

# **TRACKING AND ASSESSING INDUSTRIAL PERFORMANCE AND POLICY IMPACT IN THE WESTERN BALKANS SIX**



RegionalCooperationCouncil



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# LIST OF ABBREVIATIONS

<b>CAGR</b>	Compound Annual Growth Rate
<b>CBAM</b>	Carbon Border Adjustment Mechanism
<b>CEFTA</b>	Central European Free Trade Agreement
<b>CIP</b>	Competitive Industrial Performance Index
<b>CRM</b>	Common Regional Market
<b>CRMA</b>	Critical Raw Materials Act (of 2023)
<b>CRMs</b>	Critical raw materials
<b>DPP</b>	Digital Product Passport
<b>EC</b>	European Commission
<b>EIC</b>	European Innovation Council
<b>EIP</b>	Economic and Investment Plan
<b>EQulP</b>	Enhancing the Quality of Industrial Policy
<b>ETS</b>	Emissions Trading System
<b>EU</b>	European Union
<b>EV</b>	Electric vehicle
<b>FDI</b>	Foreign Direct Investment
<b>GDP</b>	Gross Domestic Product
<b>GHG</b>	Greenhouse gas
<b>GPP</b>	Green Public Procurement
<b>HHI</b>	Hirschman-Herfindahl Index
<b>ICJ</b>	International Court of Justice
<b>ICT</b>	Information and communication technology
<b>IED</b>	Industrial Emissions Directive (of the EU)
<b>IIP</b>	Index of Industrial Production
<b>IPA</b>	Instrument for Pre-Accession Assistance
<b>ISIC</b>	International Standard Industrial Classification of All Economic Activities
<b>IVA</b>	Industrial Value-Added
<b>JRC</b>	Joint Research Centre (of the European Commission)
<b>M&amp;E</b>	Monitoring and evaluation
<b>MHT</b>	Medium- and high-tech
<b>MNCs</b>	Multinational corporations
<b>MoU</b>	Memorandum of Understanding
<b>MRAs</b>	Mutual Recognition Agreements

<b>MRV</b>	Monitoring, reporting and verification frameworks
<b>Mt of CO<sub>2</sub></b>	Metric ton of CO <sub>2</sub>
<b>MVA</b>	Manufacturing Value Added
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>PPP</b>	Public-private partnership
<b>RCC</b>	Regional Cooperation Council
<b>REO</b>	Regional Economic Observatory
<b>S3</b>	Smart specialisation strategies
<b>SDGs</b>	Sustainable Development Goals
<b>SMEs</b>	Small and medium-sized enterprises
<b>TOE</b>	Ton of oil equivalent
<b>VA</b>	Value-added
<b>WB6</b>	Western Balkans Six
<b>WB6 CIF</b>	Western Balkans 6 Chamber Investment Forum
<b>WBIF</b>	Western Balkans Investment Framework
<b>WGID</b>	Working Group on Industrial Development

# EXECUTIVE SUMMARY

Industrial policy is experiencing a revival world-wide. The Western Balkans Six (WB6) are no exception to this trend. In addition to policy-making in the individual economies, there has also been an increasing number of initiatives at the regional level. Many of them have been inspired, shaped and supported by strategies and policies of the European Union (EU). One key initiative is the intention to create a *Common Regional Market* (CRM) of the Western Balkans Six. To move towards such a CRM, an Action Plan detailing a list of numerous “regional actions” to be implemented during 2021-2024 has been endorsed. One of the key areas of the Action Plan is to promote regional industrial development and innovation. The focus of this report is to track progress in the implementation of this agenda and to assess the performance of industry in the WB6.

## Industry-level performance assessment

From the macro-level assessment of the performance of the WB6’ industrial sectors in this report, the following observations stand out. Over the last decade, the WB6 have undergone some gentle structural change. The manufacturing sector slightly increased its contribution to the region’s GDP from 9% in 2010 to 10% in 2022 while the share of medium- and high-tech (MHT) industries in Manufacturing Value Added (MVA) went up from 13% to 17%. In fact, all WB6 economies have seen an expansion in their industrial capacity since 2010 and, with the exception of Albania, also in their manufacturing export capacity, implying at least some convergence towards the EU. For the WB6, it can also be observed that its *industrial capacity* has grown almost twice as fast as the EU’s over the last decade (3.54% vs. 1.99% annually) but the EU’s is still around 7 times larger than the WB6.

Similarly, thanks to growing almost two times faster (6.0% vs. 3.3% annually), the WB6 *manufacturing export capacity* has converged quite a bit towards the EU’s level over the last decade. Apart from Albania, all WB6 have also increased their world export market shares, pointing to some gains in the international competitiveness of their manufactures. Still, each of them runs a manufacturing trade deficit, revealing significant dependency on foreign supplies.

Moreover, production and export *upgrading* have remained rather elusive. Only in Serbia and North Macedonia has there been a continuous rise in the technology intensity of manufacturing output and exports. At the same time, however, imports of industry 4.0 goods have grown across the WB6, signalling a serious commitment to accelerate the digital transition in the region.

Meanwhile, regional integration in the manufacturing sector is still quite limited and not really picking up. In fact, the share of *intra-regional trade* in total manufacturing exports and imports has been on a downward trend since 2010 but stabilising after the CRM Action Plan was launched. On average, intra-regional trade accounts for 12% of the WB6's total manufacturing imports and for around 14% of their manufacturing exports, leaving quite some room for deepening *regional integration* of manufacturing systems.

Looking at the manufacturing sector's performance on social indicators, it is worthwhile noting that over the last decade it has created *jobs* in almost all WB6 economies (except Montenegro), but *labour productivity* gains have been less widespread. The WB6 region as a whole, however, has seen both employment (+3.4% p.a.) and labour productivity (+0.5% p.a.) grow between 2010 and 2022. The *average wages* paid in the manufacturing sector have grown by between 2% and 4% a year across the WB6 (apart from Montenegro where they declined). They are still much lower than in EU member states but the gap is slowly narrowing.

When it comes to the environmental footprint of the WB6's manufacturing sectors, notable advances can be observed in energy efficiency and emissions intensity. In fact, for the WB6 region as a whole, energy efficiency has improved by 43% between 2010 and 2022, measured as an increase in the MVA created per toe of energy consumption from US\$ 2,446 to US\$ 3,506. The emissions efficiency of the region's industry has improved even more pronouncedly (+65%), clearly outperforming the EU (+20%). Gains in resource efficiency have been more modest but picked up a bit during the CRM implementation period. In all these areas, considerable gaps remain vis-à-vis the EU. Overall, however, the WB6 have been quite successful in *decoupling* industry expansion from its environmental impact. Their ambitions to green their industries are further reflected in growing imports of environmental goods (incl. clean technologies) with a notable uptick during the CRM period.

## Performance assessment for priority sub-sectors

Synthesising the results of sub-sector performance assessment, it is worthwhile highlighting that output in priority sub-sectors has expanded rather modestly during the CRM years but a clear upward trend in productive and export capacities is observable when taking a longer-term perspective (with the exception of Montenegro's and North Macedonia's metal-processing industries where capacities today are lower than in 2010 but higher than in 2020).

WB6 are still niche players in the global markets for these industries but for the most part they have been able to increase their world export market shares since the inception of CRM (apart from the automotive sector where Serbia and North Macedonia have taken big additional chunks of the world export market after 2010 but where the momentum has slowed a bit since the launch of CRM). Overall, trade deficits also dominate in the sub-sectors (the only exception being Serbia's surplus in its agri-food trade balance), revealing low degrees of self-sufficiency.

Among the priority sub-sectors, agri-food is the one with the largest share of intra-regional trade. On average, WB6 source 24% of their agri-food imports from their regional peers



and ship 42% of their agri-food exports to them. However, there are significant variations across economies: Montenegro's agri-food trade is strongly regional whereas Albania's is not. In the metal-processing industry, intra-WB6 imports and exports, on average, account for a bit more than a quarter. Again, there are differences between the WB6 economies: While Kosovo\* trades significantly in metal-processing products with its WB6 peers, Serbia does so only in a very limited fashion. Meanwhile, in automotive intra-regional trade is negligible; regional value chains have not yet formed and no clear trend towards integration is visible. On average, intra-regional exports account for less than a tenth of total automotive exports from the region while intra-regional imports make up only 4%. In general, the longer-run trend for regional integration in the priority sub-sectors has rather been downward but some stabilisation can be noted since the start of CRM.

Turning to the sub-sectors' social performance, it deserves to be highlighted that, with the exception of metal-processing (where North Macedonia and especially Montenegro recorded some employment losses), all sub-sectors have created additional jobs across the WB6 since 2010. This positive trend was largely continued during the CRM implementation period. Similarly, there have been widespread increases in labour productivity since the inception of CRM (whereas the longer-term trend since 2010 has been less positive, with declines in certain sub-sectors and certain WB6 economies, especially in North Macedonia and Serbia).

On the environmental front, long-run energy efficiency improvements can be observed across WB6 economies and sub-sectors, and especially in the agri-food and metal-processing industries. They have been least pronounced in the automotive sector, where Bosnia and Herzegovina even saw some deterioration over time. Progress in reducing the emissions intensity of sub-sectoral production has also been notable but less widespread. Finally, decoupling has not been a universal phenomenon across sub-sectors and WB6 economies but still quite common.

## Emerging policy implications and proposals

The final chapter of the report identifies some policy implications derived from the performance assessments in the preceding chapter and proposes a few policy initiatives that could be prioritised to promote regional industrial development in the Western Balkans Six. These recommendations are formulated around four core themes: (1) Policy alignment and coordination, (2) Strengthening the regional institutional framework, (3) Leveraging the EU and EU accession process, and (4) Ideas on policy initiatives in key areas with a focus on priority sub-sectors.

Stronger policy alignment is primarily about a closer interlocking of policy-making at the level of individual WB6 economies with regional policy-making (e.g. in the context of the Common Regional Market Action Plans, 2021-2024 and 2025-2028) in order to avoid contradictions while maximising synergies. It is also about closer alignment to EU industrial policy.

.....

\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

There is also certain room for institutional strengthening of regional bodies and platforms whose task is to coordinate and synchronise policies and initiatives across the WB6. First and foremost, this means bolstering and vitalising existing structures like the Regional Cooperation Council (RCC) and its Working Group on Industrial Development (WGID) on the public sector side but also the Western Balkans 6 Chamber Investment Forum (WB6 CIF) on the private sector side. A few ideas will be presented on how these structures can play a more prominent role in providing industrial intelligence, monitoring and evaluation of progress and impacts, and encouraging intra-regional collaboration.

The WB6 can also leverage their partnership with the EU and the EU accession progress to spur industrial development and regional integration. Possible avenues include linking up to the EU initiatives on Critical Raw Materials, deepening of integration into the EU industrial ecosystems and alliances, alignment with the EU's decarbonisation agenda, and leveraging EU funding and support mechanisms.

Finally, a few ideas are presented on how priority sub-sectors such as the agri-food, automotive and metal processing industries could be strengthened and regionally more integrated with targeted initiatives. They are complemented by proposals on cross-cutting measures related to the upgrading of transport infrastructure, improvements in the access to finance, strengthening of traceability of industrial products, and development of a regional framework for voluntary Green Public Procurement criteria.

# 1. INTRODUCTION

There are a multitude of ways and options to undertake industrial diagnostics and industrial policy assessments. One option is to start from the *Enhancing the Quality of Industrial Policy* (EQuIP) toolbox<sup>1</sup>. This can potentially be combined with UNIDO's methodologies for the Competitive Industrial Performance Index (CIP)<sup>2</sup> and their Industrial Country Diagnostics<sup>3</sup> and, if needed, complemented by other suitable methodologies for sector/ value chain (e.g. *Observatory of Economic Complexity*) or environmental assessments.

Relying on this mix of methodologies enables a comprehensive analysis of an economy's industrial performance, comprising not only the economic but also the social and environmental dimensions of industrial development. This allows for a holistic assessment of *inclusive* and *sustainable* industrial development, and not just of changes in industrial competitiveness more narrowly. Such an approach acknowledges that industrial policies typically pursue multi-dimensional objectives and is in line with the broader development aspirations of the Western Balkans Six and the objectives associated with the creation of Common Regional Market (CRM).

At the same time, these methodologies can also be applied for examining the performance of specific sub-sectors and value chains. They, hence, can equally be used to track and monitor the performance of those sub-sectors that have been prioritised or are targeted by a given policy. Such analysis helps to check whether they have indeed developed as planned, for example whether they have contributed to propel economic growth, generate exports, create employment or, more broadly, drive economic transformation.

Our approach rests on the following three core pillars: First, it is evidence-based in that our industry performance assessments are grounded in hard facts and statistics. Second, it makes use of international data sources (time series data) where nomenclatures are harmonised across economies and where the numbers reported have been quality-checked. Third, it relies on cross-economy comparative analyses to contextualise an economy's performance and benchmark it against that of peers and role models.

This report is structured as follows. Chapter 2 takes stock and provides a systematic overview of the regional industrial policy framework in the Western Balkans Six, sketching the EU context and describing the CRM Action Plan's main objectives, areas of intervention, target groups, and measures foreseen before integrating them into an EQuIP-style "intervention logic" diagram. Chapter 3 tracks and assesses impacts of

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1 Each tool can be downloaded for free from [www.equip-project.org/toolbox/](http://www.equip-project.org/toolbox/).

2 See UNIDO (2020) and <https://stat.unido.org/cip/> for more details on the index's components and computation.

3 All the reports published so far are available from: [www.unido.org/resources-publications-publications-type/industrial-country-diagnostics](http://www.unido.org/resources-publications-publications-type/industrial-country-diagnostics). See, for example, UNIDO (2021a, 2021b, 2024a).

CRM-related initiatives and measures on the performance of the industrial sectors of the Western Balkans Six. It undertakes an in-depth analysis of industry performance in the Western Balkans Six which relies on a battery of indicators drawn from the EQuIP toolbox. This analysis is conducted at two levels: It involves a macro-level assessment for the manufacturing sector as a whole and a sub-sector assessment which focuses on the priority sub-sectors specified in the CRM Action Plan 2021 - 2024. Chapter 4 presents some policy implications and ideas on how a few policy initiatives could be prioritised to promote regional industrial development in the Western Balkans Six.

## 2. STOCK-TAKING OF THE INDUSTRIAL POLICY FRAMEWORK IN THE WESTERN BALKANS SIX

The present section takes stock of the regional framework that provides strategic directions to industrial policy in the Western Balkans Six. This assessment will be guided by the EQulP methodology for reconstructing the underlying intervention logic.<sup>4</sup> This will allow us to map the current regional industrial policy framework and key initiatives and to provide a systematic overview.

The EQulP approach broadly distinguishes between different steps and categories in the design of industrial policies (see Figure 1). According to the EQulP intervention logic, the first step is to locate and embed industrial policy within an economy's or region's wider development agenda. This implies identifying and outlining major themes and areas where industrial policy can contribute to achieving broader development goals. In our case, this step will be about identifying major strategic directions that are prioritised in the EU's industrial policy and the different relevant EU initiatives for the Western Balkans Six.

The second step then consists of defining and articulating concrete (ideally quantitative and measurable) objectives that are to be achieved by implementing the industrial policy and that link to, or support achievement of, the broader development goals identified in the first step.

Once the major objectives are determined, the next step in the industrial policy design process is to consider, for each of them, potential areas for policy to intervene and then to prioritise the most promising among them. In EQulP, an *Intervention Area* for industrial policy is defined to be a concrete change in the productive sector that is deemed essential to achieving a certain industrial policy objective.<sup>5</sup> In other words, defining intervention

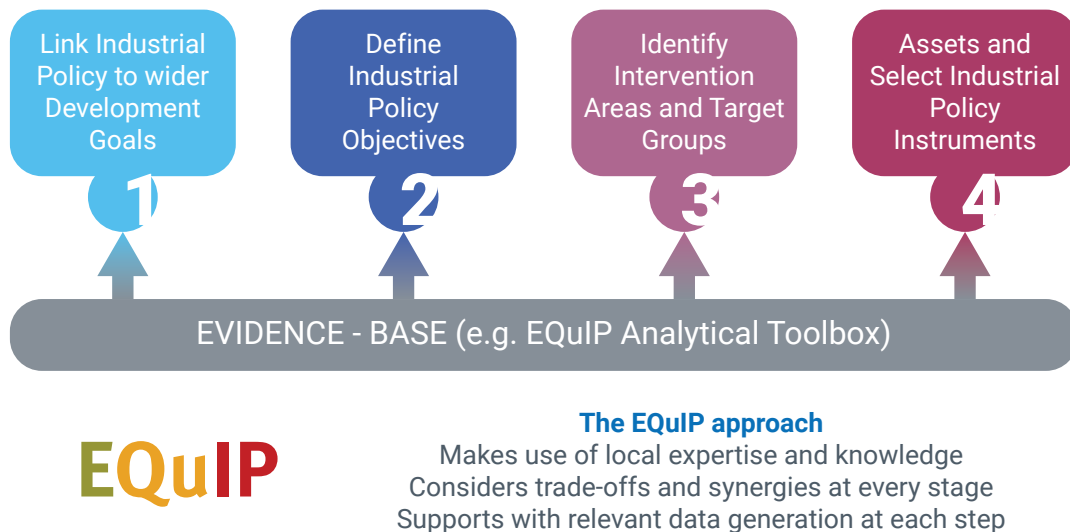
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<sup>4</sup> For further details, see EQulP Tool E which is available here: [www.equip-project.org/wp-content/uploads/2017/09/E-Industrial-Policy-Design-July-2017.pdf](http://www.equip-project.org/wp-content/uploads/2017/09/E-Industrial-Policy-Design-July-2017.pdf).

<sup>5</sup> While policy objectives and intervention areas are inherently connected, they are not quite the same thing. Intervention areas are more specifically concerned with the preconditions for achieving a given objective. For example, industrial policy may have the objective of increasing the level of manufacturing production in the economy where one potential intervention area would be to increase firm's productivity levels.

areas for industrial policy is a lot about fixing the specific preconditions for achieving a concrete objective and about identifying the key drivers and enablers of the desired industrial development trajectory. This often also involves the definition of target groups (i.e. economic actors whose behaviour is to be steered or changed).

**Figure 1: Reconstructing the intervention logic: Major steps in industrial policy design process**



The final step in the EQulP intervention logic consists of defining *how* the government will intervene by specifying which policy instruments it will deploy to implement the industrial policy.

In the following, these categories will be picked up and discussed and then reflected in the diagram used for mapping the regional industrial policy framework implemented in the Western Balkans Six. In particular, we will carefully review the *Common Regional Market (CRM) Action Plan for 2021-2024*, especially the part on the Regional Industrial Area, in order to identify key (1) industrial policy objectives, (2) intervention areas and (3) policy instruments and initiatives at the regional level.

## 2.1. THE CONTEXT: INTERNATIONAL AGREEMENTS AND EU INDUSTRIAL POLICY FRAMEWORK

In a first step, we want to identify the wider development agenda which the Western Balkans Six's regional industrial policies are to contribute to. As elsewhere, industrial strategies and policies in the Western Balkans Six are embedded in and make reference

to international agreements and commitments. The most relevant ones include the **UN's Agenda 2030**, including the Sustainable Development Goals (SDGs) that it specifies, and the **Paris Agreement** on climate change from 2016. These international agreements have also inspired industrial policy-making at the EU level, as is illustrated in Figure 2.

**Figure 2: Relevant global and EU strategies guiding regional industrial policy**



The **European Green Deal**, launched by the Commission in December 2019, is an integral part of the EU's strategy to meet the SDGs and Paris commitments. It represents a deliberate attempt to start decoupling economic growth from resource use and from environmental impacts. It is, thereby, the manifestation of a new paradigm of sustainable progress, encapsulating a shift from a "can't afford economically to overly protect the environment" attitude to a "can't afford to ignore the environmental effects of business if we want to remain competitive" stance that factors in the increasing costs of inputs and the rising (factual and anticipated) environmental and social costs.

The **New Industrial Strategy for Europe**, published by the Commission in 2020, translates the Green Deal into a sustainable vision for Europe's productive sector and seeds new ideas on resilience. Even pre-COVID-19, the EU began assessing new paths to ensure sustainable sources for primary and secondary raw materials needed to scale up clean and digital technologies and to bring some manufacturing sectors back to the EU. The document also proposes a new type of governance of industrial ecosystems (a "partnership approach to governance") that brings together a range of crucial players to create targeted and lasting solutions.

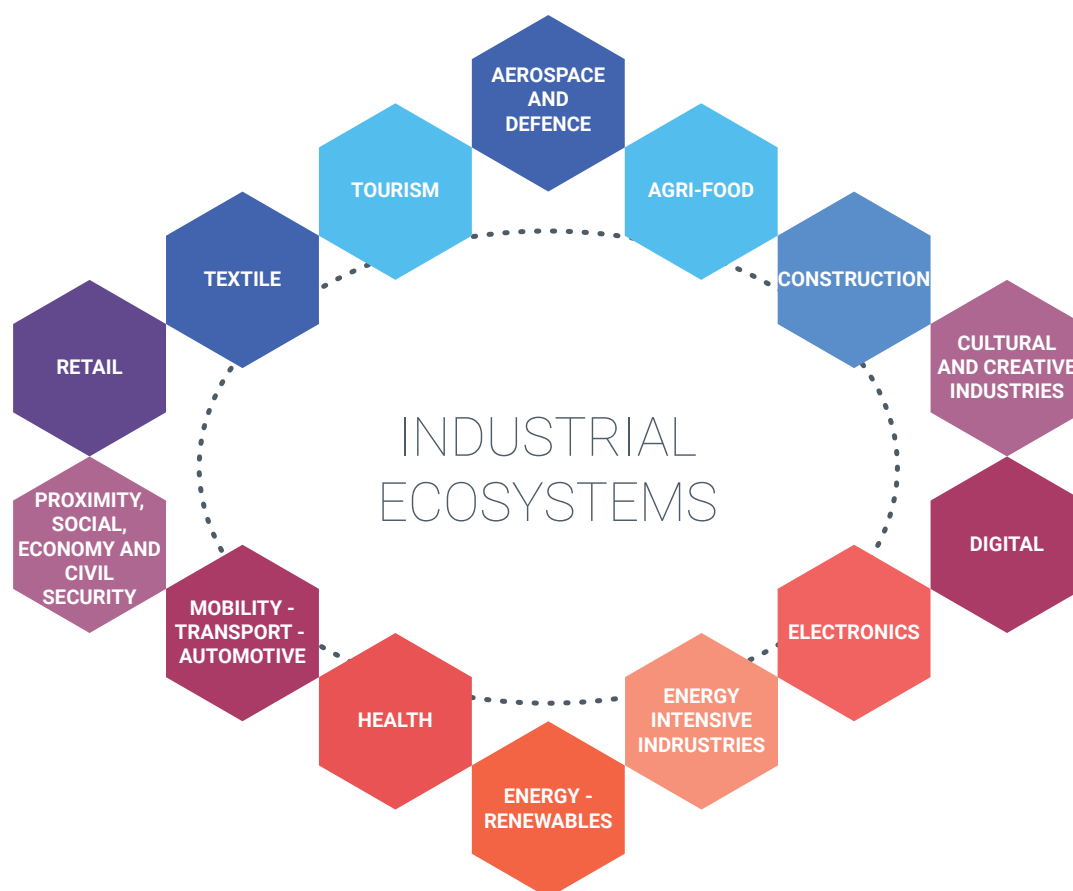
**Figure 3: Fundamentals of EU's industrial transformation as per the New Industrial Strategy for Europe**



*Source: Factsheet on the new Industrial Strategy for a globally competitive, green and digital Europe*

To make the desired twin (i.e. green and digital) transformation of Europe's industry happen, the Commission recognises that progress needs to be achieved in a set of fundamental factors. In other words, the document identifies seven intervention areas that underpin the New Industrial Strategy for Europe. They are depicted in Figure 3.



