to facilitate involvement in GVCs relates to an enabling economic environment. The quality of institutions, macroeconomic and political stability and legal certainty and the level of ICT diffusion are determinants of the competitiveness of economies, of attracting foreign investment and of engaging firms in international supply chains. In this respect, it should be noted that the non-EU UfM countries show in many cases a low performance in terms of the quality of institutions and the transparency of laws (EBRD, 2020). The Worldwide Governance Indicators, developed by the World Bank, show that despite progress in improving economic governance, in general, these countries rank low on indicators of government effectiveness and regulatory quality. As the International Monetary Fund has pointed out for the MENA countries (Jarvis et al., 2021), reforms to improve economic governance are key to fostering higher and more inclusive growth and also fully entering global production networks.

Logistics performance and the quality of trade and transport infrastructure are essential for trade integration through GVCs. The analysis suggests that issues related to both stand out as serious weaknesses that limits integration in value chains and that, although there are significant differences across countries, increasing integration in the UfM requires improving the connectivity between countries in the region.

There are several successful experiences in the region. For instance, the boost to logistical and transport infrastructure is one of the factors behind Morocco's growing presence in European production chains. The launch of the port of Tanger Med in 2007 and its successive extensions, which have made it the leading container port in the Mediterranean, have allowed the development of industrial clusters and free zones with great capacity to attract foreign investment. Egypt is also expanding the container terminal in the Suez Canal and improving road and rail networks. This upgrading in connectivity together with improvements in logistics and port management is expected to increase FDI and lead to more active participation in international production networks. However, as our analysis has highlighted and as the OECD (2021, p.100) has pointed out, '*In the Euro-Mediterranean region, especially in the Southern and Eastern Mediterranean, infrastructure connectivity is still limited…the level of investment is not enough to meet the growing connectivity needs between countries'.*

Aware of the need to improve logistics, and digital and transport infrastructure in the region, the EU has included these issues in the Agenda for the Mediterranean, the action programme designed to revitalise cooperation, boost integration and harness the region's potential. Specifically, in its Economic and Investment Plan for the Southern Neighbours (EIP), the EU is committed to supporting the upgrading of trade and connectivity infrastructure and logistics hubs on strategic transport routes. Examples of such projects include the King Hussein Bridge in Jordan, a Comprehensive Aviation Agreement with Tunisia to facilitate connectivity with EU countries and promote tourism, support for the development of sustainable public transport in Egypt, and support for the digital / innovation ecosystem in Morocco and digitalisation in Tunisia (European Commission, 2021)**.**

There is evidence that the economic environment is particularly important for SMEs, which are less able to cope with logistical and trade obstacles, excessive bureaucracy, corruption and inefficient regulations. They are also hampered in their access to finance by underdeveloped financial markets**.**[9] Given the difficulties SMEs face in joining GVCs and the benefits that their participation could bring in terms of productivity, jobs, female labour and growth, the Agenda for the Mediterranean proposes specific measures to facilitate SMEs' access to finance (alternative finance, promotion of microfinance, strengthening of banking and non-banking financial institutions, etc.) and to promote initiatives to increase women's socio-economic participation. The EU also

[9]According to the Financial Development Index compiled by the International Monetary Fund (IMF), in 2021, all non-EU UfM countries~~,~~ except Israel, Türkiye and Egypt~~,~~ exhibited a level of financial market efficiency that was below the overall average. All of them show an index below the European average.

proposes measures to support SMEs in their transition to green and sustainable production and promote their digitalisation, in line with the EU's two big priorities.

The third line of action to foster integration in the UfM is to promote improvements in business competitiveness. Our findings suggest that non-EU countries have relevant competitive advantages over the EU-27 based on their lower labour costs and tax load and less stringent environmental and labour market regulation. By contrast, they generally have cost disadvantages compared with South Asian countries. In order to strengthen the attractiveness of the country for foreign investors, some non-EU UfM countries (Morocco, Tunisia, Egypt, Jordan, Türkiye) have created free zones that offer significant advantages for hosting (reduced taxes, simplified customs procedures, competitive operating costs, etc.). In this context, policies aimed at increasing productivity and competitiveness are needed to reduce costs and improve and extend their competitive advantages, particularly with regard to Asian countries, and to try to prevent export platforms from becoming a competitive hub at the margins of the local economy.

There are two determinants of the competitiveness that require particular attention: technological development (research, development and innovation) and skills. As for the first, non-EU countries stand out for their low innovative capacity despite advances in knowledge in some countries. This limitation makes it more difficult for them to participate in GVCs and, in particular, to move up to the higher value added stages, where greater benefits can be obtained.

As for the second determinant, the qualitative analysis in Chapter 4 shows that the most important constraint to developing GVCs between the EU and the rest of the UfM countries is the availability of a trained labour force. Thus, the competitive advantage associated with the abundance of labour is partially offset by the shortage of skilled labour that can meet the needs of the production system. In this respect, Zaki (2019) argues that the first reason for the low level of GVC participation in the Euro-Mediterranean region is inadequate skill endowment. Therefore, more efforts are needed to improve workers' skills.

Of course, it seems necessary to implement policies in higher education that can facilitate the development of technology-intensive industries and increase GVC participation in the high value added stages, but it is also necessary to take measures to improve the skills of non-production workers (blue-collar workers). In their study on MENA countries, Aboushady and Zaki (2021) found that in exporting firms, the demand for skilled blue-collar workers tends to be higher than for non-production workers, especially when firms introduce new technologies, new activities or new management and logistics practices (as is usually the case of firms engaged in GVCs). Thus, a shortage of skilled production workers could be a severe limitation to integration and upgrading in GVCs.

Finally, public policies also can contribute to building and developing potential supply chains. Our analysis has shown not only that production and trade integration through GVCs have increased in the UfM, but also that there has been a progressive increase in the contribution of non-EU UfM countries. The initial participation of non-

EU UfM countries in European value chains as assemblers in labour-intensives stages of traditional industries (e.g. textile, leather, footwear) has progressed to higher value added stages and more complex and sophisticated industries. This is the case of Morocco and Tunisia, which export parts and components of automotive and aeronautics industries. This performance suggests the existence of potential new opportunities for UfM supply chains between the EU and the other Mediterranean countries. Public policy can help to harness this potential through support of the necessary reforms and a public-private partnership.

It is not easy to identify where these opportunities lie, but, with all possible caveats, the analysis undertaken provides some indications. First, the GVC progress in some countries shows that there are opportunities for more intensive participation of non-EU UfM countries in European value chains, even in the more technologically intensive industries. Indeed, these opportunities seem to be higher in GVCs related to established GVCs as they can benefit from the synergies involved. Southern and Eastern Mediterranean countries can be attractive locations for the expansion of European value chains. Second, at the same time, there are opportunities to revitalise traditional GVCs. Non-EU UfM countries have the necessary conditions to attract production that was previously relocated to Asian markets, such as textiles or footwear. Third, new opportunities arise from the EU's Strategic Autonomy Policy. Non-EU UfM endowments of critical raw materials suggest that these countries could develop a relevant role as suppliers in GVCs related to these resources (e.g. fertilisers, chemicals or electric vehicles).

Finally, emphasis could be placed on GVC opportunities related to the European priority of green transition and the path towards sustainable production. Our work has shown that non-EU UfM countries are actively involved as suppliers in resource-intensive GVCs (agriculture or mining), and the qualitative analysis has confirmed that activities related to natural endowments (energy, agriculture and food and beverage) have great potential for GVC participation. Non-EU UfM countries are well positioned to develop policies aimed at the sustainable use of natural resources but need an additional effort to exploit their potential and consolidate themselves in efficient GVCs. This is why the EU has included measures in the EIP to facilitate the transition to a green and circular economy and promote renewable energy production in countries such as Algeria, Morocco, Egypt and Jordan.

In short, there is potential to strengthen and broaden trade integration between the EU and the rest of the Mediterranean countries, but this requires active policies to overcome existing obstacles.

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Annex A: Additional data for countries

Table 4A.1. Use of resources from the home country

	% staff				% equipment					% intermediate inputs				
	0	1-9	10-49	DK	0	1-9	10-49	50-100	DK	0	1-9	10-49	50-100	DK
Agriculture, food and beverage	X			X				X	X	X			X	
Buildings and infrastructure		X				X					X			
Car and transport industry		X	X	X				X	X			X	X	X
Electrical industry	X	X			X		X				X		X	
Fishing industry	X					X						X		
Information and communication activities			X				X					X		
Manufacturing industry		X				X					X			
Mechanical industry	X	X				X				X	X			
Metal industry		X					X						X	
Mineral products		X	X					X				X	X	
Pharmaceutical industry	X						X					X		
Services to companies and innovation				X					X					X
Textile industry, leather and footwear	X	X		X		X	X	X	X	X	X		X	X

Source: Authors' elaboration based on survey results.