**Figure 4: Priority industrial ecosystems identified in the updated EU Industrial Strategy**

Source: European industrial strategy, available from: [https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy\\_en](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-industrial-strategy_en)

Only one year later, under the impression of the economic fallout caused by the COVID-19 pandemic, the European Commission updated its Industrial Strategy with the motto of “building a stronger Single Market for Europe’s recovery”. In an attempt to take into account the lessons learned from the crisis and sustain investment, it focused on (1) strengthening the resilience of the Single Market, (2) supporting Europe’s Open Strategic Autonomy through dealing with dependencies, and (3) supporting the business case for the twin transitions.

It emphasized the importance of, first, a systematic mapping of key strategic dependencies and capacities and, second, a regular monitoring of developments in the Single Market, including through an annual analysis of the state of Single Market across 14 industrial ecosystems of high priority, see Figure 4. By identifying 14 key industrial ecosystems, the **updated EU Industrial Strategy** deviates from a purely horizontal approach to industrial policy and also introduces a vertical (i.e. sector-targeting) element.

The **Green Deal Industrial Plan for the Net-Zero Age** from 2023 spells out the objective of accelerating progress towards the EU’s 2030 climate and energy targets and the transition

to climate neutrality, while boosting the competitiveness of EU industry, creating quality jobs and supporting the EU's efforts to become energy-independent.

It focuses on (i) the resilience of EU single market, (ii) EU's dependencies in key strategic areas, (iii) support for small and medium-sized enterprises (SMEs) and start-ups, and (iv) accelerating the green and digital transitions. This Green Deal Industrial Plan is based on four pillars:

1. A predictable and simplified regulatory environment
  - ◆ leading to the passing of legislation such as the Net-Zero Industry Act, Critical Raw Materials Act, Eco-design for Sustainable Products Regulation, Reform of Electricity Market Design, Regulatory Framework for Batteries, etc.
2. Speeding up access to finance
3. Enhancing Skills
4. Open trade for resilient supply chains

The **Net-Zero Industry Act** from 2024, one of the outputs under pillar 1 mentioned above, aims to establish the conditions for scaling up the manufacturing capacity of net-zero technologies within the EU, to support the EU's 2030 decarbonisation targets, and to ensure the security of supply for net-zero technologies needed to safeguard the resilience of Europe's energy system. To achieve this, the EU and its member states are to create a simple legal framework for EU-based net-zero industries and to promote investments in the production capacity for products and technologies that are essential for the EU's climate neutrality goals.

Figure 5 summarises the priority themes and objectives of the EU's key industrial policy documents that were introduced above. In a nutshell, four themes emerge as top priorities for the EU:

1. Shifting to a green economy
2. Ensuring a just transition that is socially sustainable and acceptable
3. Unleashing the enablers of future development and prosperity
4. Increasing economic resilience against shocks

For each of these priority themes, concrete objectives for industrial policy can be distilled from the different documents. The shift to a green economy, for example, is to be achieved through increasing energy and resource efficiency, decarbonisation and circularity of industry. This transition needs to be a "just transition", i.e. it aims to leave no one behind and to equip labour for the future through re-skilling and up-skilling of industrial workforces. To unleash the enablers of future-proof development trajectories means for industrial policy to, first and foremost, promote digitalisation (the second leg of the "twin transition"), to encourage research and innovation, and mobilise adequate financing for the transition. Finally, to increase the resilience of its economic system, the EU's industrial policy strives to further deepen integration in the Single Market, to ensure access to critical resources, and to stabilise supply chains.

Figure 5: Summary of priority themes and objectives of key industrial policy documents of the EU

	Green Economy				Just Transition		Enablers			Resilience			
	Energy and Resource Efficiency	Decarbinization	Biodiversity, food Systems & Rural Areas	Circular Economy	Leave no one behind	Re-skilling	Financing the Transition	Research and Innovation	Digitalisation	Deeper integration in single market	Access to critical resources and intermediate	Stable and sustainable supply chains	Industrial ecosystem
2019 European Green Deal	Energy Efficiency Directive	Propose CBAM (phase in 2023-2026)	Land use, Forestry & Agriculture Strategies & Regulations	Circular Economy Action Plan 2020	Just Transition Fund & European Social Fund+ Plus	European Social Fund+ Plus	European Green Deal Investment Plan	Horizon Europe	EU Digital Strategy (2015)				
		EU Emissions Trading Systems					InvestEU	Innovation Fund (100% fed by Emissions Trading Systems)					
2020 New Industrial Strategy for Europe		Climate Neutral Industry & New Clean Hydrogen Alliance			Propose Social Climate Fund to address energy & transport poverty	European Skills Agenda and Launch European Pact for skills		Embedding the spirit of innovation		Single Market Enforcement Action Plan & Task Force	Critical Raw Materials Alliance	Global level playing field & bring some manufacturing back to EU	Sets out new industrial ecosystem approach
COVID-19							NextGenerationEU				INTENSIFIED		
2021 Update: Building a Stronger Single Market for Europe's Recovery										Single Market Programme (2021-2027)	Mapping strategic dependencies & capacities in Annual Single Market Report	14 industrial ecosystems identified	Analysis of steel
										1 <sup>st</sup> Edition Annual Single Market Report			

Green Economy		Just Transition		Enablers		Resilience			
2021-2022	2022 Strategy for Circular Textiles		Digital Education Action Plan (2021-2027)		2021 Digital Europe Programme				
2023 Industrial Plan for the Net-Zero Age	P1: Net-zero Industry Act	Pillar 3 Enhancing Skills EU Skills Agenda and Pact for Skills		Pillar 2 Speeding up access to finance	Horizon Europe	Pillar 1 Predictable and simplified regulatory environment	P1: Critical Raw Materials Act	Pillar 4 - Trade and resilient supply chains	
	CBAM phase in: cement, iron & steel, aluminium, fertiliser, electricity	European Strategy for Universities & proposed Net-zero Industry Academies					Proposed Critical Raw Material Club	Support WTO & Free Trade Agreements, Screen FDI	

## 2.2. RELEVANT EU INITIATIVES IN THE WESTERN BALKANS SIX

Relevant recent European strategies and support initiatives include the EU's Green Agenda for the Western Balkans, whose implementation is to be promoted through the Economic and Investment Plan, both dating from late 2020, as well as the New Growth Plan for the Western Balkans from late 2023.

The **Green Agenda and Action Plan** rests on 5 pillars, including decarbonisation and climate resilience as well as circular economy. Industrial Policy is seen as key to achieving the Green Agenda, informed by Smart Specialisation Strategies and increasing research, innovation and digitisation. Since 2007, the Instrument for Pre-Accession Assistance (IPA) is the means by which the EU has supported reforms in the enlargement region with financial and technical assistance. The IPA III budgetary envelope for the period of 2021-2027 is €14.2 billion and supports the priorities and flagships of the **Economic and Investment Plan** (EIP).

The EIP investment packages mobilise funding for the region, not least to ensure the implementation of the Green Agenda (including with up to €9 billion in EU funding from IPA III). The EIP aims to spur the region's long-term recovery, accelerate the green and digital transitions, and foster regional cooperation and convergence with the EU. It identifies 6 priority areas, including private sector development, clean energy, environment and climate, and human capital development.

The Western Balkans Investment Framework (WBIF) is the main vehicle for implementing the EIP. It is a coordinated blending platform for financing priority infrastructure projects through grants from IPA and bilateral donors, loans from the participating financial institutions, and economies' finance.

The **New Growth Plan for the Western Balkans**, launched in November 2023, focuses on accelerating convergence with the EU through the following four pillars, of which the first two in particular reinforce the importance of the EU Single Market and regional common markets:

- i. Enhancing economic integration with the European Union's single market
- ii. Boosting economic integration through the Common Regional Market
- iii. Accelerating fundamental reforms
- iv. Increasing financial assistance to support the reforms through a €6 billion Reform and Growth Facility for the Western Balkans Six through WBIF

The New Growth Plan builds on the existing enlargement methodology and creates a package of mutually reinforcing measures. The aim is to speed up accession negotiations by providing incentives to Western Balkans Six economies to expedite the adoption and implementation of the EU acquis, while accelerating the socio-economic convergence between the region and the EU.

Backed by EUR 6 billion in non-repayable loans and support available through the *Reform and Growth Facility* for the Western Balkans Six, the New Growth Plan seeks to bring the Western Balkans Six economies closer to the EU by offering some of the benefits of EU membership in advance of accession. At the same time, the Western Balkans Six economies are requested to submit to the European Commission economy-specific Reform Agendas listing different measures that would need to be implemented in exchange for access to the funding. These Reform Agendas are structured around four policy areas: 1) business environment and private sector development; 2) green and digital transformation; 3) human capital development; and 4) fundamentals of the EU accession process.<sup>6</sup> The New Growth Plan was praised for its solid foundations and accurate identification of priorities but criticised for lacking important details on concrete goals and measures.<sup>7</sup>

Another important initiative that is supported by the EU is the aspiration to establish a **Common Regional Market** (CRM) comprising the WB6; it will be discussed in more detail further below. All these initiatives shape the regional economic development and industrial policy agenda.

Figure 6 illustrates how different EU priority themes (i.e., those highlighted in Figure 5 above) are reflected and embedded in the EU's initiatives for the Western Balkans Six and the CRM Action Plan. It shows how the Green Economy and Just Transition priorities have been emphasized in the earlier agenda while increasing resilience is a particular focus of the CRM and the New Growth Plan.

6 OECD (2024): Western Balkans Competitiveness Outlook 2024: Regional Profile

7 Jovanović (2024): "The EU's new Growth Plan for the Western Balkans: solid foundations but shaky details".

Figure 6: Reflection of strategic EU priorities and objectives in its initiatives for the Western Balkans Six

Priorities Objectives	Green Economy				Just Transition		Enablers			Resilience			
	Energy and Resource Efficiency	Decarbonization	Biodiversity, food Systems & Rural Areas	Circular Economy	Leave no one behind	Re-skilling	Financing the Transition	Research and Innovation	Digitalisation	Deeper integration in single market	Access to critical resources and intermediate	Stable and sustainable supply chains	Industrial ecosystem
Start COVID-19 in early 2020	Regional Energy Efficiency Programme	Pillar 1 Decarbonisation	Pillar 3 Depollution	Pillar 2 Circular Economy	European Pillar of Social Rights		Instrument for Pre-Accession Assistance (IPA) III	Included in Horizon Europe funding	(2018) Digital Agenda for Western Balkans				
			Pillar 4 Sustainable Food Systems & Rural Areas										
Nov. 2020 Green Agenda and Action Plan for the Western Balkans (2021-2030)	Green for Growth Fund	WB alignment to EU Emissions Trading System & CBAM	Pillar 5 Biodiversity & ecosystems		Coal Region in Transition initiative for the Western Balkans (2020-2023)		Western Balkans Investment Framework (WBIF)		Digital Future Flagship				Propose IPs that integrate into new EU industry ecosystems
2020 Economic & Investment Plan for the Western Balkans		Proposes early inclusion in EU Emission Trading System			Propose Just Transition Mechanism for Western Balkans								

Priorities	Green Economy				Just Transition		Enablers		Resilience			
	Invest in modern energy efficient technologies			Green & circular economy value chains		Mutual Recognition Programme for professional qualifications		Proposed integration European Research Area	Proposed integration pan-European Digital Area	Creates Common Regional Market for Western Balkans	Inclusion in international supply chains	Highlights automotive, metal processing, tourism & digital industries
2020 Common regional Market Action Plan 2021-2024												
2023 New Growth Plan for the Western Balkans							Pillar 3 New Reform and Growth Facility			Pillar 1 Enhance integration with EU Single Market Pillar 2 Boosting Common Regional Market	Proposes partnership in sustainable raw material value chains	



## 2.3. OVERVIEW OF INDUSTRIAL POLICIES AT THE LEVEL OF THE WB6

After the World War II, the Western Balkans Six economies pursued quite pronounced industrial policies, typically as part of regular five-year economic plans that had a strong focus on industrialisation. The collapse of socialism heralded a radical U-turn in economic policies, with government virtually abstaining from direct interventions in the economy for the next two decades or so.

In the late 2000s, however, some of the Western Balkans Six economies began to rethink the role of government in the economy and adopted formal industrial strategies or policies.<sup>8</sup> The first to do so was North Macedonia in 2009, followed by Serbia in 2011 and Montenegro in 2016. Kosovo\* issued its Strategy for the Industrial Development and Business Support in 2023 while an industrial policy is under development in Albania. While there is no document for Bosnia and Herzegovina as a whole, the entity of Republika Srpska has been pursuing an Industry Development Strategy in relation to its entity for quite some time already. Table 1 provides an overview.

**TABLE 1: OVERVIEW OF INDUSTRIAL POLICIES IN WESTERN BALKANS SIX**

	Albania	Bosnia and Herzegovina	Kosovo*	Montenegro	North Macedonia	Serbia
<b>Year of 1st Industrial Policy (IP)</b>	Not yet	Not yet	2023	2016	2009	2011
<b>Most recent IP</b>	Not yet	Not yet	2023	2019-2023	2018	2021-2030
<b>Current Industrial Policy</b>	n/a	None for Bosnia and Herzegovina as a whole (but Republika Srpska has an Industry Development Strategy)	Strategy for Industrial Development and Business Support 2030	Industrial Policy Strategy 2019-2023	Industrial Strategy of North Macedonia 2018-2027	Strategy for Industrial Development 2021-2030

<sup>8</sup> See UNIDO (2024b) as well as Jovanović and Vujanović (2023).

	Albania	Bosnia and Herzegovina	Kosovo*	Montenegro	North Macedonia	Serbia
<b>What stage</b>	Under development	n/a	Approved to start implementation	Expired but under implementation Industrial policy needs update or extension.  Report on the execution of 2022 action plan adopted in March 2023.  In early 2023, launched the evaluation of the 2019-2023 industrial policy strategy.	Under implementation	Under implementation.  New Action Plan for the implementation of the industrial strategy for 2024-2025 was adopted in April 2024. Annual reports on the implementation of the industrial strategy were published in 2021, 2022 and 2023.

In addition, attempts to implement industrial policy were complemented and reinforced by smart specialisation strategies (S3). These are strategies that identify and select a limited number of priority areas that are then supported through the use of industrial, educational and innovation policies while focusing on their strengths and comparative advantages. They were triggered by the EU's Innovation Union initiative, adopted in 2010. For EU member states, putting an S3 in place has become an ex-ante conditionality to access EU Structural Funds. While the Western Balkans Six economies are not obliged to adopt such S3s for access to IPA funds, they all started working on them in recent years with support from the European Commission's Joint Research Centre (JRC).<sup>9</sup> The first to adopt a smart specialisation strategy was Montenegro in 2019, followed by Serbia in 2020 and North Macedonia in 2023. Albania and Kosovo\* have initiated the process of developing their S3, whereas Bosnia and Herzegovina is preparing to start the process.<sup>10</sup>

9 See Bartlett et al. (2019), Radosevic and Zoretic (2024), and UNIDO (2024b).

10 See Smart Specialisation Platform: <https://s3platform.jrc.ec.europa.eu/eu-enlargement>

## 2.4. THE COMMON REGIONAL MARKET (CRM) ACTION PLAN AND (RECONSTRUCTING) THE INTERVENTION LOGIC UNDERLYING ITS INDUSTRIAL AREA

In 2020, the leaders of the Western Balkans Six launched an initiative to establish a **Common Regional Market (CRM)**. The EU expressed its backing for this initiative, hailing it as an integral part of the region's EU accession process and as a 'stepping stone' for integrating the Western Balkans Six economies into the EU Single Market even before EU accession. The EU supports the development of a CRM with financing under the Instrument for Pre-Accession Assistance (IPA III).<sup>11</sup>

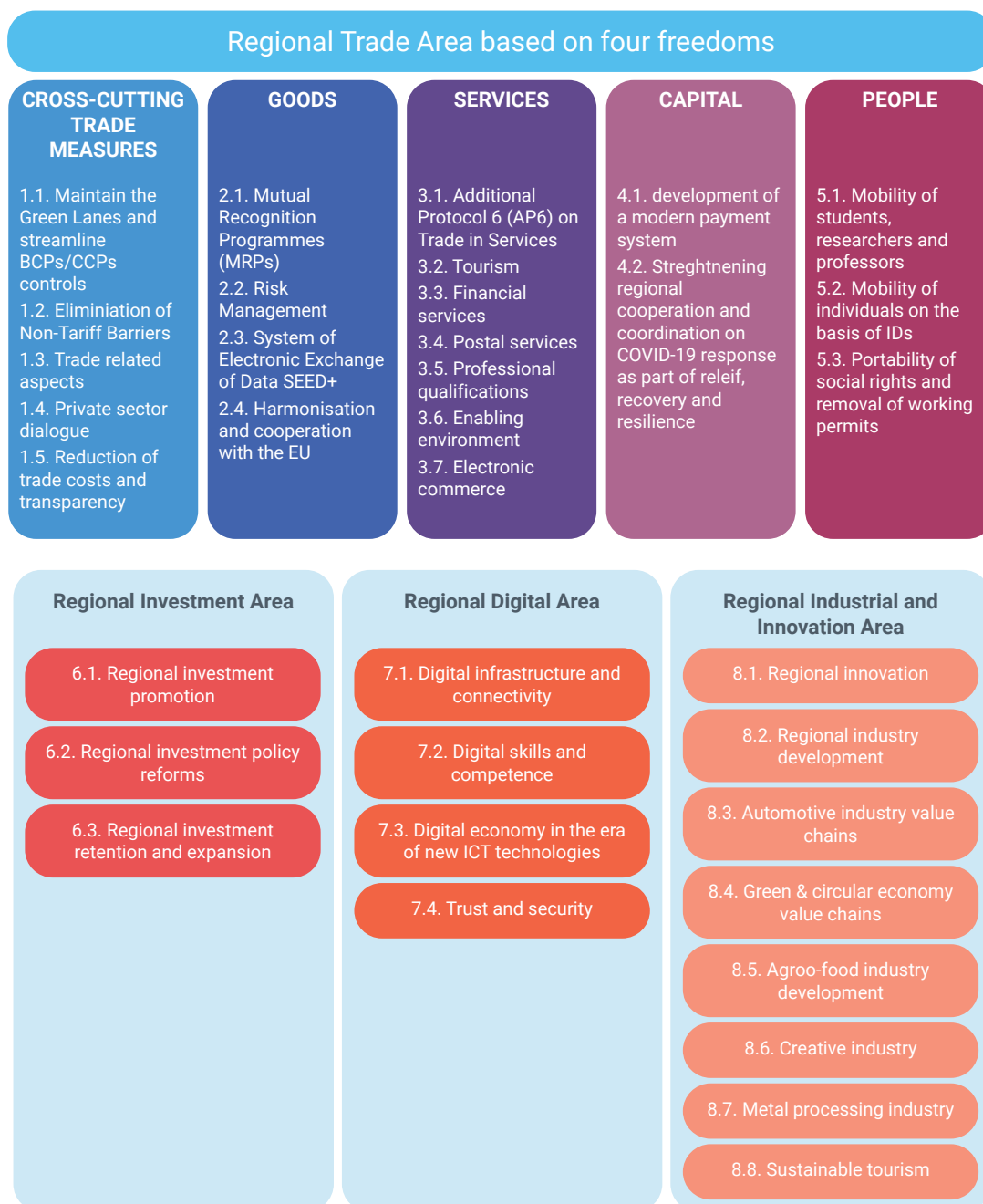
To translate this agenda into concrete measures, an **Action Plan** for implementing the CRM spells out four key areas of regional action (of which Figure 7 provides an overview):

- i. Regional Trade Area based on four freedoms, i.e. the free movement of goods, services, capital and people
- ii. Regional Investment Area
- iii. Regional Digital Area
- iv. Regional Industrial and Innovation Area

Responsibility for implementing the CRM Action Plan lies with the Western Balkans Six economies themselves. The Secretariats of the Regional Cooperation Council (RCC) and the Central European Free Trade Agreement (CEFTA) are the leading regional organisations helping with its implementation.

In the remainder of this report, a particular focus will be on the CRM and especially on last of the four areas, i.e. the Regional Industrial Area.

.....  
11 See Action Document for "EU support to the development of a Common Regional Market (CRM)", available from: [https://neighbourhood-enlargement.ec.europa.eu/document/download/db6ac527-a3f3-4a7b-b077-8b89df3320da\\_en](https://neighbourhood-enlargement.ec.europa.eu/document/download/db6ac527-a3f3-4a7b-b077-8b89df3320da_en)

**Figure 7: The 4 Key Areas of the Common Regional Market Action Plan (2020)**

As illustrated in Figure 6, various priorities of the EU's industrial strategy are also reflected and incorporated in the CRM Action Plan. They, in a sense, provide guideposts to the CRM Action Plan which identifies specific (regional) policy measures. What is not explicitly spelled out in the CRM Action Plan, though, is a theory of change or an intervention logic (in line with what the EQuIP approach proposes) that explains how and why the individual proposed measures will help the Western Balkans Six economies get closer to these guideposts.

In the next step, we will therefore reconstruct the intervention logic underlying the measures under the Industrial Area of the CRM Action Plan. In doing so, we will follow the process and the major steps laid out in Figure 1 in order to create a graphical depiction of the intervention logic (see Figure 8).

If we take a top-down approach to mapping such an intervention logic, the starting point are the objectives that the EU has established for itself but also for its engagement with the WB6 (through the various “initiatives”). By extension, they represent common (or shared) objectives for the Western Balkans Six economies aspiring to join the EU. In a sense, therefore, the major priorities of the EU’s key industrial policy documents (as summarised in Figure 5) can be taken as corresponding to what in Figure 1 is called National Development Goals. They, hence, constitute the top level of the (EQuIP) intervention logic in Figure 8 where we name them **Overarching Development Goals**.

The second step according to the EQuIP approach is to define concrete objectives for industrial policy that make clear how it will contribute to achieving the wider (overarching) development ambitions. On pages 4 and 5, the CRM Action Plan declares that progress is to be pursued along the following three areas:

- ◆ Innovation
- ◆ Inclusion in international supply and value chains (where also the 6 target sectors are mentioned)
- ◆ Human capital development and fighting brain drain

Meanwhile, eight “priority areas” are mentioned in the Matrix at the end of the Action Plan, namely to promote (1) regional industrial development, (2) regional innovation, and (3-8) six priority industries and value chains. Overall, these “priority areas” constitute rather broad objectives. For the intervention logic presented in Figure 8, we have, thus, come up with a reformulated list of “industrial policy objectives”. They have been identified by going through the CRM Action Plan and by pinpointing topics that explicitly but also implicitly emerge from the text as priorities. Starting from the set of Overarching Development Goals distilled from the relevant EU documents and reformulating a few of the existing objectives and translating some of the passages into goals leads us to the following list of four **regional “industrial policy objectives”** for the Western Balkans Six in Figure 8:

1. Increase industrial production and competitiveness
2. Promote regional industrial integration and inclusion in international value chains
3. Enhance industry’s innovative capacity
4. Accelerate the greening of industry

In the spirit of evidence-based policy-making, the EQuIP approach recommends to identify suitable indicators and formulate concrete quantitative targets for measuring progress towards these objectives. This is currently missing in the CRM Action Plan. The next section of this report, which aims to track and assess the advances and impact achieved by implementing the CRM Action Plan, presents a long list of such indicators. They could

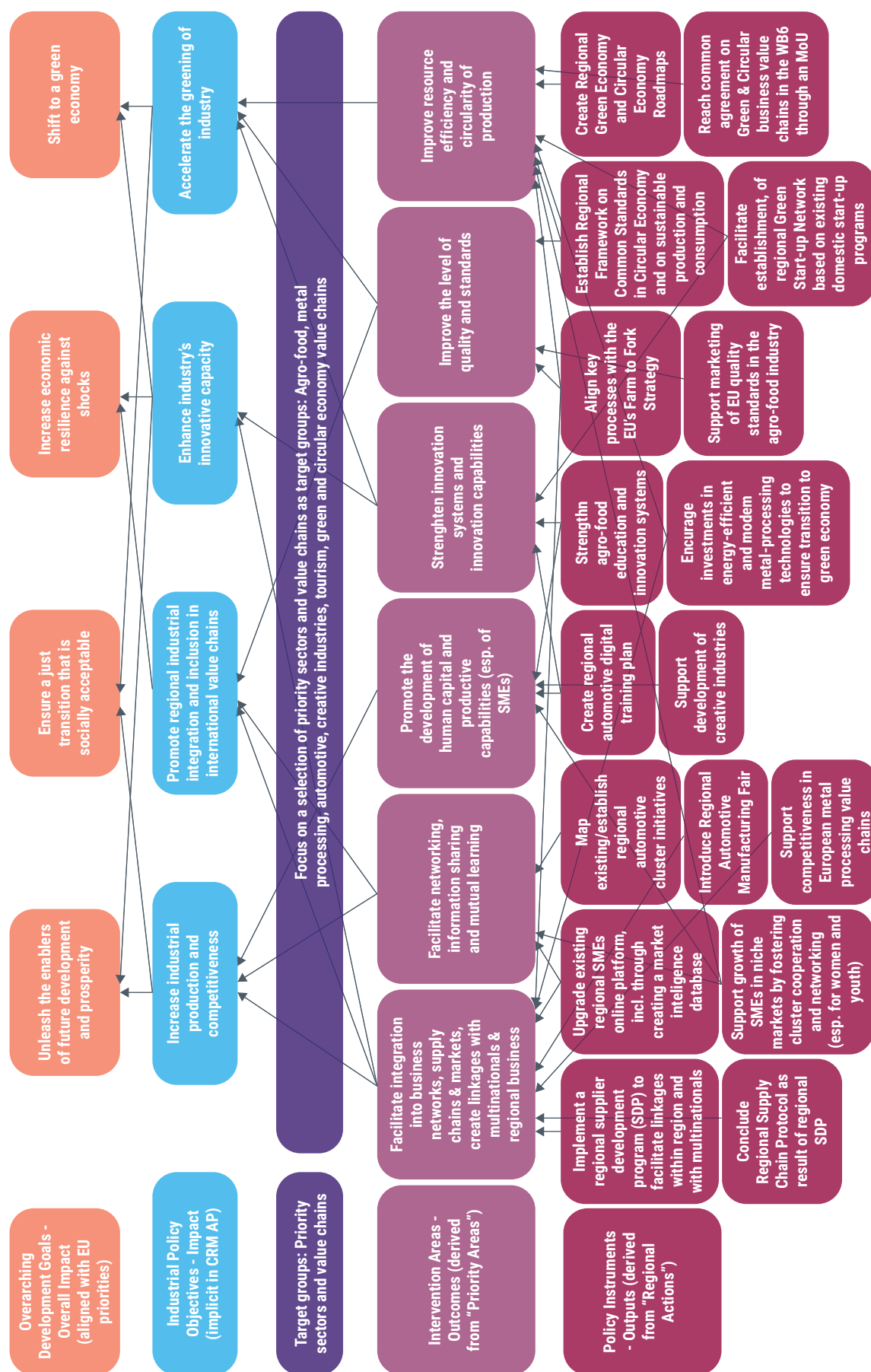
be considered by the RCC and CEFTA Secretariats as well as the governments of the Western Balkans Six economies as potential indicators for target-setting and progress monitoring for the next edition of the CRM Action Plan.

As per Figure 1, the next step is to determine different **intervention areas** for industrial policy to come in with the idea of establishing specific preconditions and fostering key drivers and enablers necessary for achieving the prioritised industrial policy objectives. This can involve the definition of specific target groups for the interventions. The CRM Action Plan is actually very clear about specific target groups as it highlights six priority sectors. They show up in Figure 8 as intermediate layer between the industrial policy objectives and the intervention areas. The CRM Action Plan mentions a lot of different instruments but they are not grouped into broader “intervention areas”. With the EQuIP definition of “intervention areas” in the back of our minds, we hence went through the objectives/priorities and the policy measures (“regional actions”) spelled out in the CRM Action Plan in order to fill in the “missing middle” of policy intervention areas. That is, we scanned the text and other statements for potential preconditions, drivers and enablers of the desired industry development path as enshrined in the expressed regional policy objectives. We also thought about how to aggregate some of the policy instruments into bigger groups. This helped us to come up with the following list of six “intervention areas” that are also on display in Figure 8:

1. Facilitate integration into business networks, supply chains and markets, and create linkages with multinationals and with other regional businesses
2. Facilitate networking, information sharing and mutual learning
3. Promote the development of human capital and productive capabilities (especially of SMEs)
4. Strengthen innovation systems and innovation capabilities
5. Improve the level of quality and standards
6. Improve resource efficiency and circularity of production

Finally, the Action Plan proposes (in the matrix on the final pages) a list of measures (called Regional Actions) that should be enacted primarily at the regional level in order to reach the objectives related to the Industrial Area of the Common Regional Market. They are shown at the bottom of Figure 8; the policy measures displayed there include only those of Priority Areas 8.2.-8.7 which are those immediately relevant for industrial development (see also Figure 7). Policy instruments should be defined in very specific terms in order to chart a clear course of action that is implementable.

Figure 8: EQIP-style Intervention Logic for the “Industrial Area” priorities under the CRM Action Plan



# 3. ASSESSING INDUSTRY PERFORMANCE IN THE WESTERN BALKANS SIX

This chapter undertakes an in-depth analysis of industry performance in the Western Balkans Six which relies on a set of indicators drawn from the EQuIP toolbox. This analysis is conducted at two levels: It involves a macro-level assessment for the manufacturing sector as a whole and a sub-sector (comparative) assessment which focuses on the priority sub-sectors specified in the CRM Action Plan 2021-2024. At both levels, the analyses presented are multi-dimensional in that they cover economic, social and environmental aspects of industrial and sub-sectoral performance.

## 3.1. MACRO-LEVEL ASSESSMENT OF THE MANUFACTURING SECTOR'S PERFORMANCE

Manufacturing sector is pivotal in driving economic growth, job creation, and structural transformation in emerging economies. In the Western Balkans Six, the sector is a cornerstone of industrial policy, shaping regional development trajectories. Over recent years, the WB6 economies have undertaken significant industrial reforms to enhance competitiveness, foster innovation, and align with European Union standards. These policies are critical for domestic economic resilience and advancing the region's integration into European and global value chains.

The macro-level assessment presented in this sub-chapter aims to provide a comprehensive evaluation of the performance of manufacturing sector across the Western Balkans Six. In the next three sections, it will first cover the economic, then social, and finally environmental dimensions of industrial development in the WB6. By benchmarking the WB6's performance against comparators – namely Croatia, Slovenia, and the EU – this analysis seeks to identify areas of strength and opportunities for improvement, while considering the region's strategic objectives of green transition, digitalisation, and industrial upgrading.



In terms of time periods, the analyses will, on the one hand, cover changes during 2020-2023 (or the latest year available), which corresponds to the implementation period of the CRM Action Plan and which will allow us to compare pre-CRM levels to post-CRM levels. On the other hand, we will examine changes over 2010-2023 (or latest year available) to enable a better understanding of longer-running trends. The exact time span covered depends on the availability of data for a given indicator and economy or sub-sector. For an easier identification and communication of major findings and key messages, the indicators will be represented in intuitive graphs.

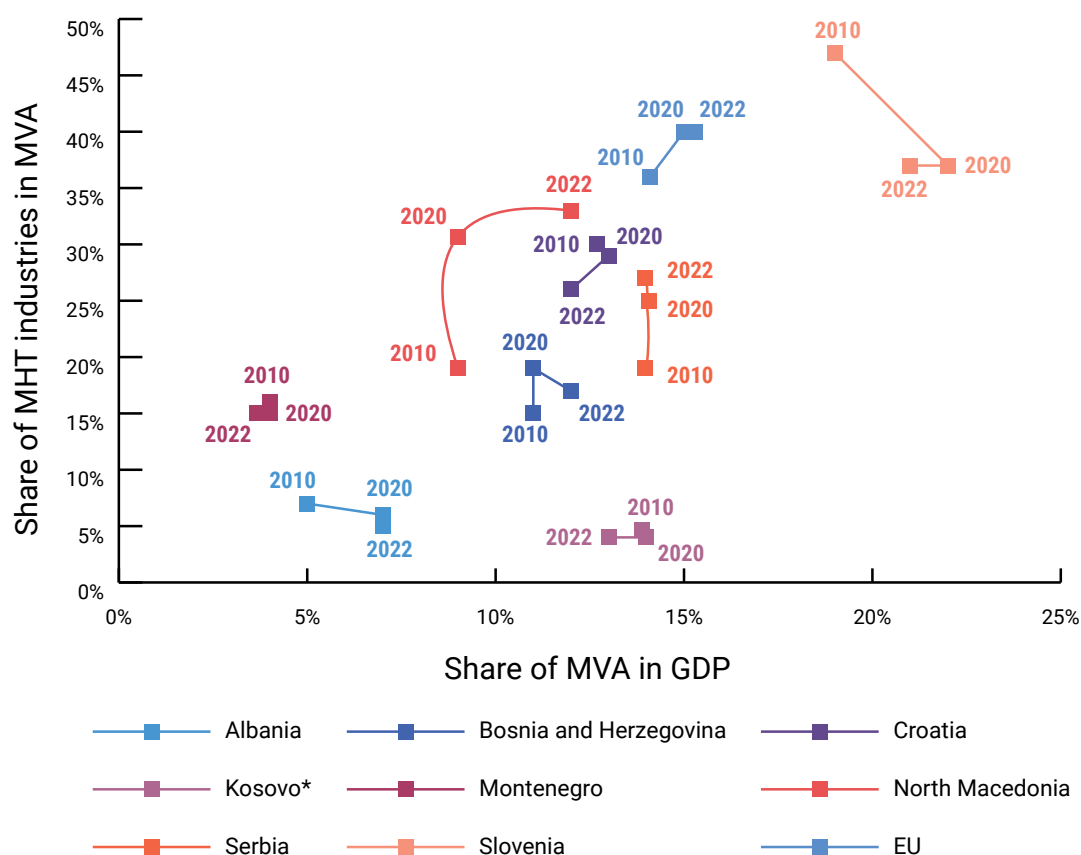
Given the regional economic context and the ongoing aspirations for EU accession, this assessment will offer critical insights into the effectiveness of industrial policies, highlighting where progress has been made and where further reforms are necessary. The findings will serve as a foundation for recommendations on how regional industrial policies can further enhance the manufacturing sector's contribution to sustainable and inclusive economic development in the Western Balkans Six.

### **3.1.1. Assessment of the manufacturing sector's economic performance**

In a first step, we will take a closer look at how the manufacturing sector in the WB6 has developed against a set of economic performance indicators which are mostly drawn from the EQulP toolbox. Annex 6.1 provides an overview of all the indicators deployed.

To start with, we are interested in assessing whether the WB6 economies have undergone structural change along an industrialisation trajectory. Figure 9 combines two indicators that help us understand the extent to which the WB6 economies have experienced “industrial deepening”. On the horizontal x-axis, it plots the share of Manufacturing Value Added (MVA) in Gross Domestic Product (GDP) which measures the manufacturing sector's contribution to overall economic activity and is typically used as a metric to track structural change. On the vertical y-axis, it plots the share that medium- and high-tech sub-sectors (MHT) contribute to total MVA which gives an indication of the technology intensity (and upgrading) of the manufacturing system. Economies that over time move towards the top right of the chart are experiencing “industrial deepening”, i.e. a combination of the manufacturing sector growing in importance and increasing its technological sophistication (i.e. technological upgrading). For each of the WB6 economies and their comparators (Croatia, Slovenia, and the EU), the graph shows three data points: 2010 (the historical reference), 2020 (the pre-CRM baseline) and 2022 (the latest year for which data is available, helping to understand progress under the CRM). Future graphs will follow a similar logic and cover similar timeframes.

**Figure 9: Industrial Deepening: Technology intensity of the manufacturing sector and its contribution to GDP (2010 vs. 2020 vs. 2022)**



Source: Authors' elaboration based on data from the World Bank's World Development Indicators (WDI) data-bank

Note: GDP = Gross Domestic Product; MVA = Manufacturing Value Added; MHT = Medium- and High-Tech Sectors

The results highlight that, across all years, the manufacturing sector consistently plays a smaller role for total output in the WB6 economies than in the comparator economies. This shows that there has not yet been a real turnaround from the profound processes of deindustrialisation that the region underwent in the 1990s and 2000s.<sup>12</sup> In 2022, the manufacturing sector contributed 10% to the WB6 region's GDP (basically stagnating from 9% in 2010 and 10% in 2020) – compared to 12% in Croatia, 15% in the EU and 21% in Slovenia. Serbia is the only exception with a share of MVA in GDP that has consistently been at 14%, thereby more or less matching the EU average. What is also notable is that North Macedonia has shown significant improvement, with its MVA in GDP rising from 8.6% in 2010 to 11.5% in 2022. Together with Bosnia and Herzegovina, it is the clearest case of “industrial deepening”, even though the curve flattened during the CRM period.

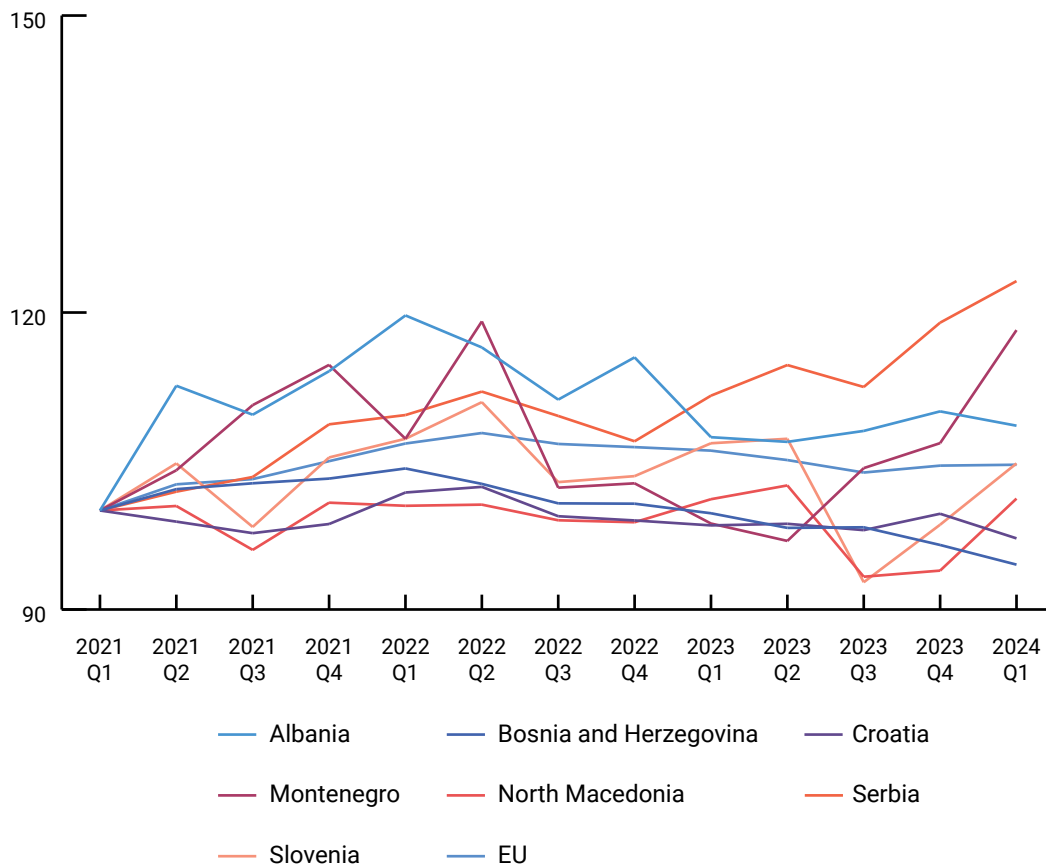
<sup>12</sup> See also Zeković and Perić (2024): Regional Industrial Policy in the Western Balkans: Neither Specialization nor Spatialization?

Among the WB6 economies, Montenegro records the lowest MVA in GDP (4%), closely followed by Albania (7%). Kosovo\* (at 13%) and Serbia (at 14%) are the closest to the EU average (15%) when it comes to the manufacturing sector's contribution to GDP.

In terms of the share of medium- and high-tech (MHT) industries in MVA, the WB6 economies generally lag behind their comparators and – with a regional average of 17% – are quite far away from the EU where MHT industries account for 40% of MVA. However, North Macedonia and Serbia stand out in 2022, with sharp increases in their MHT shares from a common starting point of 19% to 27% in the case of Serbia and 33% in the case of North Macedonia. Kosovo\* and Albania trail the other WB6 economies with MHT industries contributing, respectively, a mere 4% and 5% of MVA (see Figure 9).

While Serbia and North Macedonia demonstrate some positive trends in manufacturing performance, particularly in the share of MVA in GDP and MHT industries, the rest of the Western Balkans Six still face challenges in closing the gap with Croatia, Slovenia, and the EU. Moreover, little progress (but rather stagnation) can be observed across the WB6 economies since the CRM Action Plan was launched. While this at least partly reflects the economic fallout from the COVID-19 pandemic, further policy focus on industrial upgrading and technological innovation is needed to enhance the manufacturing sector's role in economic development across the region.

**Figure 10: Quarterly Index of Industrial Production (IIP), Q1 2021-Q2 2024**



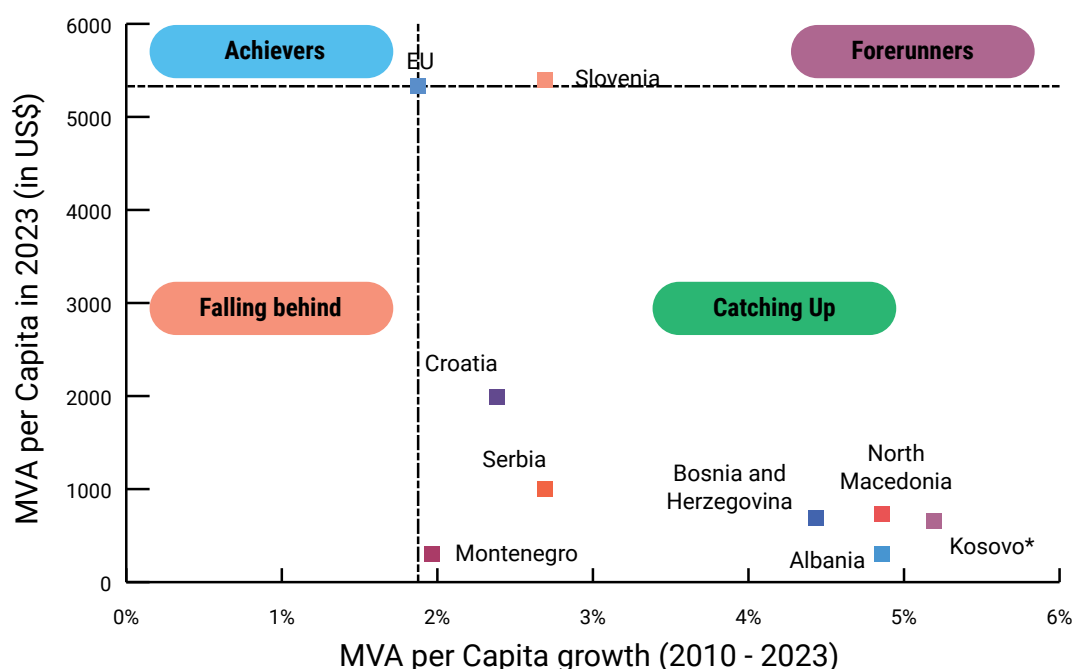
Source: Authors' elaboration based on data from UNIDO's IIP database

Figure 10 tracks the Quarterly Index of Industrial Production (IIP) for the period 2021-2024. The IIP is a crucial indicator used to measure changes in the volume of industrial output over time. In this analysis, the values of indexes are normalised to the first quarter of 2021, with Q1 2021 set as the base value (100). Any value below 100 indicates that an economy's industrial output has declined relative to the base period, any value above 100 points to an expansion of industrial production.