Table 4A.2. Impact of value chains in host countries
(1: Very Little, 5: Very important)

	Technology transfer	Workforce training	New jobs	Increase in economic activity	Stimulus environment-friendly production	Stimulus to SDGs	Example of good practices	Example of good social, environ. practices
Albania	4.0	5.0	4.0	5.0	4.0	5.0	3.0	3.0
Algeria	5.0	5.0	4.0	5.0	2.0	2.0	5.0	4.0
Bosnia and Herzegovina	4.0	5.0	5.0	4.0	4.0	3.0	3.0	3.0
Egypt	5.0	5.0	5.0	5.0	4.0	4.0	5.0	4.0
Israel	3.0	2.0	1.0	1.0	2.0	2.0	1.0	2.0
Jordan	4.0	4.0	4.0	4.0	4.0	2.0	4.0	4.0
Lebanon	3.8	3.5	3.5	4.0	3.8	3.8	3.5	3.5
Mauritania	3.0	3.0	3.0	4.0	4.0	5.0	4.0	4.0
Montenegro	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Morocco	4.5	4.5	4.5	4.5	3.5	4.5	4.0	4.0
North Macedonia	2.0	3.0	4.0	4.0	4.0	4.0	3.0	3.0
Tunisia	4.0	4.0	4.5	4.0	4.0	3.0	3.5	3.5
Türkiye	5.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0
TOTAL	**3.8**	**3.7**	**3.7**	**3.8**	**3.5**	**3.4**	**3.4**	**3.4**

Source: Authors' elaboration based on survey results.

Table 4A.3. Actual participation of SMEs in value chains

	Firms from UfM countries				Firms from EU-27 countries			
	Most are SMEs	Important	No participation	Small but successful	Most are SMEs	Important	No participation	Small but successful
Albania				X				X
Algeria		X				X		
Bosnia and Herzegovina		X						X
Egypt				X				X
Israel			X				X	
Jordan				X				X
Lebanon	X			X	X		X	X
Mauritania		X			X			
Montenegro			X				X	
Morocco				X				X
North Macedonia				X				X
Tunisia	X	X			X	X		
Türkiye				X				X

Source: Authors' elaboration based on survey results.

Table 4A.4. Importance of the barriers that SMEs face to participate in value chains

	Firms from UfM countries			Firms from EU-27 countries		
	Barriers impede	Barriers can be overcome	No barriers	Barriers impede	Barriers can be overcome	No barriers
Albania		X				X
Algeria		X				
Bosnia and Herzegovina			X		X	
Egypt		X			X	
Israel			X		X	
Jordan	X					X
Lebanon	X	X		X	X	X
Mauritania		X			X	
Montenegro	X			X		
Morocco		X			X	
North Macedonia		X		X		
Tunisia		X	X		X	X
Türkiye			X			X

Source: Authors' elaboration based on survey results.

Table 4A.5. Legal and economic barriers for the participation of SMEs in value chains (1: Not important; 3: very important)

	Legal conditions (perceived)		Legal conditions (actual)		Economic conditions (perceived)		Economic conditions (actual)	
	SMEs from EU-27	SMEs from UfM	SMEs from EU-27	SMEs from UfM	SMEs from EU-27	SMEs from UfM	SMEs from EU-27	SMEs from UfM
Albania	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Algeria	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Bosnia and Herzegovina	3.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0
Egypt	3.0	2.0	3.0	2.0	3.0	3.0	3.0	3.0
Israel	2.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0
Jordan	.	.	.	.	2.0	2.0	2.0	2.0
Lebanon	2.3	2.3	2.3	2.3	3.0	3.0	3.0	3.0
Mauritania	1.0	3.0	2.0	3.0	2.0	2.0	2.0	3.0
Montenegro	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0
Morocco	2.0	1.0	2.0	1.0	1.5	2.0	2.0	3.0
North Macedonia	2.0	2.0	3.0	.	1.0	1.0	2.0	.
Tunisia	1.5	1.5	1.5	1.5	2.0	2.0	2.5	2.5
Türkiye	.	.	.	.	.	.	.	.
TOTAL	**2.1**	**2.0**	**2.3**	**2.0**	**2.2**	**2.3**	**2.4**	**2.6**

Source: Authors' elaboration based on survey results.