The figure shows that by 2024 Serbia has the highest IIP value among the Western Balkans Six economies, followed by Montenegro and Albania, both of which also surpass the EU's index level in 2024. In fact, Serbia's industrial output expanded by close to a quarter between Q1 2021 and Q1 2024 while Montenegro's grew by around 20% and Albania's by almost 10%. By contrast, Bosnia and Herzegovina and Croatia show the lowest IIP values which even fall below 100, signalling a relative decline in industrial production over the same period.

Two factors help to explain the seemingly contradictory findings of Figure 9 and Figure 10. First, Figure 9 relates the manufacturing sector's performance to the overall economic performance. The results for Serbia suggest that while its industrial sector expanded rapidly, its manufacturing sector grew more or less at par with the economy as a whole so that its contribution to overall value-added did not change. Second, Figure 10 covers also more recent years. It confirms Bosnia and Herzegovina's good performance until 2022 which, however, deteriorated after 2023.

In conclusion, while Serbia, Montenegro, and Albania have demonstrated growth in industrial output since the inception of the CRM Action Plan, outpacing even the EU during that period, North Macedonia and especially Bosnia and Herzegovina have faced challenges in maintaining their industrial output levels. These trends suggest divergent industrial performance across the region, underscoring the need for targeted interventions to boost industrial productivity in the lower-performing economies.

**Figure 11: MVA per capita and its growth rate**

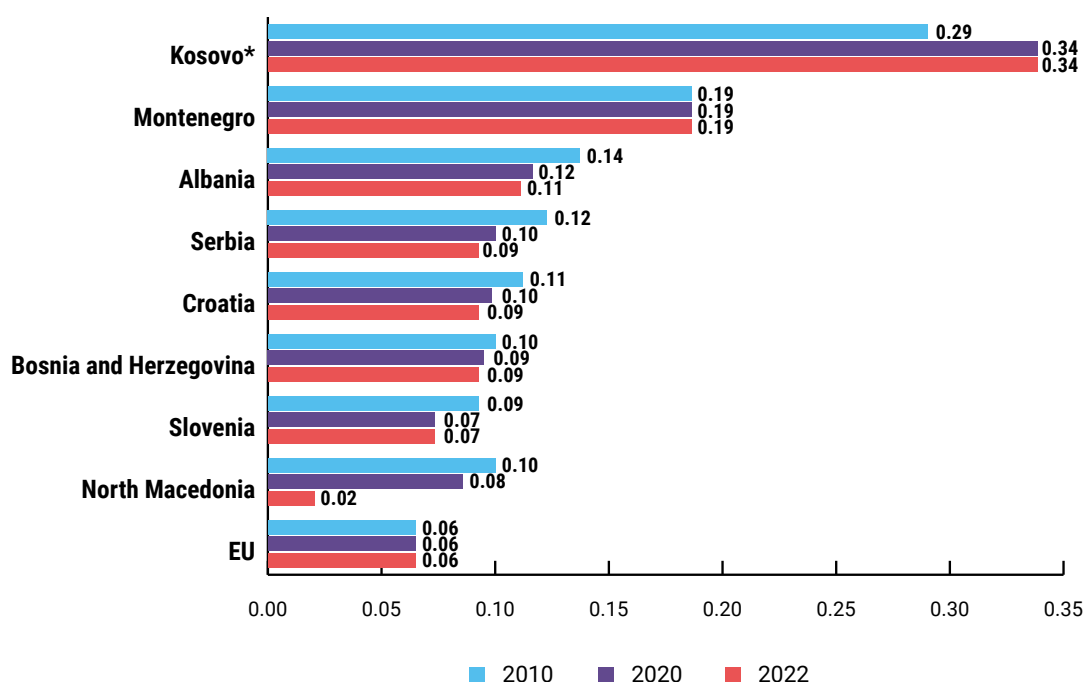
Source: Authors' elaboration based on data from the World Bank's WDI databank

Figure 11 categorises the WB6 economies and the comparator economies into four groups: forerunners, achievers, falling behind, and catching up, based on their industrial capacity (measured as MVA per capita in US\$) and its growth rate compared to the EU average (of US\$ 5,344 and 2%, respectively). Forerunners are economies that exhibit both an industrial capacity and a growth rate exceeding the EU average, indicating they are further solidifying their leadership. Achievers have an above-average industrial capacity but a growth rate below the average, suggesting that while they have developed strong industrial sectors, they need strategies to sustain their performance. Catching-up economies have industrial capacities below the EU average, but their growth rates are higher than the EU's, indicating they are making progress in closing the gap with more developed economies. Falling-behind economies have both below-EU industrial capacity and slow or negative growth, which risks widening the gap with the EU.

The results from Figure 11 show that Slovenia is the only forerunner in our sample, with strong industrial capacity and robust growth. Meanwhile, all WB6 economies as well as Croatia are classified as catching up. Kosovo\*, North Macedonia and Albania stand out as the WB6 economies whose industrial capacity has grown the fastest. More precisely, since 2010 industrial capacity has expanded by, on average, 5.2% every year in Kosovo\* (measured as Compound Annual Growth Rate, CAGR), by 4.9% in North Macedonia and by 4.8% in Albania. Even so, their industrial capacity (at US\$ 332 of MVA per capita in Albania, US\$ 694 in North Macedonia and US\$ 697 in Kosovo\*) is a fraction of the EU average. Industrial capacity growth has been a bit slower but still decisively positive in Bosnia and Herzegovina (+4.4% since 2010), Serbia (+2.7%) and Montenegro (+2%).

Overall, Figure 11 indicates that all WB6 economies are on a pathway of converging to EU levels but still have room to enhance their industrial capacity and narrow the gap. For the WB6 region as a whole, it can be observed that its industrial capacity has grown almost twice as fast than the EU's over the last decade (3.54% vs. 1.99% annually) but the EU's is still around 7 times larger than the WB6.

**Figure 12: HHI of diversification across manufacturing sub-sectors**



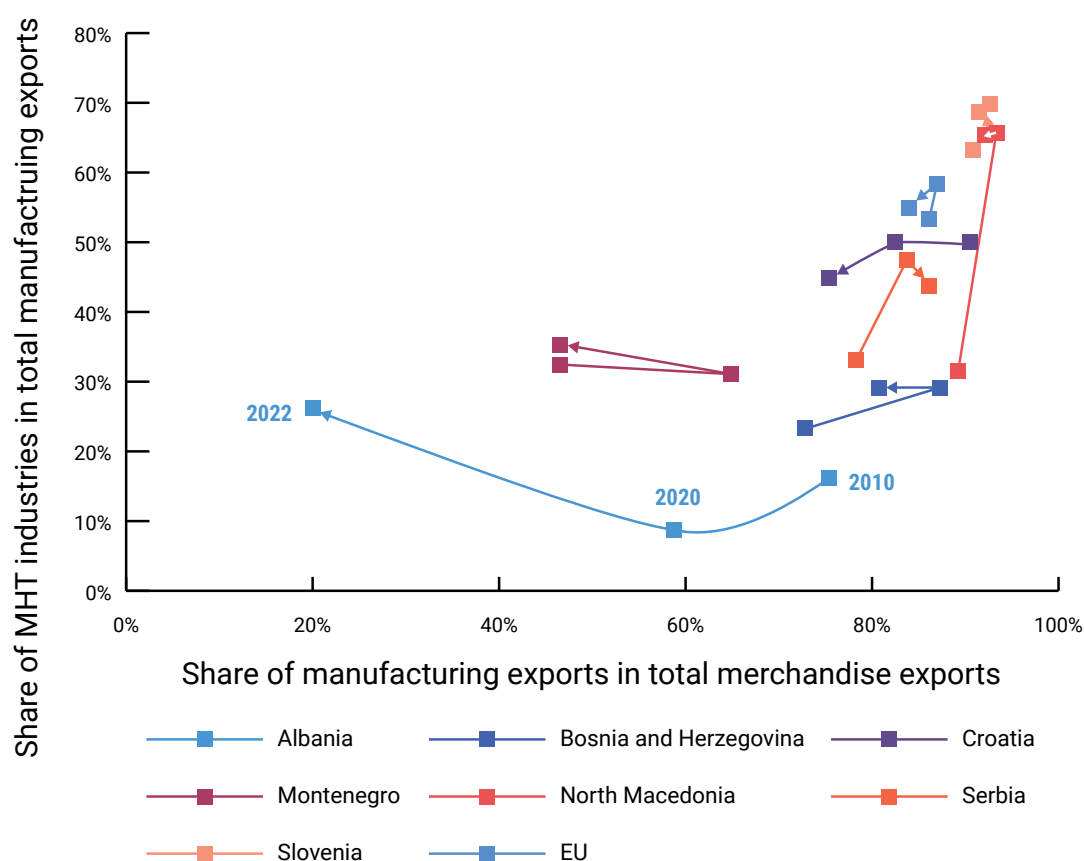
Source: Authors' elaboration based on data from UNIDO's INDSTAT database

Let's now look at how diversified the manufacturing sectors of the WB6 economies are. Is manufacturing activity dominated by a few sub-sectors or, conversely, is a wider range of sub-sectors contributing? Figure 12 reports values of the Hirschman-Herfindahl Index (HHI) for industrial production diversification. The HHI is an indicator that measures the degree of concentration of an economy's productive portfolio. A higher HHI indicates concentration of manufacturing activity in fewer sub-sectors, making the economy more dependent on specific activities and products. By contrast, a lower HHI value signifies greater diversification, meaning that an economy's manufacturing value-added is spread across a larger number of sub-sectors so that it produces a broader range of products.

Figure 12 shows that all WB6 economies have a higher HHI compared to the EU, indicating less diversified production baskets. Kosovo\* has the highest HHI value, revealing that its manufacturing production is quite concentrated in a few sub-sectors. Moreover, Kosovo\*'s diversification index has increased from 0.29 in 2010 to 0.33 in 2022, implying

a trend towards even greater concentration. Montenegro follows with a relatively stable HHI around 0.18, reflecting limited changes in the sectoral composition of its industrial system. By contrast, Albania, Serbia, Bosnia and Herzegovina, and North Macedonia all show decreasing HHI values, indicating gradual diversification in their production structures both over the longer run (2020-2022) and during the CRM implementation period (2020-2022 as the latest year available). This should help increase the resilience of their economies.

**Figure 13: Export upgrading: Technology intensity of manufacturing exports and their contribution to total merchandise exports (2010 vs. 2020 vs. 2022)**



Source: Authors' elaboration based on data from the World Bank's WITS data portal

We now turn from the production side of manufacturing (measured in terms of value-added) to the manufacturing sector's international trading activities. Figure 13 follows the same logic as Figure 9 and gives a picture on the degree to which WB6 economies have succeeded in upgrading their exports. On the x-axis, it plots the share of manufactured exports in total merchandise exports<sup>13</sup> (%) which measures to what extent an economy's

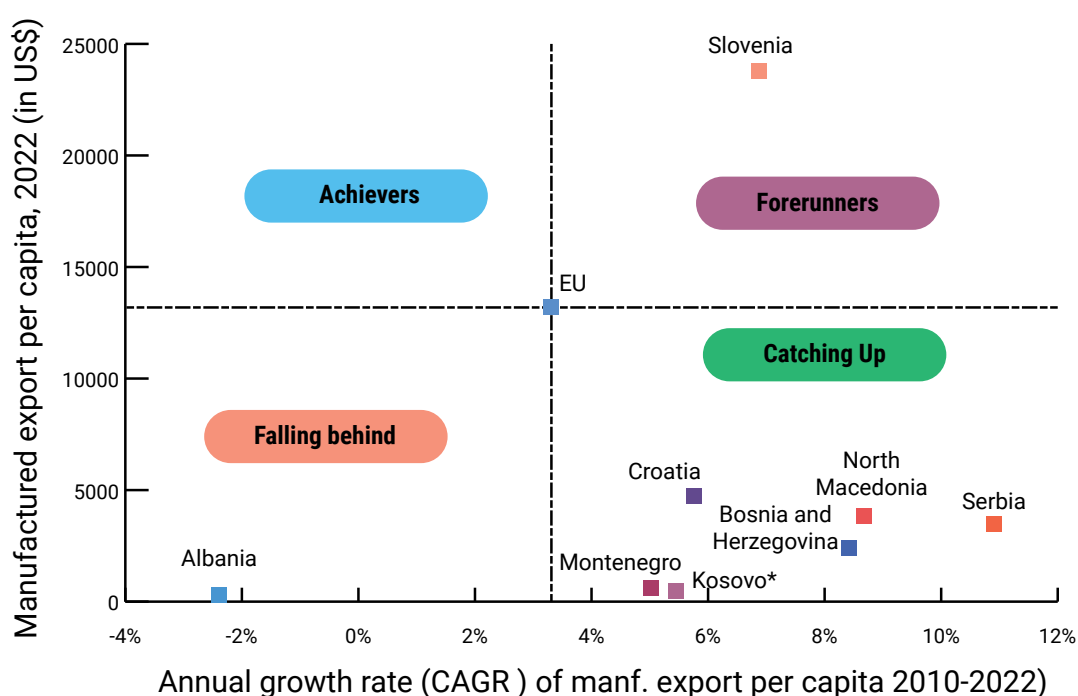
<sup>13</sup> Note that merchandise exports exclude trade in services.

external trade relations have undergone structural change. On the y-axis, it shows the contribution of medium- and high-tech (MHT) products to total manufactured exports. Any economy moving towards the top-right corner of the chart has upgraded its export structure over time.

As can be seen in Figure 13, Serbia and North Macedonia are the only cases that broadly follow this trajectory, despite a certain backslide in more recent years (corresponding to the CRM implementation period). In North Macedonia, the manufacturing sector increased its share in total merchandise exports from 89% in 2010 to 92% in 2022 while in Serbia it grew from 78% to 86%. In these two WB6 economies, manufactures actually accounted for a larger share of total merchandise exports in 2022 than in the EU (at 84%). North Macedonia has, moreover, seen an impressive increase in the technology intensity of its manufactured exports (which is even higher than the EU's and close to Slovenia's). Between 2010 and 2022, the MHT share more than doubled in North Macedonia's manufacturing exports (from 31% to 65%) while climbing from 33% to 43% in Serbia.

Albania, meanwhile, has experienced a dramatic deindustrialisation of its export basket as the manufacturing sector's contribution to total merchandise exports sharply declined from 75% in 2010 to just 20% in 2022. Additionally, Albania and Bosnia and Herzegovina and also Montenegro have comparatively low shares of MHT manufactured exports in their total manufactured exports (at 26%, 29% and 35%, respectively), highlighting a lack of technological advancement in their manufacturing sectors. In conclusion, no clear pattern of desirable structural change can be observed in the WB6's export relations.

**Figure 14: Manufactured exports per capita and their growth rate**

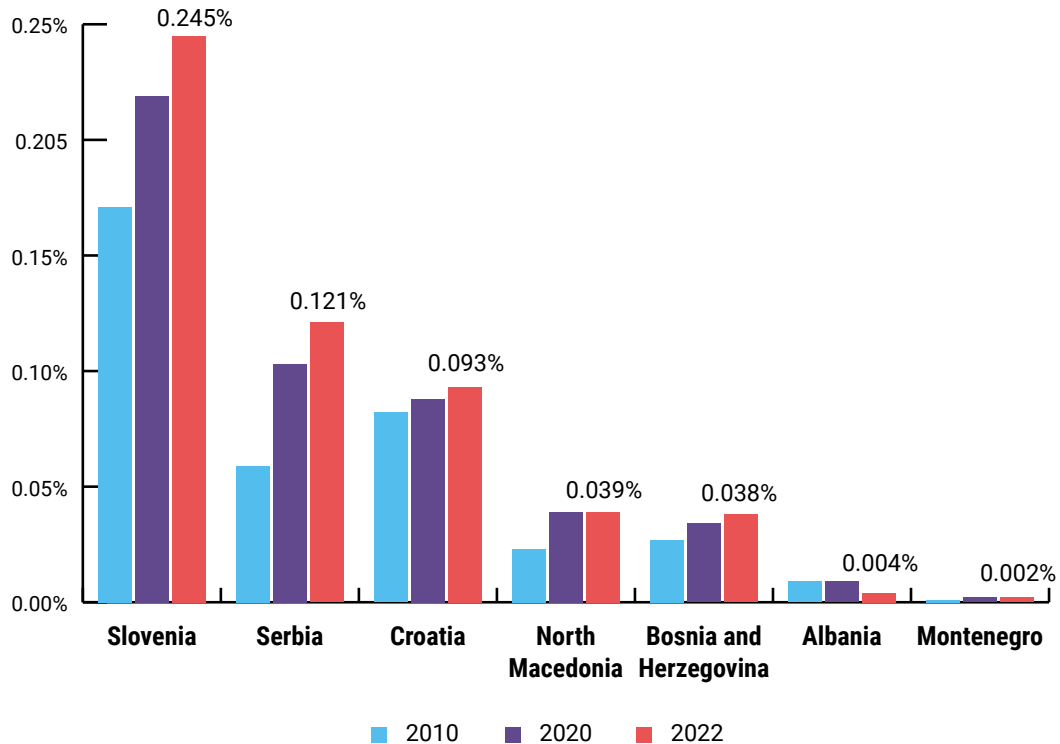


Source: Authors' elaboration based on data from World Bank WITS and the Kosovo\* Agency of Statistics (KAS)



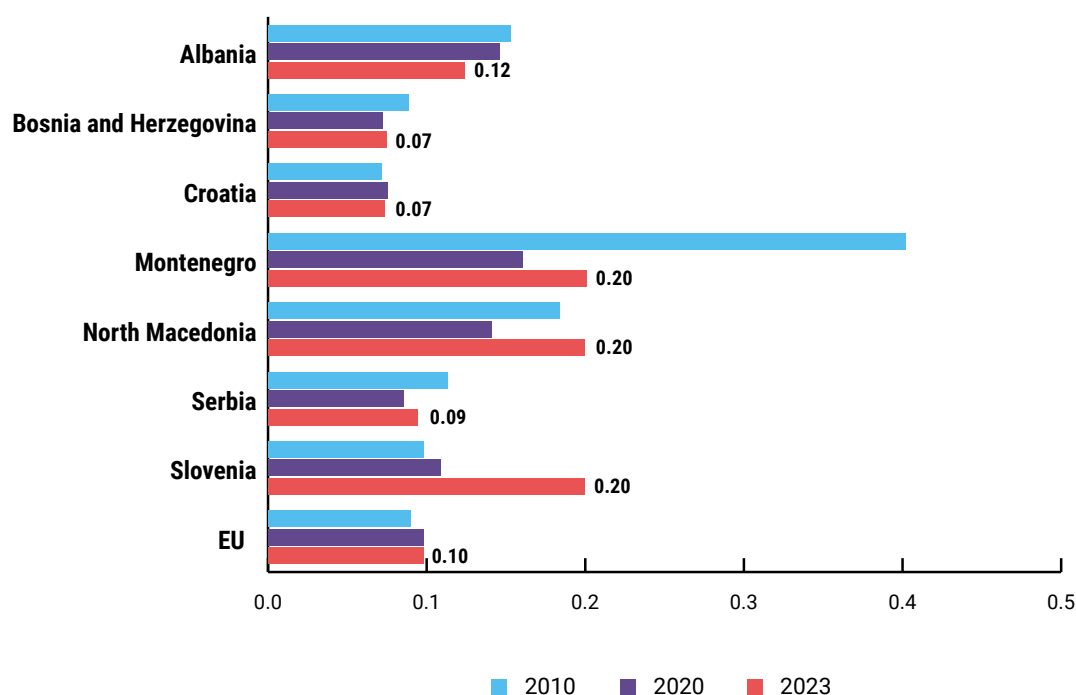
Next, we examine the WB6 manufacturing export capacity, measured as manufactured exports per capita in US\$. Figure 14 classifies the WB6 based on their export capacity and its growth rate over 2010-2022, following the same grouping as in Figure 11: forerunners, achievers, falling behind, and catching up. Forerunners demonstrate an export capacity that surpasses the EU average, with a growth rate also above average, indicating that these economies are strengthening their leadership in global trade. Achievers show an export capacity above the EU's but with a slower growth rate, suggesting that while they have a solid export base, they need to implement strategies to sustain or accelerate growth. Catching-up economies have a lower export capacity than the EU average but faster growth, indicating progress in convergence. Economies falling behind exhibit both an export capacity and a growth rate below the EU's, widening the gap with the more prosperous EU.

The results again disclose Slovenia as the only forerunner, with both strong export capacity and high growth rates. At the other end of the spectrum, Albania is classified as falling behind, with both low manufactured export capacity (standing at US\$ 400 per capita) and negative growth (CAGR of -2%). Kosovo\*, Montenegro, Bosnia and Herzegovina, Serbia, and North Macedonia are classified as catching up, with their export capacities (at US\$ 208, US\$ 303, US\$ 916, US\$ 1.001 and US\$ 1.429, respectively) being far below the EU average but growing faster. However, while most WB6 economies witness a convergence towards EU levels, their manufactured export capacity is still only a fraction of the EU's. In Serbia and North Macedonia, which come closest to the EU average, the manufacturing export capacity is only around a quarter of the EU's whereas in Albania it is about 98% lower – so there is still a long way to catch up. Compared to the WB6 region as a whole, the EU's manufacturing export capacity is almost 13 times larger. However, thanks to growing almost two times faster (6.0% vs. 3.3% annually), the WB6 region's manufacturing export capacity has converged quite a bit towards the EU's level over the last decade.

**Figure 15: World export market share in manufactures**

Source: Authors' elaboration based on data from the World Bank's WITS data portal

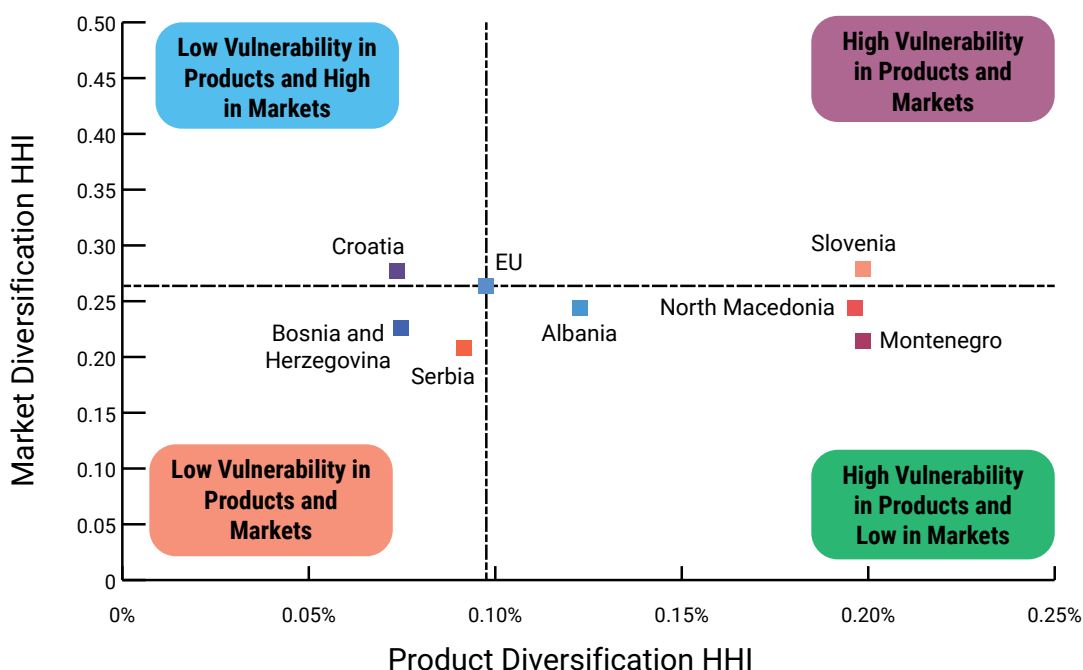
To investigate international competitiveness of the WB6 economies' manufactured products further, we look at their share in world markets. An increase in market share is typically associated with improvements in international competitiveness. Figure 15 makes it clear that Montenegro and Albania are extremely small players in the global arena, reflecting both their small size and their limited integration into global manufacturing supply chains. Serbia, on the other hand, exhibits a relatively higher market share, surpassing Croatia. North Macedonia and Bosnia and Herzegovina are somewhere in between, but far behind Slovenia (despite comparable population sizes). On the upside, all WB6 economies except for Albania have managed to gain shares in the world export market for manufactures both since 2010 and 2020, signalling an improvement in their international competitiveness and their ability to participate in global trade since the CRM was launched.

**Figure 16: HHI for export diversification across manufacturing sub-sectors**

Source: Authors' elaboration based on data from the World Bank's WITS data portal

To measure how concentrated their manufactured exports are in a few products or product groups, Figure 16 presents the Hirschman-Herfindahl Index (HHI) values for the WB6 economies and the comparators. A higher HHI indicates a higher level of export concentration in a few sub-sectors, while a lower HHI suggests a more diversified manufacturing export basket.

Among the WB6, Montenegro and North Macedonia have the highest HHI values, indicating a strong reliance on a limited number of export sub-sectors. Bosnia and Herzegovina, on the other hand, exhibits the lowest HHI, with values consistently lower than the EU average, highlighting a more balanced and diversified export structure. Over the long run (i.e. since 2010), there has been a clear trend towards diversification of manufacturing exports. However, for most WB6 economies, the HHI has increased again since 2020, reflecting a return of larger concentration in their export portfolios. At the same time, HHI values are still quite low and in the vicinity of those for the EU. The main exceptions are Montenegro and North Macedonia where the export sectors are more concentrated, making them more vulnerable to subsector-specific shocks.

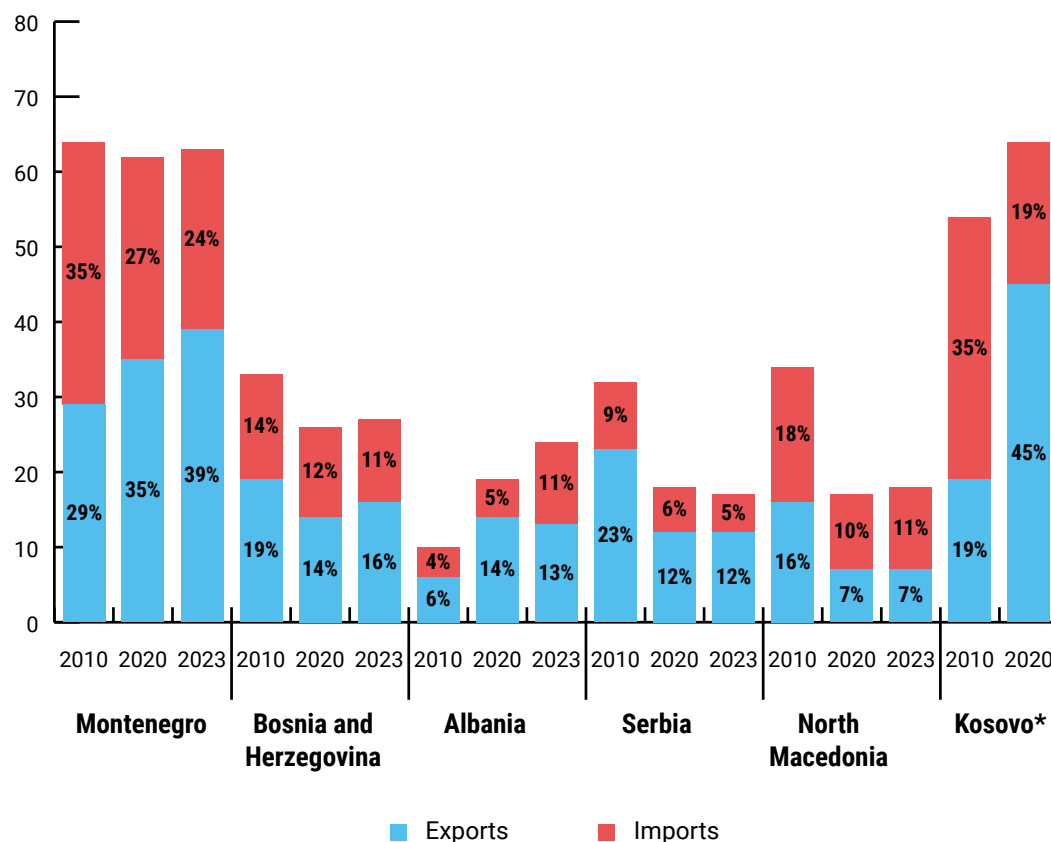
**Figure 17: Diversification Matrix for manufacturing exports**

Source: Authors' elaboration based on data from the World Bank's WITS data portal

Figure 17 presents the diversification matrix, which classifies economies based on their vulnerability in both product and market diversification, with the EU serving as the average benchmark. Economies are categorised as either of high or of low vulnerability in terms of product diversification (the range of goods they export) and market diversification (the diversity of their export destinations). High vulnerability indicates greater reliance on a narrow set of products or markets, while low vulnerability suggests broader diversification and less risk exposure.

The results show that Slovenia is highly vulnerable in both products and markets, meaning it relies heavily on a limited number of products and export destinations. In contrast, Bosnia and Herzegovina, as well as Serbia, demonstrate low vulnerability in both areas, indicating a well-diversified export base and market reach. Croatia is classified as of low vulnerability in terms of products but highly vulnerable in markets, suggesting it exports a diverse range of goods but relies on a narrow set of trading partners. North Macedonia and Montenegro, meanwhile, are highly vulnerable in products but of low vulnerability in markets, indicating a reliance on few products but a broader range of export destinations.

While Bosnia and Herzegovina, Serbia, and Croatia show relative resilience in their product portfolios or market reach, Slovenia, North Macedonia, and Montenegro face greater risks due to their vulnerability in either or both dimensions. These economies may need to focus on diversifying their exports and markets to mitigate potential risks and enhance economic stability.

**Figure 18: Share of intra-regional trade in total manufacturing exports and imports**

Source: Authors' elaboration based on data from the World Bank's WITS data portal and KAS

A primary objective of the CRM Action Plan is to promote regional economic integration within the Western Balkans Six. To examine progress on that front, Figure 18 illustrates for each WB6 economy how much of its manufacturing trade is with other economies from the region. This provides an important measure of economic interaction and trade intensity within the WB6 region, reflecting the degree of integration and economic interdependence among these economies.

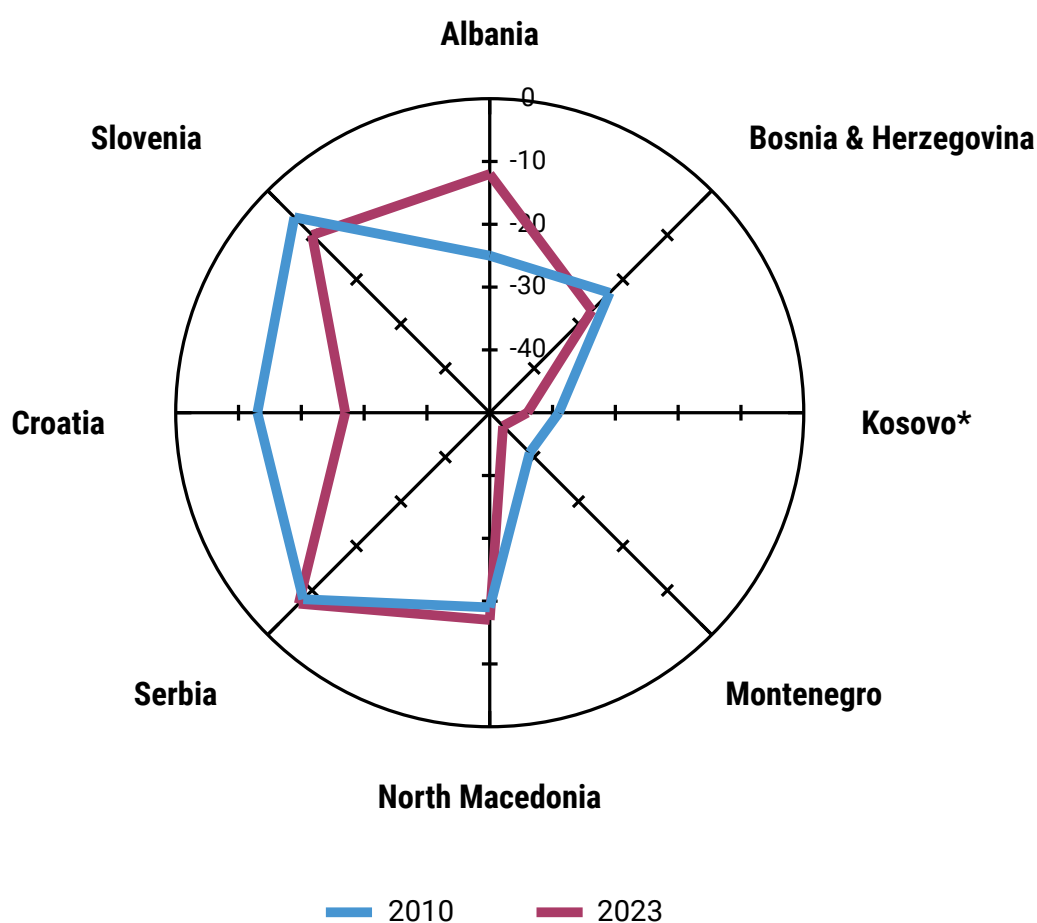
The results show that Montenegro has the strongest regional trade ties, followed by Kosovo\* and Bosnia and Herzegovina. In fact, in 2023, regional sales accounted for almost 30% of Montenegro's total manufactured exports while it sourced close to a quarter of its manufacturing imports from within the region. However, whereas the region has become more important as a market for Montenegro's manufactured exports since 2010, it has lost relevance as a source of imports. This downward trend on the import side is actually shared by all other WB6 economies with the exception of Albania where manufactures supplied by other WB6 economies have increased their share in total manufacturing imports from around 4% in 2010 and 2020 to over 11% in 2023.

Albania is (together with Montenegro) actually also the only exception to the rule on the export side where intra-regional sales have grown their share in total manufacturing exports from 3.5% in 2010 to 8.5% in 2020 and 8.7% in 2023. Findings from Figure 18 suggest, however, that this increasing share does not necessarily reflect a strong expansion in intra-regional exports (the numerator) but is at least partly also explained by a drop in extra-regional exports (and, thus, the denominator).

In the other WB6 economies, the shares of intra-regional exports and imports of manufactures have actually declined since 2010, with a slight recovery observable for Serbia and Bosnia and Herzegovina since 2020.

Hence, overall trade linkages within the region have receded over the last decade and the launch of CRM Action Plan in 2021 has done only a little, but not much, to reverse this trend. With other WB6 economies being, on average, the source of 12% of total manufacturing imports and the destination of around 14% of manufacturing exports, there is actually still quite some room for deepening regional integration of manufacturing systems.

**Figure 19: Manufacturing trade balance as % of GDP**



Source: Authors' elaboration based on data from the World Bank's WITS data portal and KAS





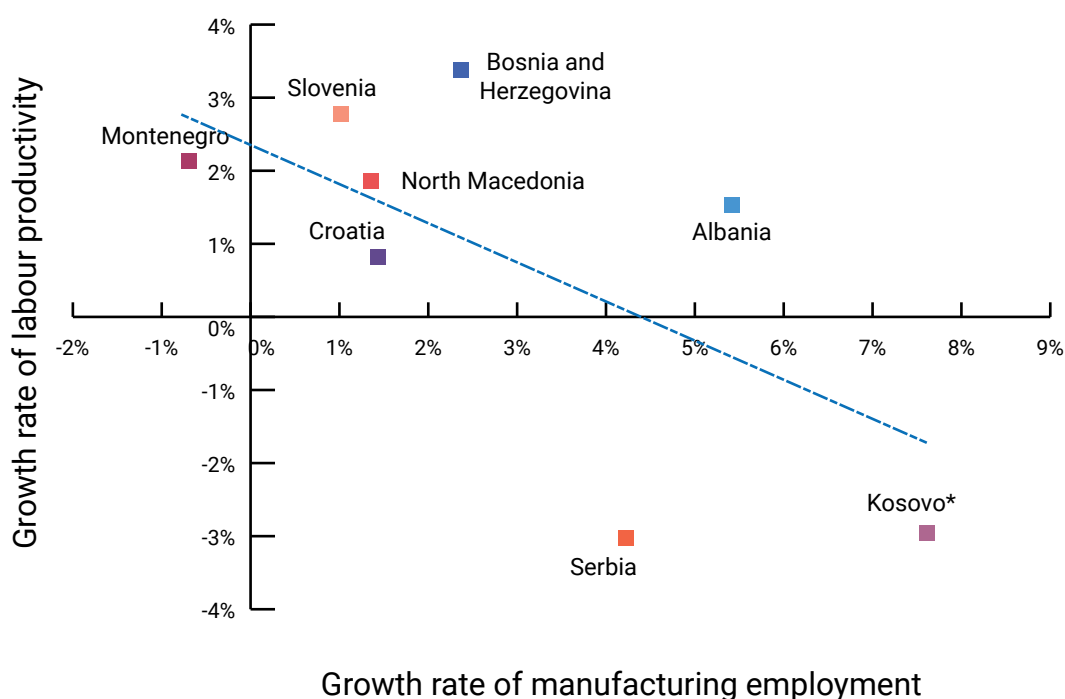






sector appears to have not been the major engine of job creation in the Western Balkans Six neither over the last decade nor since the launch of the CRM Action Plan. Indeed, for the region as a whole, manufacturing's share in total employment has slightly gone down from 14% in 2010 to 13.6% in 2022.

**Figure 22: Manufacturing labour market dynamics (2010-2022)**



Source: Authors' elaboration based on data from UNIDO's INDSTAT Database

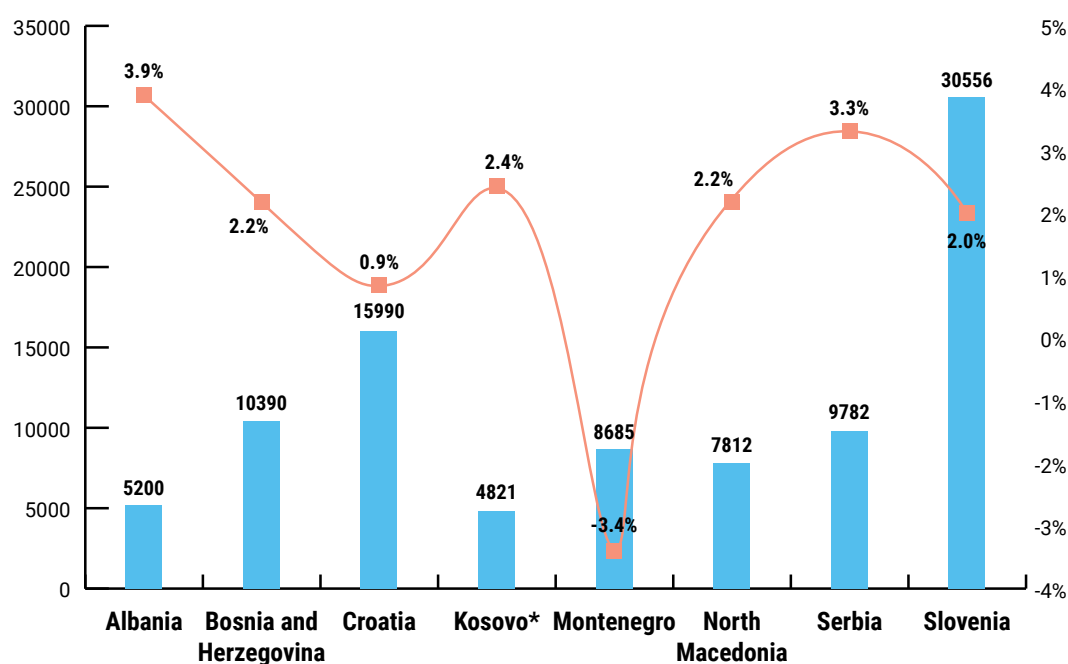
Figure 22 sheds more light on recent dynamics in the manufacturing labour markets of the WB6 economies, plotting the Compound Annual Growth Rate (CAGR) of manufacturing employment during 2010-2022 on the x-axis and the CAGR of labour productivity (defined as MVA per manufacturing employee) on the y-axis.

The two axes serve to divide the graph into four quadrants, each representing different dynamics in the labour market. The quadrant on the top-right includes economies that have witnessed both positive employment and productivity growth over the last decade. Albania, Bosnia and Herzegovina, and North Macedonia are positioned there (in addition to Croatia and Slovenia), indicating a healthy combination of manufacturing employment growth with rising productivity. Among them, Albania has seen the fastest employment growth (as the manufacturing sector, on average, added 5.4% of new jobs every year) followed by Bosnia and Herzegovina (+2.4% p.a.) and North Macedonia (+1.4% p.a.). Meanwhile, Bosnia and Herzegovina has registered the strongest rise in manufacturing labour productivity (which, on average, has grown by 3.4% annually since 2010), outpacing North Macedonia (+1.9% p.a.) and Albania (+1.5% p.a.).

Serbia and Kosovo\* fall into the expanding employment but declining productivity quadrant (on the bottom right), where manufacturing jobs have been growing (by 7.6% a year in Kosovo\* and 4.2% p.a. in Serbia) while productivity per worker has been falling (by 3% a year in both Kosovo\* and Serbia).<sup>15</sup> Lastly, Montenegro stands alone in the quadrant on the top left, showing a decline in manufacturing employment (-0.7% p.a.) but an increase in MVA per worker (+2.1% p.a.). The WB6 region as a whole has seen both employment (+3.4% p.a.) and labour productivity (+0.5% p.a.) grow between 2010 and 2022, outpacing both Croatia and Slovenia in terms of job creation but lagging behind Slovenia in terms of labour productivity growth (+2.8% p.a.).

The dashed downward-sloping line indicates that, overall, there is a certain negative correlation between employment growth and productivity growth. This is in line with economic theory which predicts an inverse relationship between the two variables as fast labour productivity growth, *ceteris paribus* reduces the necessity for firms to hire new workers.

**Figure 23: Average annual wages in the manufacturing sector (in US\$, left axis) and their growth rate (2010-2022, right axis)**



Source: Authors' elaboration based on data from the ILOSTAT Data Explorer

<sup>15</sup> This finding for Kosovo\* might seem to be at odds with the trends seen in Figure 21. However, it may well be that manufacturing employment has grown in absolute numbers but was outpaced by job creation in other sectors, resulting in a declining share in total employment. Another explanation can be that the data comes from different sources. UNIDO's INDSTAT data is collected through industrial surveys while ILOSTAT data is typically drawn from labour force surveys (and often complemented by estimates).

The offering of employment opportunities can be considered a main aspect of manufacturing activity's contribution to social welfare. However, the key social benefit probably lies in the income-earning opportunities associated with these manufacturing jobs. Decent jobs are clearly preferable to poorly paid precarious jobs. Figure 23 displays the average annual wage paid in the manufacturing sector in 2022, along with the growth rate of average wages between 2010 and 2022. This indicator is important for understanding labour market dynamics related to worker compensation but also the overall competitiveness of the manufacturing sector. Higher wages generally reflect better living standards for workers but may also indicate rising labour costs for industries.

Figure 23 reveals that, within the WB6, manufacturers in Bosnia and Herzegovina pay the highest average wage (at around US\$ 10,400 a year), followed by Serbia and Montenegro (with average annual wages somewhat below US\$ 10,000). Even so, there is still quite a wage gap compared to the EU member states of Slovenia and Croatia where average wages are two to three times higher.

At the opposite end, the manufacturing sectors in Kosovo\* and Albania pay the lowest wages, with an average employee only earning around US\$ 5,000 a year. However, while Albania has experienced the highest wage growth in the region, with labour incomes rising by an annual average of 4% between 2010 and 2022, manufacturing wages (in US\$ terms) have actually declined by around 3% a year in Montenegro over the same period.

With that, Montenegro is the only economy with a negative wage trend. Elsewhere, labour earnings have gone up by an annual average of more than 2% (Bosnia and Herzegovina, Kosovo\*, North Macedonia) or even more than 3% (Serbia), outpacing wage growth in the EU members Croatia (+0.9%) and Slovenia (+2.0%). In sum, the variation in wage levels and growth across the region underscores the differing economic conditions and labour market dynamics within the Western Balkans Six.

**TABLE 2: EMPLOYMENT ELASTICITY OF MVA GROWTH (2010-2022)**

	Employment growth 2010-2022	MVA growth 2010-2022	Elasticity	Classification
<b>Serbia</b>	45%	10%	4.46	High but Unproductive Employment Generation
<b>Kosovo*</b>	141%	68%	2.07	High but Unproductive Employment Generation
<b>Albania</b>	88%	126%	0.70	High Employment Generation
<b>Croatia</b>	19%	31%	0.61	High Employment Generation
<b>North Macedonia</b>	18%	47%	0.38	Low/Moderate Employment Generation
<b>Bosnia and Herzegovina</b>	32%	97%	0.33	Low/Moderate Employment Generation
<b>Slovenia</b>	13%	57%	0.23	Low/Moderate Employment Generation
<b>Montenegro</b>	-7%	17%	-0.43	Jobless growth

Source: Authors' calculations based on data from UNIDO's INDSTAT database

In the next step, we bring together economic and social aspects of industry performance by exploring the employment elasticity of MVA growth. To start with a definition, employment elasticity measures how sensitive employment is to changes in economic (or, in our case, manufacturing) output. If both employment and value-added grow in lockstep (i.e. at exactly the same rate), the resulting elasticity value will be 1. This value can be read as indicating that a 1% increase in value-added has led to a 1% increase in employment.