Table 4A.6. Managerial barriers for the participation of SMEs in value chains (1: Not important; 3: very important)

	Lack know possibilities		Lack know manage relations		Mismatch requirements	
	SMEs from EU-27	SMEs from UfM	SMEs from EU-27	SMEs from UfM	SMEs from EU-27	SMEs from UfM
Albania	3.0	2.0	3.0	2.0	2.0	2.0
Algeria	1.0	1.0	1.0	1.0	1.0	1.0
Bosnia and Herzegovina	2.0	1.0	2.0	1.0	3.0	1.0
Egypt	2.0	2.0	3.0	2.0	2.0	2.0
Israel	3.0	1.0	3.0	1.0	2.0	1.0
Jordan	2.0	2.0	.	.	2.0	2.0
Lebanon	2.5	2.0	1.6	1.5	1.3	1.3
Mauritania	2.0	2.0	3.0	3.0	2.0	2.0
Montenegro	3.0	2.0	3.0	3.0	3.0	3.0
Morocco	1.5	2.0	2.5	1.0	2.5	3.0
North Macedonia	3.0	3.0	2.0	3.0	1.0	2.0
Tunisia	1.5	1.5	2.0	2.5	1.0	1.0
Türkiye	.	.	.	.	.	.
TOTAL	**2.2**	**1.8**	**2.3**	**1.9**	**1.8**	**1.7**

Source: Authors' elaboration based on survey results.

Table 4A.7. Industry barriers for the participation of SMEs in value chains
(1: Not important; 3: very important)

	Industry dominated by large firms		Size of firms of the other side makes difficult to participate	
	SMEs from EU-27	SMEs from UfM	SMEs from EU-27	SMEs from UfM
Albania	2.0	2.0	2.0	2.0
Algeria	2.0	2.0	2.0	2.0
Bosnia and Herzegovina	2.0	2.0	2.0	1.0
Egypt	3.0	3.0	2.0	3.0
Israel	3.0	3.0	3.0	3.0
Jordan	3.0	3.0	2.0	3.0
Lebanon	1.7	1.3	1.2	1.3
Mauritania	3.0	3.0	3.0	3.0
Montenegro	1.0	1.0	1.0	1.0
Morocco	2.0	3.0	1.5	1.0
North Macedonia	2.0	2.0	2.0	2.0
Tunisia	1.5	1.5	1.0	1.0
Türkiye	.	.	.	.
TOTAL	**2.1**	**2.1**	**1.7**	**1.8**

Source: Authors' elaboration based on survey results.

Table 4A.8. Advantages of UfM countries to host value chains

a) Advantages of destination country vs origin country

	Labour cost	Labour market regulation	Energy cost	Raw mat. prices	Transp. infrastructure	Transp. cost	Tax burden	Regulations (exc. Labour & environment)	Environment Regulation	Duty-free zones	Advantages from EU/country agreements	Country support	Access to market	Small amounts contract
Albania	4.0	4.0	3.0	4.0	1.0	2.0	4.0	2.0	3.0	3.0	3.0	4.0	2.0	4.0
Algeria	5.0	4.0	5.0	2.0	1.0	1.0	5.0	5.0	2.0	1.0	5.0	1.0	1.0	3.0
Bosnia and Herzegovina	5.0	3.0	4.0	5.0	1.0	1.0	2.0	1.0	1.0	5.0	5.0	4.0	5.0	3.0
Egypt	5.0	4.0	5.0	5.0	3.0	2.0	4.0	1.0	4.0	3.0	3.0	1.0	1.0	4.0
Israel	1.0	4.0	3.0	1.0	1.0	1.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0
Jordan	5.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	4.0	5.0	5.0	5.0	5.0	4.0
Lebanon	4.3	3.0	1.0	2.0	1.3	1.5	3.3	2.3	3.8	2.5	3.5	1.0	2.0	3.5
Mauritania	5.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	1.0	1.0	2.0	1.0	4.0
Montenegro	5.0	4.0	3.0	4.0	1.0	1.0	5.0	4.0	4.0	4.0	5.0	4.0	3.0	4.0
Morocco	5.0	4.5	4.5	3.5	3.0	2.0	4.5	3.0	4.0	4.0	2.0	4.0	2.0	3.0
North Macedonia	5.0	4.0	4.0	3.0	1.0	2.0	5.0	4.0	4.0	4.0	4.0	3.0	2.0	2.0
Tunisia	5.0	4.5	4.0	2.0	2.0	3.5	3.0	3.0	3.0	2.0	4.0	2.5	3.5	4.0
Türkiye	5.0	2.0	4.0	3.0	3.0	4.0	5.0	2.0	4.0	3.0	2.0	5.0	3.0	3.0
TOTAL	**4.6**	**3.4**	**3.0**	**2.7**	**1.6**	**1.8**	**3.5**	**2.6**	**3.6**	**3.0**	**3.4**	**2.7**	**2.5**	**3.4**

Source: Authors' elaboration based on survey results.