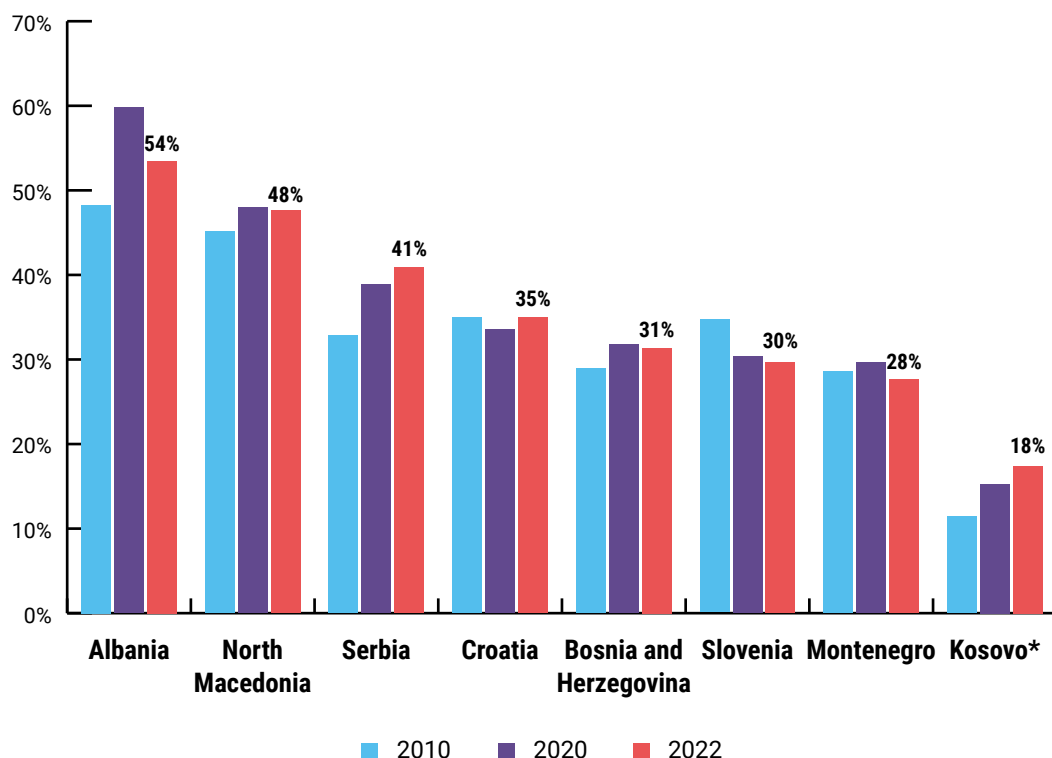
EQuIP tool 5<sup>16</sup> presents a conceptual device on how to interpret different elasticity values, applying the indicator for an analysis of the manufacturing sector. Broadly speaking, a higher elasticity indicates that value-added growth is translating effectively into job creation, while lower elasticity suggests that growth is not leading to significant employment gains. However, when employment generation outpaces MVA growth, the algebraic flipside is that average labour productivity declines; EQuIP tool 5, hence, classifies such a scenario as *Unproductive Employment Growth*.

Table 2 ranks the WB6 economies and the comparator economies by their employment elasticities of MVA growth and classifies them (in the last column) according to the scenario or trajectory that they have experienced. Serbia and Kosovo\* report the highest elasticity values (of 4.46 and 2.07, respectively), implying that over the period of 2010-2022 their manufacturing sector generated many new jobs but at the cost of declining labour productivity (as we have also seen in Figure 22). Both economies therefore fall under the category of *High but Unproductive Employment Generation*. Meanwhile, given that their elasticity values are lower than 1 but higher than 0.5, Albania along with Croatia are classified as *High Employment Generators*, indicating that their MVA growth has successfully driven the creation of *productive* jobs.

In contrast, North Macedonia, Bosnia and Herzegovina, and Slovenia all exhibit *Low/Moderate Employment Generation* patterns, suggesting that while the manufacturing sector has created some jobs, the pace of employment generation has been more limited and not commensurate with the pace of MVA growth. Finally, Montenegro has experienced *Jobless Growth* over the period of 2010-2021, where MVA has grown but without a corresponding increase in manufacturing employment.

In conclusion, while most WB6 economies are successfully translating industrial expansion into job creation, Montenegro faces the challenge of jobless growth. Meanwhile, Serbia and Kosovo\* must focus on improving the productivity of the jobs it generates. These findings highlight the need for targeted employment strategies in the Western Balkans Six to ensure that growth is inclusive and beneficial for the labour market.

16 See here: [www.equip-project.org/wp-content/uploads/2015/08/EQuIP\\_Tool-5\\_V150821.pdf](http://www.equip-project.org/wp-content/uploads/2015/08/EQuIP_Tool-5_V150821.pdf)

**Figure 24: Female share in manufacturing employment (in %)**

Source: Authors' elaboration based on data from the ILOSTAT Data Explorer

Policymakers are increasingly concerned about making sure that their economy's industrial development trajectory is "inclusive" in that it offers citizens opportunities not only to participate in the industrialisation process but also to genuinely benefit from it. Broad-based employment and decent wages are vital to achieve this (see above). At the same time, special attention ought to be dedicated to under-represented and/or disadvantaged groups of society. These often include women and youth who struggle to integrate into the economy. To proxy how "inclusive" industrial development has been in the Western Balkans Six, we look at how strongly women are represented in the manufacturing workforce and how this has changed over the last decade and since 2020.

Figure 24 illustrates the female share in manufacturing employment for the WB6 economies. This indicator is crucial for understanding gender dynamics in the workforce and the inclusiveness of the manufacturing sector. A higher female share suggests greater gender balance in employment opportunities offered by the manufacturing sector, while a lower share may point to gender disparities within the sector.

Albania is actually the only WB6 economy where more than half of the manufacturing workforce is female. Moreover, the share has increased between 2010 and 2022 (but has been dropping again after reaching a peak of 60% in 2019). North Macedonia is the other WB6 economy with a good gender balance in manufacturing employment

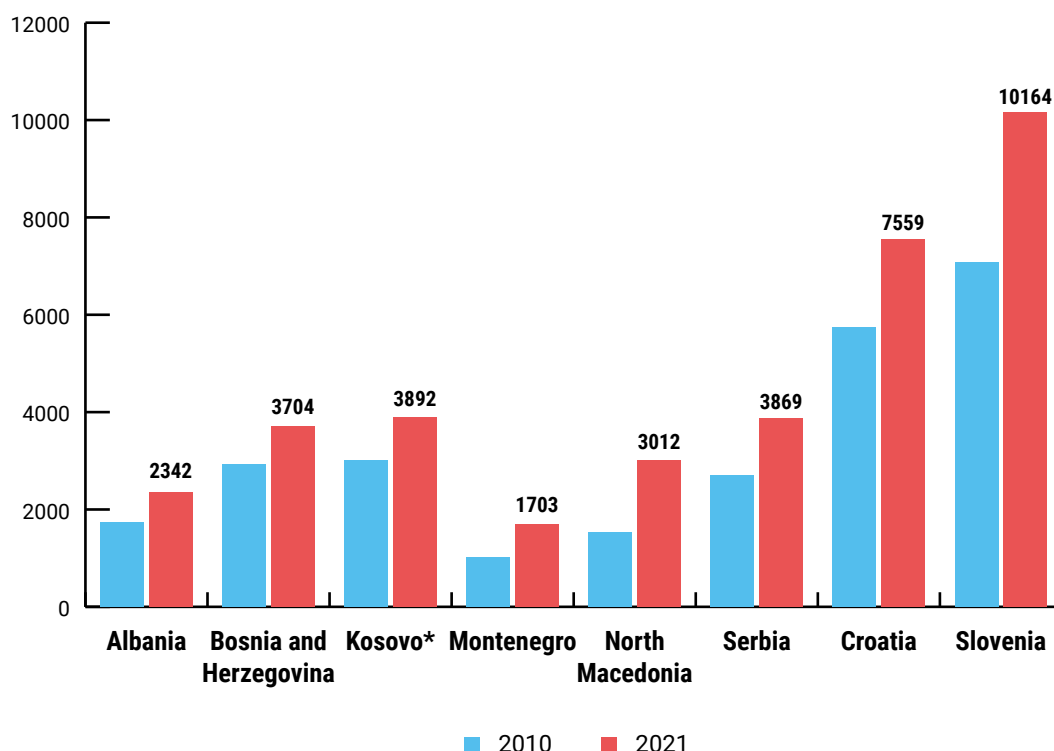
and, moreover, showing a positive trend of becoming even more inclusive for female manufacturing workers (who accounted for 48% in 2023). Serbia and Bosnia and Herzegovina also demonstrate longer-term positive trends, with an increasing proportion of women employed in the manufacturing sector over 2010-2022. For Serbia, this trend has also continued since 2021 when the CRM was launched while it stagnated in Bosnia and Herzegovina. With that, the afore-mentioned WB6 economies are ahead or at least at par with the EU member economies of Croatia and Slovenia where women make up only roughly a third of manufacturing employees.

In contrast, Montenegro and especially Kosovo\* have lower female participation. In Kosovo\*, not even a fifth of manufacturing workers are female. On the upside, there has been clear progress towards greater inclusivity in Kosovo\* - unlike in Montenegro where women's presence in the manufacturing labour force basically has not changed since 2010. In conclusion, while Albania but also North Macedonia show a strong gender balance in their manufacturing sector, other economies have room for improvement in promoting female employment and closing the gender gap. For the region as a whole, some upward trend can be observed as women's share in manufacturing employment has grown from 33% in 2010 to 36% in 2022.

### **3.1.3. Assessment of the manufacturing sector's environmental performance**

The environmental sustainability of development processes is receiving more and more attention and gains importance on the agenda of both governments and corporates. "Greening industry" and promoting "clean manufacturing technologies" have become primary objectives of policymakers. In the next step, we therefore examine the ecological footprint of the Western Balkans Six economies' manufacturing sectors. This assessment will cover various aspects of that environmental footprint and how they have changed in recent years. On the one hand, we will investigate how intensively the manufacturing sector is using different types of inputs into the production process (e.g. energy, materials and water) and how efficiently it is turning them into economic value. On the other hand, we will look at the output side and analyse how much pollution it generates.



**Figure 25: Energy efficiency: MVA created per ktoe of manufacturing sector's energy consumption (US\$ per ktoe)**

Source: Authors' elaboration based on data from WDI and the International Energy Agency (IEA) Data Explorer

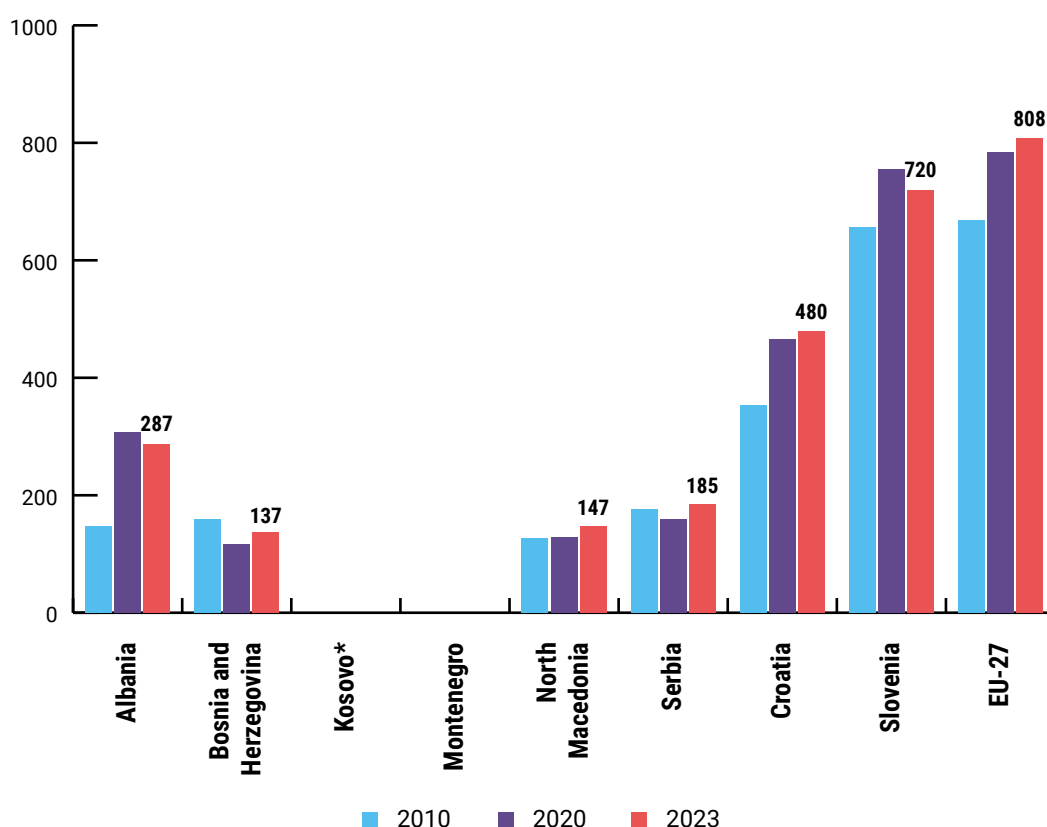
Note: MVA stands for Manufacturing Value Added; ktoe stands for kilo tons of oil equivalent

The first issue we will examine is the efficiency of energy use in manufacturing. To get an idea on this, we calculate the value of Manufacturing Value Added (MVA) generated per ton of oil equivalent (toe) of energy consumption by the manufacturing sector. Figure 25 reports this indicator in US\$ per toe. Higher values reflect higher efficiency in the sense that greater economic value is created per unit of energy consumed by manufacturing processes. Among WB6 economies, Kosovo\* and Serbia have the most energy-efficient manufacturing sectors; for every toe of energy input, they generate close to US\$ 4,000 of MVA. However, despite being regional forerunners, they lag behind the EU member states. They reach only half of Croatia's energy efficiency and less than 40% of Slovenia's.

Within the region, Montenegro and Albania are the laggards. Their manufacturers need almost twice as much energy to produce 1 US\$ of MVA as their counterparts in Kosovo\* and Serbia. Notably, however, all WB6 economies have demonstrated an upward trend since 2010, managing to continuously improve the energy efficiency of manufacturing processes over time. In fact, for the WB6 region as a whole, energy efficiency has improved by 43% during that time (reflected in an increase in the MVA created per toe of energy consumption from US\$ 2,446 to US\$ 3,506). The frontrunners were North Macedonia, where energy efficiency almost doubled, and Montenegro, where it improved by 69%.

The smallest advances were achieved in Bosnia and Herzegovina (+27%) and Kosovo\* (+30%) with Albania (+35%) and Serbia (+44%) somewhere in the middle and close to the improvements seen in Croatia (+32%) and Slovenia (+44%), respectively.

**Figure 26: Resource use efficiency: MVA created per kg of raw materials consumption of the manufacturing sector (US\$ per kg)**



Source: Authors' elaboration based on data from WDI and UNEP's SCP-HAT database

Figure 26 scrutinises a second dimension of resource use efficiency, namely the manufacturing sector's efficiency in turning material inputs into value-added. It illustrates how much MVA is generated for each kilogram of raw materials consumed. Higher values of this indicator show that an economy's manufacturing sector needs less raw materials to create 1 US\$ of MVA. Efficient raw material use is a critical factor in improving productivity, limiting resource depletion and reducing waste in manufacturing processes.

The figure reveals that all WB6 economies (for which data is available<sup>17</sup>) are still far away from EU standards. All of them achieve lower values in material use efficiency compared to the EU average (of US\$ 808 per kg of raw material inputs) and also Slovenia and Croatia. Among the WB6 economies, Albania recorded a relatively high value (at US\$ 287), which has been steadily increasing since 2010 but dipped a bit in 2023. Meanwhile,

<sup>17</sup> No data is available in UNEP's SCP-HAT database for Kosovo\* and Montenegro.

North Macedonia has also continuously improved the raw material efficiency of its manufacturing sector (from US\$ 127 in 2010 to US\$ 147 in 2023) whereas Bosnia and Herzegovina and Serbia experienced a mixed performance until 2020 but have seen consistent improvement since the CRM has been put into practice. On average, resource use efficiency in the region has increased only by 8% since 2010 – which is a much slower pace than in the EU (+26%). As a result, the gap has widened and the EU's manufacturing sector today has a raw material efficiency that is almost 5 times higher than in the WB6. Therefore, continued efforts in the region to enhance resource efficiency will be important for EU alignment and for fostering sustainable industrial growth.

**Figure 27: Water use efficiency: Industrial Value-Added (IVA) created per m<sup>3</sup> of industrial freshwater withdrawal (US\$ per m<sup>3</sup>)**



Source: Authors' elaboration based on data from WDI and the FAO AQUASTAT database

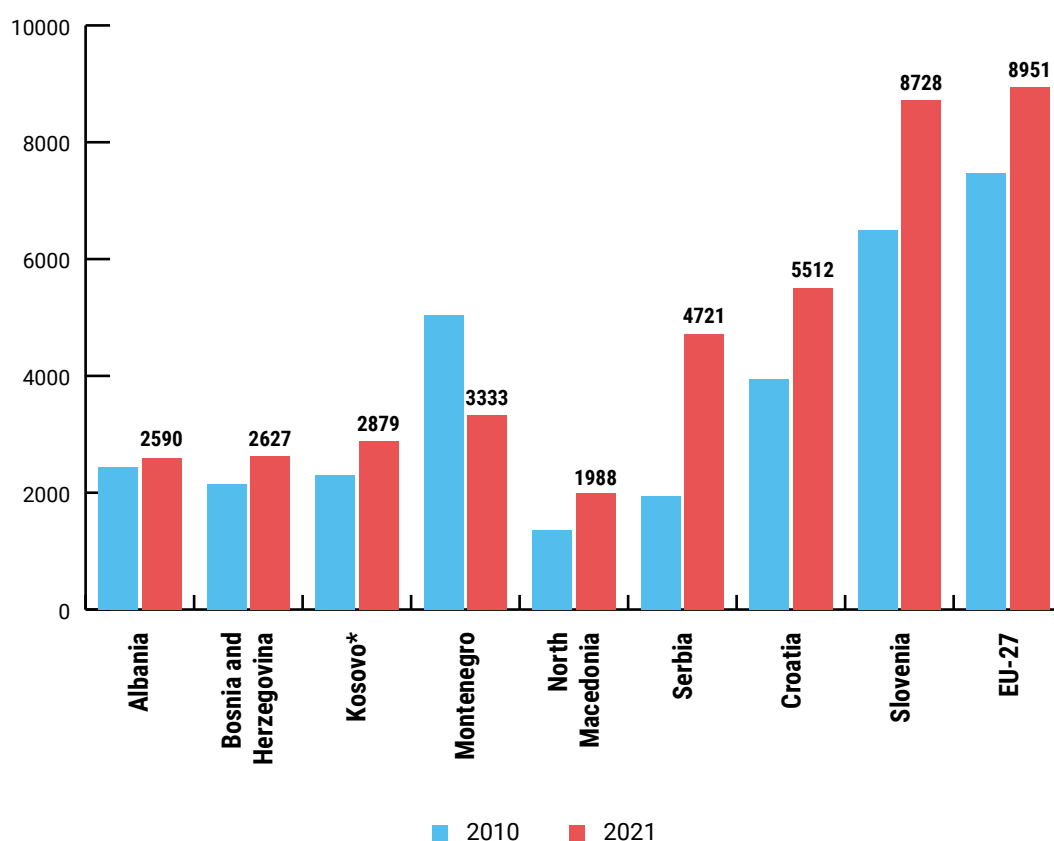
Finally, we look at water as another type of resource used as input in manufacturing processes. To capture how efficiently it is used by manufacturers in the WB6, Figure 27 depicts the Industrial Value-Added (IVA) generated per cubic meter of industrial freshwater withdrawal (US\$ per m<sup>3</sup>)<sup>18</sup>. This indicator measures the efficiency of water

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 18 Please note that, unlike for the previous two efficiency indicators, the unit of analysis here is not the manufacturing sector but the wider industrial sector which in addition to manufacturing also includes mining, construction, and utilities. This is due to water-use data being available only for the industrial sector but not at a more disaggregated level for the manufacturing sector.

use in industrial production, with higher values indicating that more economic value is being created per unit of freshwater consumed. Efficient water use is a critical aspect of sustainable industrial practices, particularly in regions facing water scarcity.

The results show that North Macedonia and Bosnia and Herzegovina have relatively high levels of water-use efficiency within the WB6 region, both outperforming Croatia and Slovenia. Notably, both economies saw significant improvements between 2010 and 2021. North Macedonia, in particular, achieved a dramatic increase, rising the IVA produced per m<sup>3</sup> of freshwater withdrawn from US\$ 9.8 in 2010 to US\$ 84.5 in 2021. Despite these improvements, both North Macedonia and Bosnia and Herzegovina are far away from the EU benchmark, with their industrial water-use efficiency being around two thirds below the EU average. Albania, Montenegro and Serbia, on the other hand, are lagging even further behind. Among them, the Montenegrin industry at least succeeded in improving its water-use efficiency whereas there was stagnation in Albania and Serbia, indicating a need for focused efforts to optimise water use in their industrial sectors.