Table 4A.8: Advantages of UfM countries to host value chains.

b) Advantages of destination country vs S.E. Asia

	Labour cost	Labour market regulation	Energy cost	Raw mat. prices	Transp. infrastructure	Transp. cost	Tax burden	Regulations (exc. Labour & environment)	Environment Regulation	Duty-free zones	Advantages from EU/country agreements	Country support	Access to market	Small amounts contract
Albania	3.0	2.0	2.0	1.0	1.0	4.0	4.0	2.0	2.0	2.0	5.0	5.0	4.0	5.0
Algeria	4.0	4.0	5.0	2.0	2.0	1.0	3.0	3.0	2.0	1.0	5.0	5.0	1.0	4.0
Bosnia and Herzegovina	2.0	4.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0	3.0	4.0	3.0	4.0	3.0
Egypt	4.0	3.0	4.0	3.0	2.0	1.0	3.0	3.0	3.0	3.0	4.0	1.0	1.0	4.0
Israel	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	1.0	2.0
Jordan	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	4.0	5.0	5.0	5.0	5.0	4.0
Lebanon	2.5	2.3	1.0	1.8	1.3	1.5	3.3	3.0	3.0	2.3	3.3	1.3	1.8	3.0
Mauritania	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	4.0	1.0	1.0	2.0	1.0	5.0
Montenegro	2.0	1.0	3.0	3.0	1.0	1.0	4.0	2.0	2.0	4.0	5.0	2.0	4.0	4.0
Morocco	3.0	2.5	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	4.0	3.0	4.0	3.0
North Macedonia	4.0	3.0	3.0	3.0	2.0	2.0	4.0	3.0	2.0	3.0	4.0	3.0	4.0	4.0
Tunisia	3.0	2.5	4.0	2.0	2.5	3.5	2.5	3.0	2.5	2.5	4.5	3.0	3.0	4.0
Türkiye	2.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0
TOTAL	**2.6**	**2.4**	**2.6**	**2.2**	**1.8**	**2.1**	**2.8**	**2.6**	**2.7**	**2.6**	**3.9**	**2.7**	**2.8**	**3.6**

Source: Authors' elaboration based on survey results.

Table 4A.8: Advantages of UfM countries to host value chains

c) Advantages of destination country vs Sub-Sahara Africa

	Labour cost	Labour market regulation	Energy cost	Raw mat. prices	Transp. infrastructure	Transp. cost	Tax burden	Regulations (exc. Labour & environment)	Environment Regulation	Duty-free zones	Advantages from EU/country agreements	Country support	Access to market	Small amounts contract
Albania	2.0	2.0	2.0	1.0	4.0	4.0	4.0	4.0	2.0	3.0	5.0	4.0	4.0	4.0
Algeria	2.0	2.0	4.0	5.0	4.0	4.0	4.0	3.0	2.0	3.0	5.0	3.0	3.0	4.0
Bosnia and Herzegovina	2.0	4.0	4.0	4.0	4.0	2.0	1.0	1.0	1.0	3.0	4.0	3.0	4.0	3.0
Egypt	3.0	3.0	5.0	3.0	5.0	5.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0
Israel	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0
Jordan	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	4.0	5.0	5.0	5.0	5.0	4.0
Lebanon	2.0	2.8	1.8	1.8	2.8	2.8	2.8	3.3	2.5	3.0	3.8	2.0	2.8	3.0
Mauritania	3.0	2.0	2.0	3.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0	3.0	2.0	4.0
Montenegro	2.0	1.0	4.0	4.0	3.0	3.0	4.0	2.0	2.0	4.0	5.0	4.0	4.0	4.0
Morocco	2.5	2.0	3.0	3.0	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
North Macedonia	2.0	2.0	3.0	4.0	4.0	4.0	3.0	3.0	2.0	3.0	4.0	4.0	4.0	4.0
Tunisia	2.5	2.5	4.0	2.5	2.5	3.5	2.5	3.0	2.5	2.5	5.0	3.0	3.0	4.0
Türkiye	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
TOTAL	**2.2**	**2.3**	**2.9**	**2.7**	**3.1**	**3.1**	**2.8**	**2.8**	**2.5**	**3.1**	**3.9**	**3.0**	**3.2**	**3.4**

Source: Authors' elaboration based on survey results.