**Figure 28: Emissions efficiency of industry: US\$ of IVA per Mt of CO<sub>2</sub> emitted**



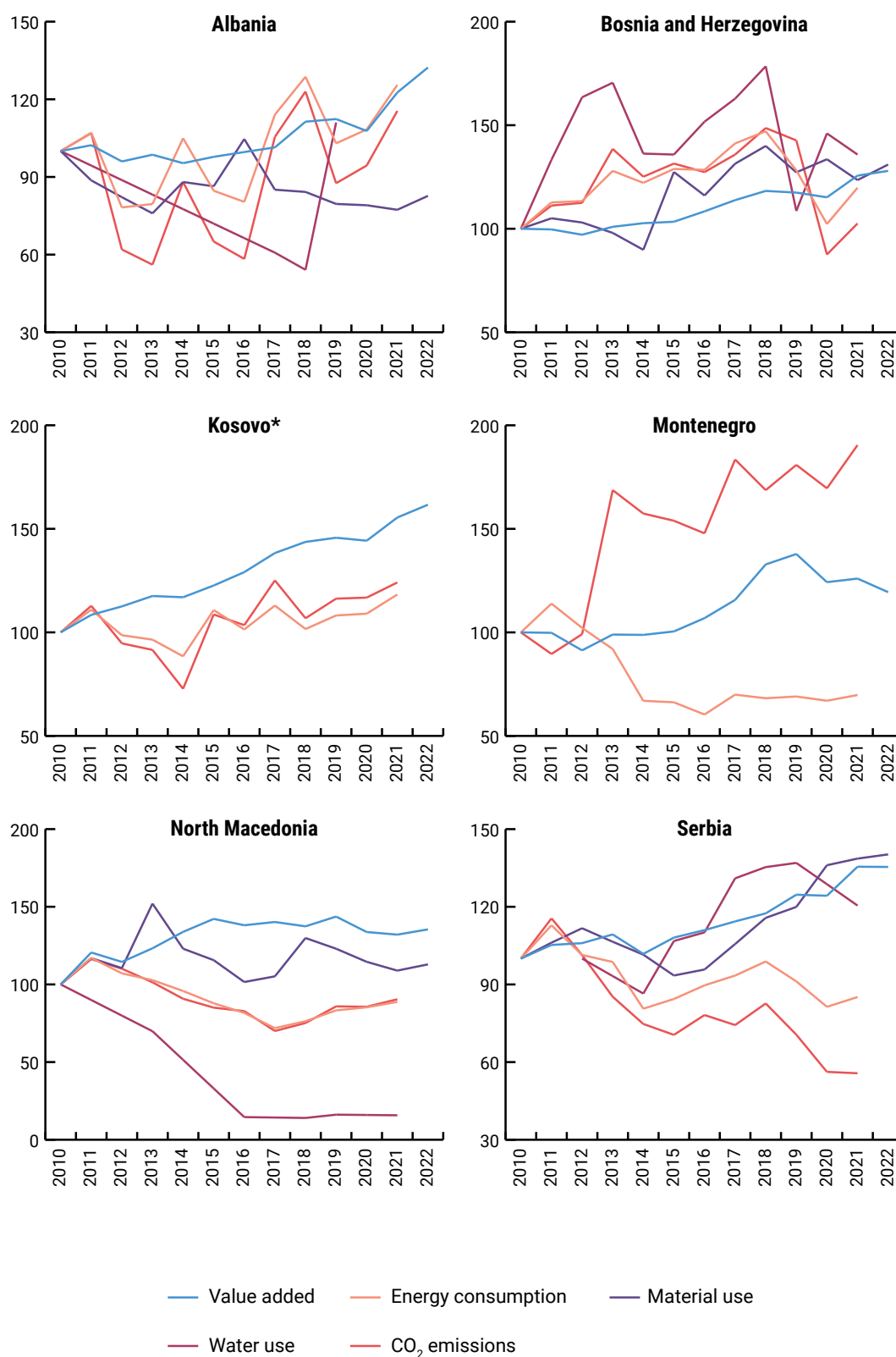
Source: Authors' elaboration based on data from WDI and the IEA Data Explorer

Note: IVA stands for Industrial Value-Added, Mt stands for metric ton

In addition to its use of natural resources as inputs into production processes, industrial activity also has an impact on the environment through the outputs it creates. Harmful outputs are often referred to as environmental pollution. The most widely discussed type of pollution, due to its role in driving climate change, are greenhouse gas (GHG) emissions, among which CO<sub>2</sub> emissions dominate. To capture how polluting the WB6's industries are compared to the economic welfare they create, Figure 28 depicts how much US\$ of value-added (IVA) they generate for every metric ton (Mt) of CO<sub>2</sub> that they emit. This is an indicator that reflects the carbon intensity or, conversely, the emissions efficiency of industrial activities. A higher value indicates more sustainable industrial practices, with less carbon dioxide emitted per unit of economic output. Monitoring this metric is essential for understanding the environmental impact of industrial sectors and for identifying areas for decarbonisation.

The figures reveal Serbia and Montenegro as leaders in the WB6 region with relatively high values of US\$ of IVA per CO<sub>2</sub> emissions. With US\$ 4,700 of IVA created for every Mt of CO<sub>2</sub> emitted, the emissions efficiency of Serbia's industry is actually quite close to Croatia's (at US\$ 5,500) but still quite a bit behind Slovenia's (at US\$ 8,700) and the EU's (at almost US\$ 9,000). However, Montenegro is the only WB6 economy where industry's emissions efficiency has decreased in 2010 and 2021. Opposed to this, Serbia (where industry's emissions efficiency increased by 143%) but also Albania (+6%), Bosnia and Herzegovina (+23%), Kosovo\* (+25%), and North Macedonia (+46%) have all experienced an upward trend during the same period, reflecting a decline in the carbon intensity of their industrial activity. However, Albania, Bosnia and Herzegovina, Kosovo\*, and North Macedonia all started from a low baseline and still have quite a bit to do to curb industrial pollution and to bring their emissions efficiency closer to the EU level. For the WB6 region as a whole, however, it can be observed that it has improved its industrial emissions efficiency three times faster than the EU (+65% vs. +20%), thereby narrowing the gap.

**Figure 29: Environmental decoupling of industrial activity: Trends in IVA vs. trends in energy consumption, materials use, freshwater withdrawal and CO<sub>2</sub> emissions (2010 = 100)**



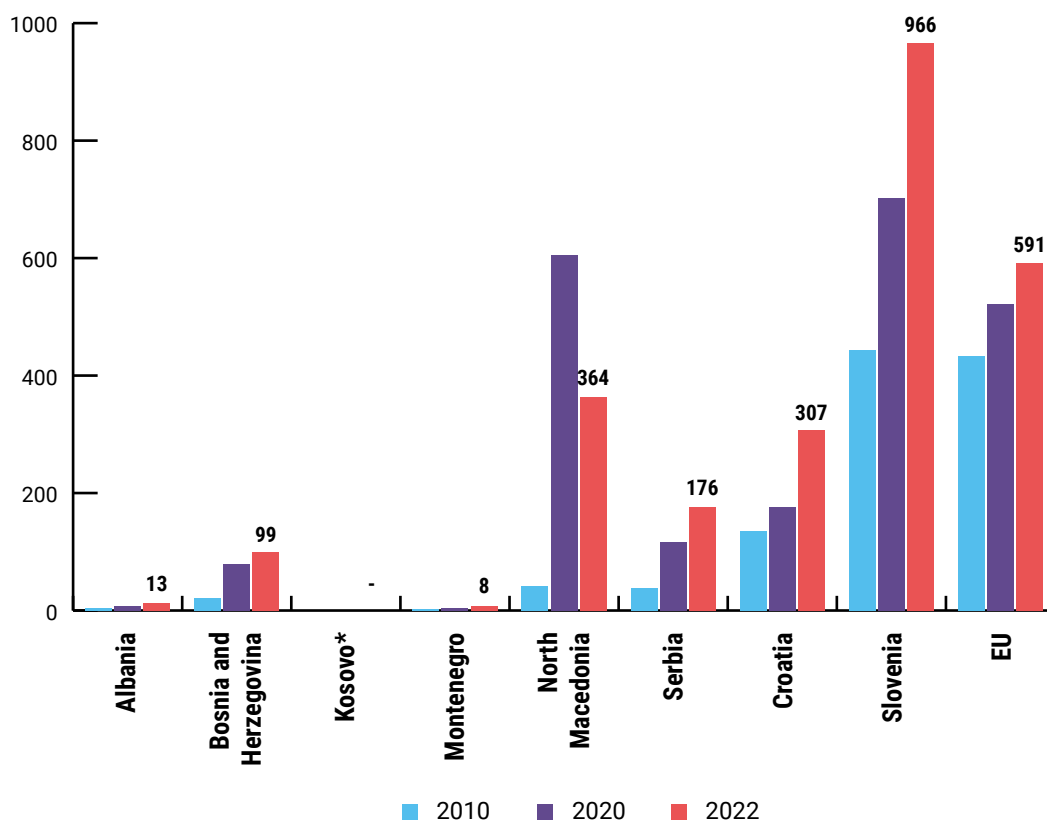
Sources: Authors' elaboration based on data sources quoted above

To enable a comparative analysis, we bring all the environmental performance indicators together and represent them in one single graph per WB6 economy. We do this in order to be able to identify when and where their industrial sectors have achieved “decoupling”. Over a given period of time, “decoupling” occurs when the growth rate of an economic indicator—in this case, the manufacturing sector’s MVA—is higher than the growth rate of its environmental impact, such as CO<sub>2</sub> emissions, energy consumption, or materials use. Achieving decoupling is crucial for environmentally sustainable development, as it means that economic welfare expands without a proportional increase in environmental degradation. Conceptually, “absolute decoupling” is distinguished from “relative decoupling”. The former can be observed when the economic variable (e.g. GDP or IVA or MVA) grows while the environmental variable declines in absolute numbers. In other words, this describes a win-win situation in which the economic good (or benefit) can materialise while at the same time the environmental bad (e.g. pollution, degradation, resource depletion) is reduced. “Relative decoupling” occurs when the expansion of the economic variable outpaces but still entails the increase in the economic variable. In this scenario, both economic activity and its environmental impact grow – but the latter increases at a lower rate than the former.<sup>19</sup>

Figure 29 plots the trajectories of an economic performance indicator (IVA) and four variables related to industry’s environmental footprint, namely energy consumption, freshwater withdrawal, raw materials use, and CO<sub>2</sub> emissions. By setting the baseline value in the year 2010 to 100, we can observe how the different variables trend over time. Wherever the curve of an environmental indicator is below the IVA curve, “relative decoupling” can be diagnosed. Wherever the curve of the environmental indicator falls below the horizontal axis, “absolute decoupling” has taken place (as long as the IVA index shows a value above 100).

From Figure 29 we can see that Albania, Kosovo\*, North Macedonia, and Serbia have successfully decoupled their industrial development from its environmental impact across all categories, with the growth rate of their IVA outpacing the growth of all their environmental impact indicators. In some areas, they have even achieved absolute decoupling. This signifies progress towards sustainable economic development, as these economies are managing to grow their industrial sectors while mitigating the negative effects on the environment. In contrast, Bosnia and Herzegovina and Montenegro have not fully decoupled, as their water and raw material use (in the case of Bosnia and Herzegovina) and their CO<sub>2</sub> emissions (in the case of Montenegro) have grown at a faster rate than their IVA. Overall, however, it can be concluded that the Western Balkans Six economies have made quite significant strides in decoupling their industrial growth from the environmental harm that it produces.

19 See the new EQUIP tool 7: <https://www.equip-project.org/the-equip-toolkit-2024/tool-7/>

**Figure 30: Exports of environmental goods per capita (in US\$)**

Source: Authors' elaboration based on data from the World Bank's WITS data portal

The green transition requires the production of “environmental goods”<sup>20</sup>, i.e. goods that help to mitigate climate change, protect the environment and sustainably manage natural resources. Many of these environmental goods are capital goods, including clean technologies (e.g. for renewable energy). The market for such “green” sectors and products is a very dynamic one.<sup>21</sup> The extent to which economies produce such goods reflects, on the one hand, their ambition of advancing in the green transition and how far they have gotten and, on the other hand, how much they have been able to exploit these market opportunities.

20 Environmental goods (EGs) are a heterogeneous set of goods aimed at environmental protection and natural resource management. According to Eurostat, they include products that serve the following purposes: (i) preventing pollution, degradation or natural resources depletion; (ii) repairing damage to air, water, biodiversity and landscapes, and damage caused by waste and noise; (iii) reducing, eliminating, treating and managing pollution, degradation and natural resource depletion; (iv) carrying out other activities related to environmental protection or resource management such as measurement and monitoring, control, research and development, education, training, information and communication. The list of EGs used here is a combination of the lists developed by the World Bank and the Asia Pacific Economic Cooperation (APEC) and consist of 87 products at the HS 6-digit level. It can be found in the Annex of EQuIP Tool 7 which can be downloaded from [www.equip-project.org/wp-content/uploads/2024/09/EQuIP-Tool-7-Environment.pdf](http://www.equip-project.org/wp-content/uploads/2024/09/EQuIP-Tool-7-Environment.pdf).

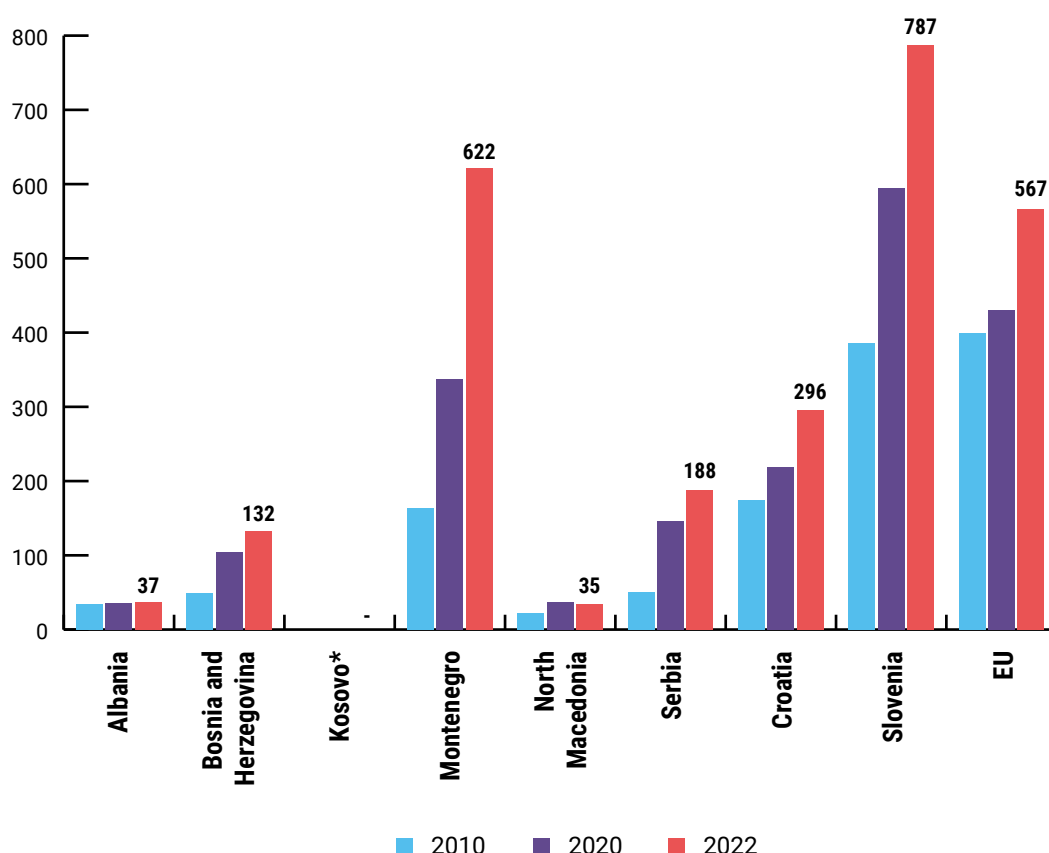
21 See OECD (2019), for example.



Figure 30 illustrates the exports of environmental goods per capita, an indicator that measures an economy's capacity to produce "green products" and its contribution to the diffusion of environmentally friendly products. Growing exports of such goods indicate progress in adopting and producing technologies that support sustainability, reflecting an economy's role in the green economy. This metric is key for evaluating how well economies are transitioning towards more environmentally responsible industries.

The results show that North Macedonia has a relatively high export value of environmental goods within the WB6 region, close to the levels of Slovenia and the EU. Between 2010 and 2020, North Macedonia's exports grew significantly from 41 to 606 US\$ per capita but saw a decline to 364 US\$ per capita in 2022. Serbia follows with steady growth, increasing from 135 US\$ in 2010 to 307 US\$ in 2022. Bosnia and Herzegovina also shows progress, rising from 21 US\$ per capita in 2010 to 99 US\$ in 2022. Albania, however, records the lowest values in the region, indicating limited participation in the export of environmental goods. On average, the WB6 region exports environmental goods worth US\$ 145 per capita, which represents only a quarter of the value seen in the EU (at US\$ 591). However, since 2010, WB6 exports have grown more than 10 times faster than in the EU (+423% vs. 36%), pointing to some catching up that is going on.

**Figure 31: Imports of environmental goods per capita (in US\$)**



Source: Source: Authors' elaboration based on data from the World Bank's WITS data portal

The value of imports of environmental goods per capita, on the other hand, is an indicator that reflects an economy's commitment to the green transition, capturing its investments into adopting green technologies and practices by importing environmentally friendly products. Higher values suggest a strong focus on sustainability and a growing demand for goods that support environmental protection and sustainable development.

Figure 31 shows that Montenegro has the highest imports of environmental goods per capita in the region, surpassing Croatia and even the EU average. Additionally, Montenegro demonstrates a consistent upward trend between 2010 and 2022. It is followed by Serbia and Bosnia and Herzegovina, both of which show moderate import values per capita. In contrast, North Macedonia (which is a strong exporter) and Albania record the lowest value in the region, indicating limited importation of environmental goods. In conclusion, Montenegro leads the region in the adoption of foreign environmental goods, signalling its strong focus on sustainability. Serbia and Bosnia and Herzegovina are making progress, while North Macedonia and Albania lag behind, suggesting a need for greater emphasis on integrating clean technologies. Looking at the WB6 as a region, it imports environmental goods worth US\$ 141 per capita which is, again, only a fourth of the level seen in the EU (at US\$ 567). However, since 2010, there has been quite a bit of convergence as WB6 imports have expanded almost 5 times faster than in the EU (+195% vs. 42%).

### **3.1.4. Key findings emerging from the performance assessment of the manufacturing sector**

In summarising, the following observations stand out. Over the last decade, the WB6 region has undergone some gentle structural change. The manufacturing sector slightly increased its contribution to the region's GDP from 9% in 2010 to 10% in 2022 while the share of MHT industries in MVA went up from 13% to 17%. In fact, all WB6 economies have seen an expansion in their industrial capacity since 2010 and, with the exception of Albania, also in their manufacturing export capacity, implying at least some convergence towards the EU. For the WB6 region as a whole, it can be observed that its industrial capacity has grown almost twice as fast as the EU's over the last decade (3.54% vs. 1.99% annually) but the EU's is still around 7 times larger than the WB6 region's.

Similarly, thanks to growing almost two times faster (6.0% vs. 3.3% annually), the WB6 region's *manufacturing export capacity* has converged quite a bit towards the EU's level over the last decade. Apart from Albania, all WB6 economies have also increased their world export market shares, pointing to some gains in the international competitiveness of their manufactures. Still, each of them runs a manufacturing trade deficit, revealing significant dependency on foreign supplies.

Moreover, production and export *upgrading* have remained rather elusive. Only in Serbia and North Macedonia has there been a continuous rise in the technology intensity of manufacturing output and exports. At the same time, however, imports of Industry 4.0 goods have grown across the WB6, signalling a serious commitment to accelerate digital transition in the region.

Meanwhile, regional integration in the manufacturing sector is still quite limited and not really picking up. In fact, the share of *intra-regional trade* in total manufacturing exports and imports has been on a downward trend since 2010 but stabilising after the CRM Action Plan was launched. On average, intra-regional trade accounts for 12% of the WB6's total manufacturing imports and for around 14% of their manufacturing exports, leaving quite some room for deepening *regional integration* of manufacturing systems.

Looking at the manufacturing sector's performance on social indicators, it is worthwhile noting that over the last decade it has created jobs in almost all WB6 economies (except Montenegro), but *labour productivity* gains have been less widespread. The WB6 region as a whole, however, has seen both employment (+3.4% p.a.) and labour productivity (+0.5% p.a.) grow between 2010 and 2022. The *average wages* paid in the manufacturing sector have grown by between 2% and 4% a year across the WB6 (apart from Montenegro where they declined). They are still much lower than in EU member states but the gap is slowly narrowing.

When it comes to the environmental footprint of the WB6's manufacturing sectors, notable advances can be observed in energy efficiency and emissions intensity. In fact, for the WB6 region as a whole, energy efficiency has improved by 43% between 2010 and 2022, measured as an increase in the MVA created per toe of energy consumption from US\$ 2,446 to US\$ 3,506. The emissions efficiency of the region's industry has improved even more pronouncedly (+65%), clearly outperforming the EU (+20%). Gains in resource efficiency have been more modest but picked up a bit during the CRM implementation period. In all these areas, considerable gaps remain vis-à-vis the EU. Overall, however, the WB6 have been quite successful in *decoupling* industry expansion from its environmental impact. Their ambitions to green their industries are further reflected in growing imports of environmental goods (incl. clean technologies) with a notable uptick during the CRM period.

## 3.2. PERFORMANCE ASSESSMENT OF PRIORITY SUB-SECTORS

This sub-chapter zooms in on the development of three of the industries belonging to the manufacturing sector that the CRM Action Plan 2021-2024 prioritises: agri-food, automotive and metal-processing. The assessment of the performance of these priority sub-sectors will again be multi-dimensional, covering economic, social, and environmental aspects. It will be based on a set of quantitative indicators (the full list is provided in Annex 6.2). The analysis will again cover the time periods since 2010 (the historical reference) and 2020 (the pre-CRM baseline) until the latest year available. It will also benchmark the WB6's performance against Croatia, Slovenia, and the EU as comparators.

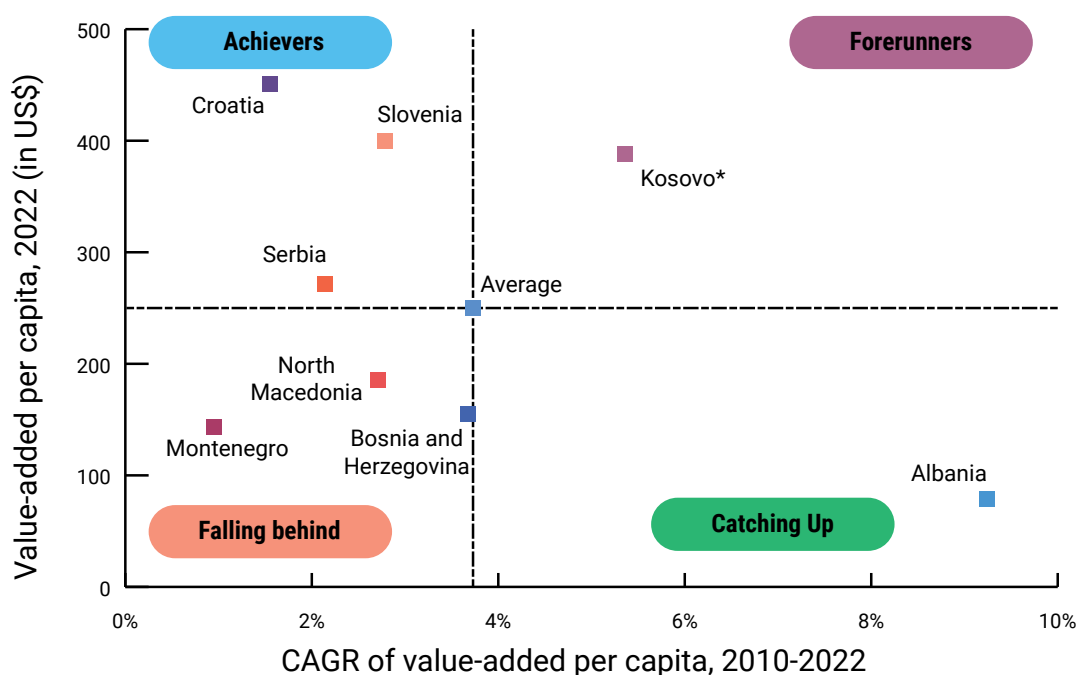
### 3.2.1. Agri-Food Industry<sup>22</sup>

The first priority sub-sector whose recent performance will be examined is the agri-food industry which plays an important role in all WB6 economies.