Table 4A.8: Advantages of UfM countries to host value chains

d) Advantages of destination country vs other countries

	Labour cost	Labour market regulation	Energy cost	Raw mat. prices	Transp. infrastructure	Transp. cost	Tax burden	Regulations (exc. Labour & environment)	Environment Regulation	Duty-free zones	Advantages from EU/country agreements	Country support	Access to market	Small amounts contract
Albania	2.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	2.0	3.0	5.0	4.0	4.0	4.0
Algeria	5.0	5.0	5.0	4.0	1.0	1.0	5.0	5.0	1.0	1.0	3.0	5.0	1.0	2.0
Bosnia and Herzegovina	2.0	4.0	4.0	2.0	1.0	1.0	4.0	1.0	1.0	3.0	4.0	3.0	4.0	3.0
Egypt	5.0	3.0	5.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	3.0
Israel	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	1.0	2.0
Jordan	4.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	4.0	5.0	5.0	5.0	5.0	4.0
Lebanon	3.5	2.3	1.3	1.5	1.5	1.8	3.3	2.3	2.8	2.5	3.8	1.3	3.3	2.8
Mauritania	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	1.0	1.0	3.0	2.0	4.0
Montenegro	3.0	3.0	3.0	4.0	1.0	1.0	4.0	2.0	4.0	4.0	5.0	4.0	4.0	4.0
Morocco	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
North Macedonia	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Tunisia	3.0	3.0	4.0	2.5	2.5	3.5	2.5	3.0	2.5	2.5	4.0	3.0	3.0	4.0
Türkiye	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
TOTAL	**3.2**	**2.7**	**2.8**	**2.4**	**2.0**	**2.2**	**3.0**	**2.6**	**2.8**	**2.8**	**3.7**	**2.9**	**3.2**	**3.2**

Source: Authors' elaboration based on survey results.

Table 4A.9: Will latest international events foster value chains between EU-27 and UfM countries?

	Not at all	It depends on mid/long term	Probably yes	Our office is aware of some cases
Albania		X		
Algeria			X	
Bosnia and Herzegovina			X	
Egypt				X
Israel			X	
Jordan		X		
Lebanon	X	X		X
Mauritania				X
Montenegro			X	
Morocco		X		X
North Macedonia		X		
Tunisia			X	X
Türkiye		X		

Source: Authors' elaboration based on survey results.

Annex B: Details of the survey

The information that was used for this chapter was collected in a specific survey addressed to representatives of EU-27 offices, agencies and similar institutions in non-EU UfM countries. The survey was conducted on-line from May 25th to June 13th, 2023.

Questionnaire

1.- What is your country (that is, the country represented by the office/administration/... you work in)? (If yours is an international organisation, please select 'Other' at the end of the list and fill in the blank.)

There were 28 alternatives for the 27 members of the EU plus one for 'other', for which the respondent had to give additional information (whether an EU institution, a local agent, etc.).

2.- What is your destination country (that is, the country in which the office/administration/... where you work carries out its activities)? If you or your office are responsible for more than one destination country, please complete the whole survey for each of the countries you are in charge of.

There were 14 alternatives for each of the non-EU 27 UfM countries.

1) Mauritania
2) Morocco
3) Algeria
4) Tunisia
5) Egypt
6) Israel
7) Palestine
8) Jordan
9) Lebanon
10) Türkiye
11) North Macedonia
12) Albania
13) Montenegro
14) Bosnia and Herzegovina

3.- Do you work at:

Alternatives:

1) Public/National Agency dedicated to international trade or economic relations
2) Economic representative of an embassy
3) International Chamber of Commerce
4) Office of an international agency
5) Other

4.- Once the report is finished, we might want to check some of the conclusions with you. Can you please include an email contact address?

PART 1: Identification of existing value chains between firms from your country and the destination country.

5.- Select the industries/sectors in which value chains are most common and the kinds of activities that most of the firms of that industry carry out in the destination country. Add as many rows as you need.

For each of the industries identified, the respondent had to select from among four alternatives that were fully detailed as follows.

1. The whole production process takes place in the destination country: The entire transformation from the raw materials to the finished good takes place in the destination country (**e.g.** all the stages to produce a pair of shoes are carried out in the destination country)**.**

2. Use of intermediate goods from the home country: The firm from your country sends intermediate goods to the destination country and there the good is finished (**e.g.** the firm sends tanned leather, soles, etc., and the shoe is assembled and finished in the destination country).

3. Production of intermediate goods for production in the home country: Production in the destination country consists of goods that are used in the production process of firms located in the home country (**e.g.** the firm in the destination country tans and cuts the leather, and the shoe is assembled and finished in your home country).

4. Uses intermediate goods from the home country and processes them in the destination country, which results in new intermediate products that will be used in the productive activities in another country (**e.g.** the firm from the home country sends pieces of leather to the destination country, they are sewn ~~at~~ in the destination country and the shoe is glued to the sole, etc**.**, in the home or another country).

6.- For at least the three most important industries you have selected in the previous question, please characterise the situation in the UfM country.

This question addresses three topics (firm~~'s~~ characteristics, links with the EU-27 and possibilities of changes in the value chains).

1) Workforce qualification. Alternatives: Low / Medium / High
2) Quality of the product. Alternatives: Low / Medium / High
3) Do the stages in the home country require a more/ less qualified workforce than in the destination country? Alternatives: Less / Equal / More / Don't know
4) % of the qualified staff that come~~s~~ from your country
5) % of the physical equipment that comes from your country
6) % of the intermediate inputs that come~~s~~ from your country

7) Characterise the link with the firm in the EU-27 countries:
   a. Subcontracting. Alternatives: Most of the cases / Some cases / None or anecdotal / Don't know
   b. Joint ventures**.** Alternatives: Most of the cases / Some cases / None or anecdotal / Don't know
   c. Owned subsidiary. Alternatives: Most of the cases / Some cases / None or anecdotal / Don't know
8) Do the conditions in your country allow producing what is now being produced in the destination country? Alternatives: Yes / No / Don't know
9) Do the conditions in the destination country allow hosting production that is now located in third countries (**e.g.** Southeast Asia)? Alternatives: Yes / No / Don't know

PART 2: The roles of firms from your country and from the destination country

7.- What relevance does the presence of value chains of firms from other EU-27 countries~~,~~ have in your destination country?

Alternatives: None, or negligible / Small / Important / Very important / Don't know

From which countries are these firms?

Compared with their presence in your country, this presence is:

Alternatives**:** Smaller /Similar / Larger

8.- What relevance does the presence of value chains of firms from countries outside of the EU-27 (e.g. UK, USA, Canada, Japan, China~~...~~) have in your destination country?

Alternatives: None, or negligible / Small / Important / Very important / Don't know

From which countries are these firms?

Compared with the presence of value chains of firms from the EU-27, this presence is:

Alternatives**:** Smaller / More or less, Similar / Larger

9.- What advantages does the presence of EU-27 value chains have for your destination country?

How important are each of the advantages below for the destination country using one of the following descriptive phrases: Very little; Little; Normal; Important; Very important

1) Technology transfer
2) Workforce training
3) New jobs
4) Increase in economic activity
5) Stimulus to environment-friendly production
6) Stimulus to achieve some of the SDGs
7) Examples of good managerial practices to imitate

PART 3: Specific role of SMEs and the existing opportunities for them.

10.- Participation of SMEs (firms with fewer than 100 employees) in value chains

One question asks about SMEs in the respondent's destination country and the other asks about SMEs in their home country.

1) Can SMEs in your destination country participate in value chains, given the economic or legal characteristics of your destination country and the requirements of firms from your country?

2) Can SMEs from your country establish value chains in the destination country given the economic or legal characteristics of your destination country (including the size of firms in the destination country and their activities)?

In each of them, the respondent describes the current evaluation of the barriers, choosing one of three alternatives:

1) There are barriers of different sorts that impede the participation of SMEs
2) There are barriers which can be overcome
3) SMEs do not encounter special barriers to participating in value chains

The respondent also describes the actual situation-choosing one of four alternatives:

1) SMEs do not participate in value chains
2) Participation of SMEs is small but successful
3) There is an important number of SMEs participating in value chains
4) Most participants in value chains are SMEs

11.- Separately, for SMEs from both the UfM country and the EU-27 country, evaluate the barriers to the participation of SMEs (firms with fewer than 100 employees) in value chains

1) Legal conditions (actual)
2) Legal conditions (perceived)
3) Economic conditions (actual)
4) Economic conditions (perceived)
5) Lack of knowledge about the possibilities
6) Lack of knowledge about managing these relations
7) Mismatch of requirements between demand and supply
8) Domination of the industry by large firms
9) The size of the other side firms make
10) Difficulty of participating

Alternatives: No importance / Some importance / Very important / Don't know

Also, specify any detail that might be relevant.

PART 4: Strengths, weaknesses, opportunities and threats associated with value chains between your country and your destination country.

12.- Are these factors advantages or disadvantages of your destination country's hosting parts of value chains in comparison with other parts of the world?

Evaluate **the factors** for the UfM country compared with a) your home country; b) Southeast Asia; c) Subsaharan Africa; d) other parts of the world**.**

The importance of such elements as barriers to hosting parts of value chains. An important disadvantage / A small disadvantage / Equal / A small advantage /An important advantage

1) Labour costs
2) Labour market regulations
3) Energy costs and availability
4) Raw materials costs and availability
5) Transport infrastructures
6) Transportation costs & delivery time
7) Tax burden
8) Regulations of any kind (out of labour, fiscal & environmental)
9) Environmental regulations
10) Duty-free zones
11) Advantages from EU/country agreements
12) Destination country government support
13) Access to markets
14) Possibility of contracting small amounts

13.- Evaluate the weakness of your destination country in locating parts of the value chains, in terms of:

1) Contracting the production
2) Managing the production
3) Availability of a qualified workforce
4) Labour productivity (compared with your country)
5) Availability of transport infrastructures
6) Functioning of transport infrastructures
7) Fulfillment of contracts (quality, terms..)
8) Telecommunication infrastructures
9) Cultural differences
10) Availability of raw materials
11) Availability of energy
12) Competition in finding a supplier

Alternatives: a) It is a big issue that restricts value chains; b) It is an issue that can be handled, although with difficulties; c) It is an issue that can be handled without special problems; d) It is not an issue at all; e) I do not have enough information to say.

The respondent could include a detailed explanation for each of them.

PART 5: Possibilities of longer/deeper value chains between firms from your country and the destination country.

14.- In what activities do you think there is potential to expand value chains from your country to your destination country?

1) Sector of activity:
2) Detail some reason for each sector of activity.

15.- Based on your knowledge and experience, what actions could governments undertake to foster the establishment of value chains in your destination country?

16.- Do you think that recent international events (COVID-19, war in Ukraine, energy price variability, disruptions in supply chains from Asia, etc.) might favour value chains between EU-27 and non-EU-27 Union for the Mediterranean countries?

Alternatives: Not at all / It depends on the mid- / or long-term effect of those events / Probably yes, probably in the future / Yes, and in our office, we are aware of some cases

17.- Please explain (industry, country, possibilities).

Characterisation of the respondents (origin and destination countries)

Prior to analysing the results of the survey, it is important to keep in mind the characteristics and nature of the respondents. Table 4.a1 provides the country of origin of the respondents along with their destination country, which is the subject of the information. As we can see, all the non-EU27 UfM countries are covered, which allows us to have a comprehensive picture of the phenomenon of value chains in the region. Table 4.a2 provides information about the kind of office/agency/institution the respondents work for.

Table 4.a1: Origin and destination country of the survey participants

	Home country of the respondents						
	Belgium	Netherlands	Spain	Greece	EU representation	Same as destination	**Total**
Mauritania			X				**1**
Morocco			X	X			**2**
Algeria			X				**1**
Tunisia			X			X	**2**
Egypt			X				**1**
Israel			X				**1**
Palestine							**0**
Jordan			X				**1**
Lebanon	X	X	X		X		**4**
Türkiye			X				**1**
Albania			X				**1**
Montenegro			X				**1**
North Macedonia			X				**1**
Bosnia Herzegovina			X				**1**
Total	**1**	**1**	**13**	**1**	**1**		**18**

Table 4.a2: Institutions in which respondents work

	Number
Economic representative of an Embassy	16
International Chamber of Commerce	1
Other (EU representation)	1
Total	**18**