#### 3.2.1.1. Assessment of agri-food industry's economic performance

In the first step, we will investigate the sub-sector's performance across a set of economic indicators. Figure 32 presents the agri-food industry's production capacity (defined as sectoral value-added per capita in US\$) and its compound annual growth rate during 2010-2022, classifying economies into four groups as outlined in Figure 11: forerunners, achievers, catching up, and falling behind. The WB6 region as a whole in 2022 had a productive capacity in the sector that amounted to US\$ 207, after having grown by about 4% a year since 2010. In fact, it can be recognised that each of the WB6 economies has managed to pump up the production capacity for agri-foods over the last decade.

**Figure 32: Agri-food industry production capacity and its growth rate (2010-2022)**



Source: Authors' elaboration based on data from UNIDO INDSTAT

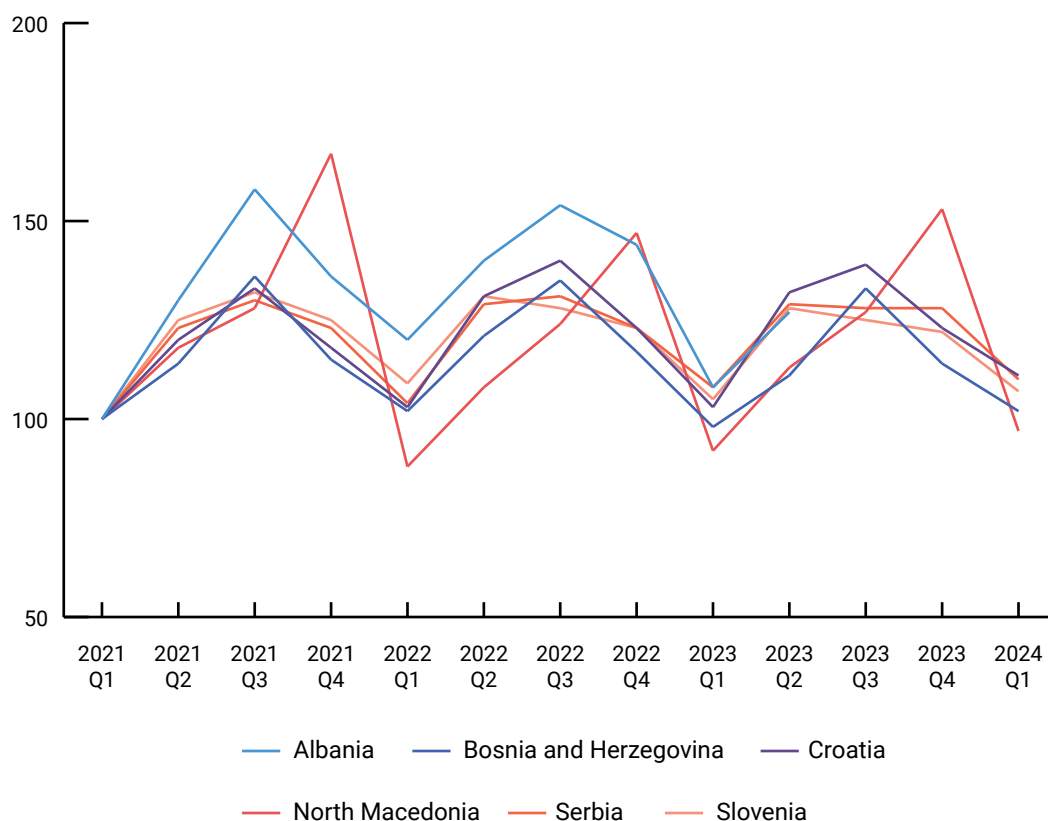
The results further show that Kosovo\* stands out as a forerunner, indicating strong production capacity (standing at US\$ 387 of agri-food value-added per capita) coupled with high growth (+5.5% p.a.), positioning it as a leader in agri-food industry within the region.

<sup>22</sup> The agri-food industry is defined to cover division "15 – Food and beverages" of the 3rd revision of the International Standard Industrial Classification of All Economic Activities (ISIC rev. 3) or, where applicable, divisions 10 and 11 of ISIC rev. 4.

Albania is classified as catching up, with relatively low production capacity (US\$ 76) but high growth rates (+9.2% p.a.), signalling progress and potential for further development. Serbia – along with Slovenia and Croatia – emerges as an achiever, demonstrating robust production capacity (US\$ 278) but slower expansion (+2.3% p.a.).

On the other hand, North Macedonia, and Montenegro are classified as falling behind, with both lower-than-average production capacity (at US\$ 177 and US\$ 129, respectively) and low growth rates (at +2.6% p.a. and +1% p.a., respectively), highlighting challenges in leveraging the agri-food industry as an economic driver. Bosnia and Herzegovina (with a productive capacity of US\$ 158 of agri-food value-added per capita and a CAGR of 3.4%) is positioned at the frontier between falling behind and catching up, indicating a mixed performance that reflects potential for growth if appropriate measures are taken to address existing bottlenecks.

**Figure 33: Quarterly Index of Industrial Production (IIP) in the agri-food industry**



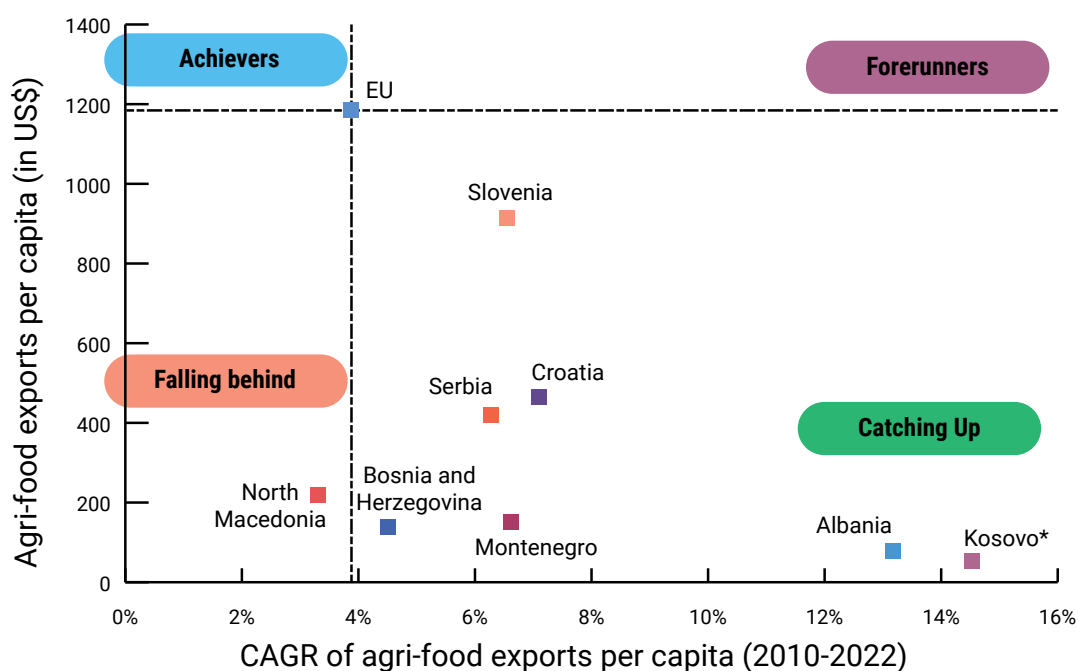
Source: Authors' elaboration based on data from UNIDO INDSTAT

Figure 33 tracks the Quarterly Index of Industrial Production (IIP) in the agri-food industry for the period 2021-2024. The IIP is a crucial indicator that measures changes in sub-sectoral output over time compared to a base year. In this analysis, the values of the indexes are normalised to the first quarter of 2021, with Q1 2021 set as the base value

(100). Values below 100 indicate that a sub-sector's output has declined relative to the base period while any value above 100 points to an expansion of sub-sectoral production.

The figure shows quite some fluctuation in the index, reflecting the strong seasonal cycles that are characteristic for this industry. The graph also shows that in Q1 2024 North Macedonia's IIP was actually slightly below its level in Q1 2021, implying that its agri-food output has declined by 3% since the start of the CRM. By contrast, it stood at 127 for Albania (in Q2 2023, the latest available data point), 110 for Serbia and 102 for Bosnia and Herzegovina, indicating that agri-food production there expanded during the CRM implementation period. It is noticed, though, that except for Serbia, this expansion has been smaller than in the EU member states of Croatia (IIP of 111 in Q1 2024) and Slovenia (IIP of 107 in Q1 2024).

**Figure 34: Export capacity of the agri-food industry and its growth rate**



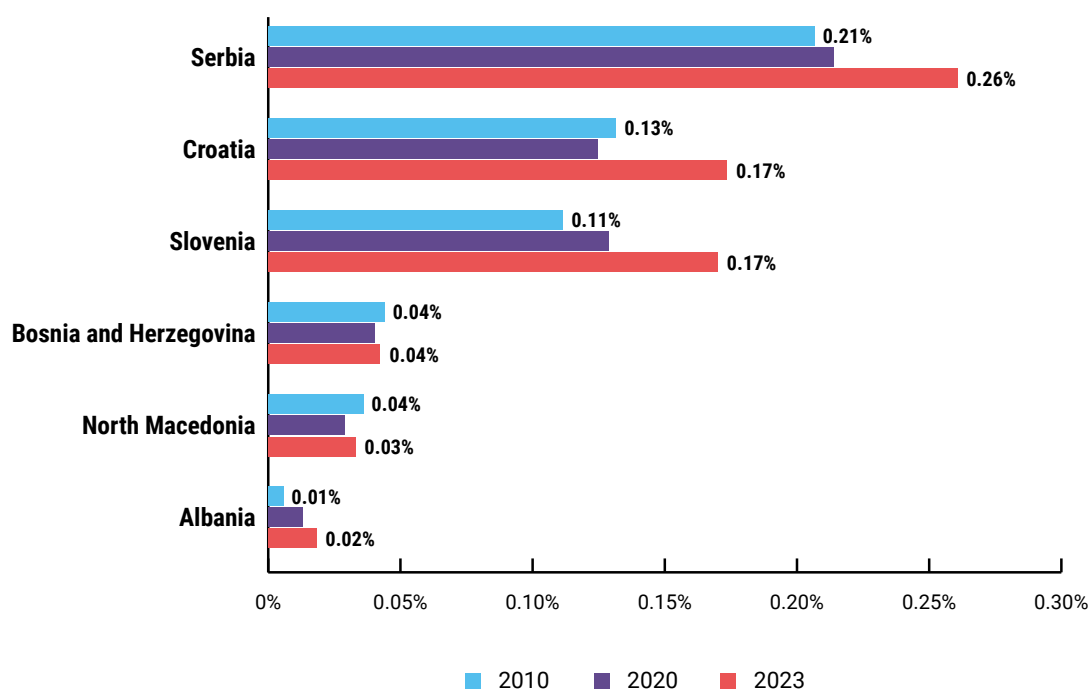
Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

Measuring the value of sub-sectoral exports per capita gives an indication of an economy's export capacity in that sub-sector and of its ability to compete in international markets. Figure 34 evaluates the export capacity of agri-food industry and its growth rate in the period 2010-2022 across the WB6 economies against the benchmark of the EU. In fact, all WB6 economies saw an improvement in this indicator. In 2022 the WB6 region as a whole had an agri-food export capacity of US\$ 246 (around a quarter of the EU's US\$ 1,185) that had grown annually by 6% since 2010 (thereby being 50% higher than the growth rate seen in the EU at close to 4%).

The results indicate that Albania, Montenegro, Serbia, Croatia, Slovenia, Kosovo\* and Bosnia and Herzegovina are in the catching-up category. These economies demonstrate an export capacity lower than the EU's but exhibit higher growth in their agri-food exports. This classification suggests positive momentum, driven by improvements in production quality, diversification of products, or increasing access to international markets. Among them, Serbia is the one with the largest export capacity (US\$ 441), followed by North Macedonia (US\$ 205), Bosnia and Herzegovina (US\$ 147), Albania (US\$ 74) and Kosovo\* (US\$ 38). The ranking according to the growth rate of their agri-food export capacity looks almost upside down. Here, Kosovo\* leads (+14.6% p.a.) ahead of Albania (+13.3% p.a.), Montenegro (+6.4% p.a.), Serbia (+6.3% p.a.), and Bosnia and Herzegovina (+4.7% p.a.).

In contrast, North Macedonia is classified as falling behind, reflecting challenges in increasing its agri-food export capacity. Its export capacity at US\$ 205 in 2022 was actually second among WB6 economies but its growth rate at +3.5% has been lower than in the EU.

**Figure 35: World export market share in the agri-food industry**

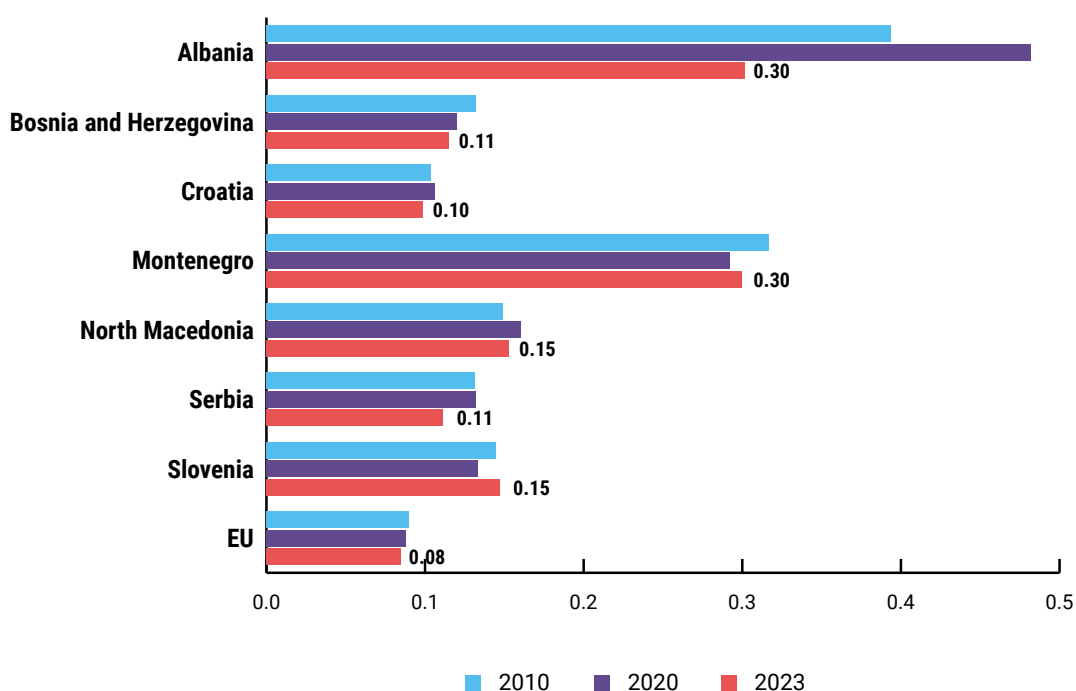


Source: Authors' elaboration based on data from the World Bank's WITS data portal

Figure 35 illustrates that WB6 economies are niche players with pretty small world market export shares in the agri-food industry. Albania's, North Macedonia's, and Bosnia and Herzegovina's market shares are also lower than in the regional benchmarks (Croatia

and Slovenia). Serbia is the only WB6 economy with a higher share. It is also the only WB6 economy that has managed to significantly increase its footprint in global agri-food markets. Meanwhile, Albania has slightly increased its global export market share whereas Bosnia and Herzegovina's stagnated and North Macedonia's declined.

**Figure 36: HHI for export product diversification in the agri-food industry**



Source: Authors' elaboration based on data from the World Bank's WITS data portal

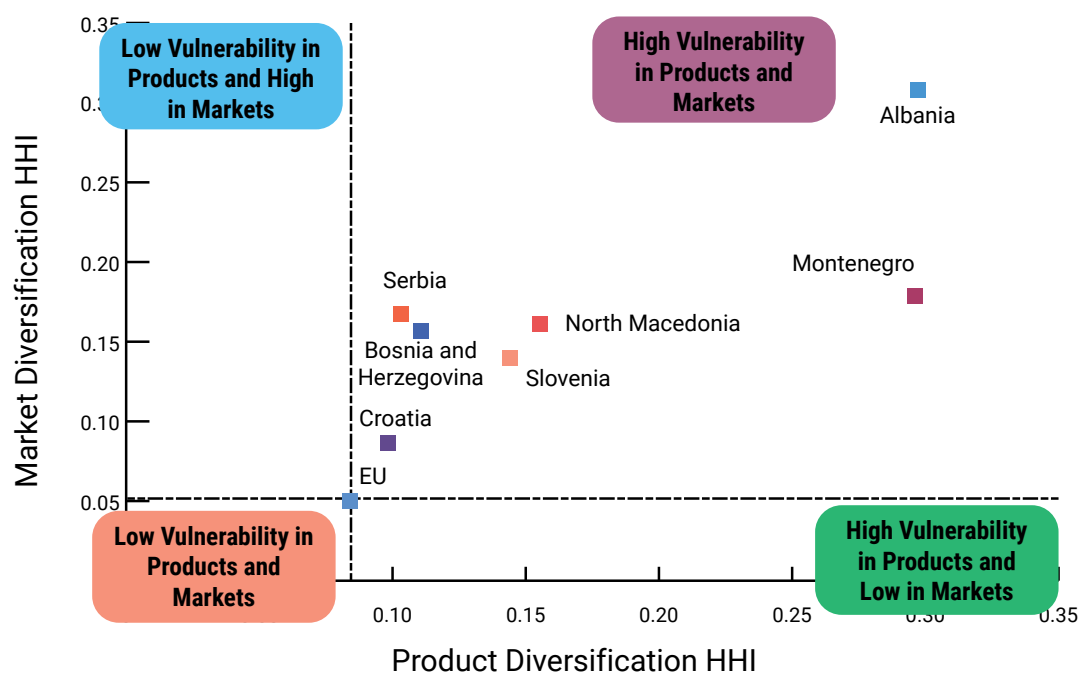
This limited export competitiveness is further reinforced by Figure 36, which highlights the Hirschman-Herfindahl Index (HHI) for export product diversification in the agri-food sector. Albania, while having the lowest world export share, registers the highest HHI, indicating heavy reliance on a narrow range of products. Similarly, North Macedonia, which has the second-lowest world market share, also has the second-lowest HHI among WB6 economies. Bosnia and Herzegovina, with the third-lowest world share, follows closely with the third-highest HHI. This correlation between a high HHI and a low world market share underlines the importance of diversification for enhancing global competitiveness. Economies overly dependent on a limited set of products are less resilient to global market changes and find it harder to penetrate new markets.

Figure 37 expands on this analysis by showing that all economies in the region, including comparators like Croatia and Slovenia, exhibit higher HHI values for both product and market diversification compared to the EU average. This indicates that these economies are comparatively more exposed to external shocks due to their less diversified product

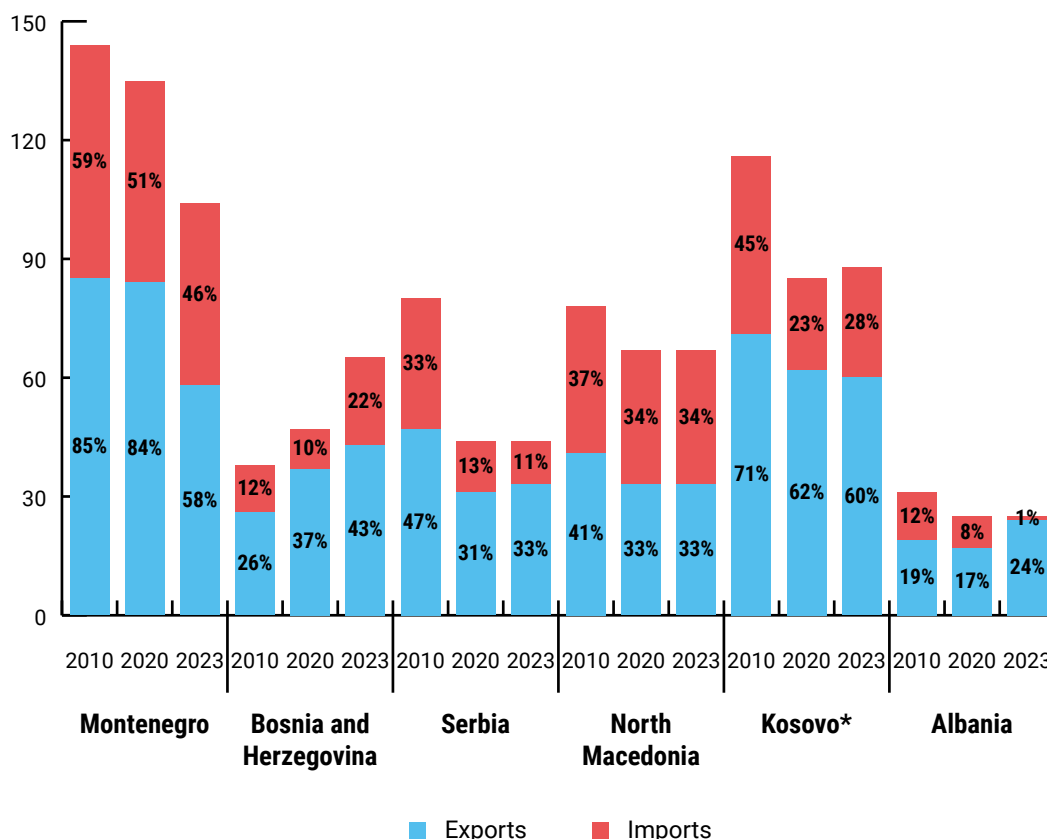


and market portfolios, which potentially implies certain vulnerabilities to sudden changes in dominant export destinations or product markets. Overall, however, it has to be emphasized that HHI values are rather towards the lower end of the spectrum for all WB6 economies except Albania (and Montenegro when it comes to product diversification).

**Figure 37: Diversification matrix for agri-food exports**



Source: Authors' elaboration based on data from the World Bank's WITS data portal

**Figure 38: Share of intra-regional trade in total agri-food exports and imports**

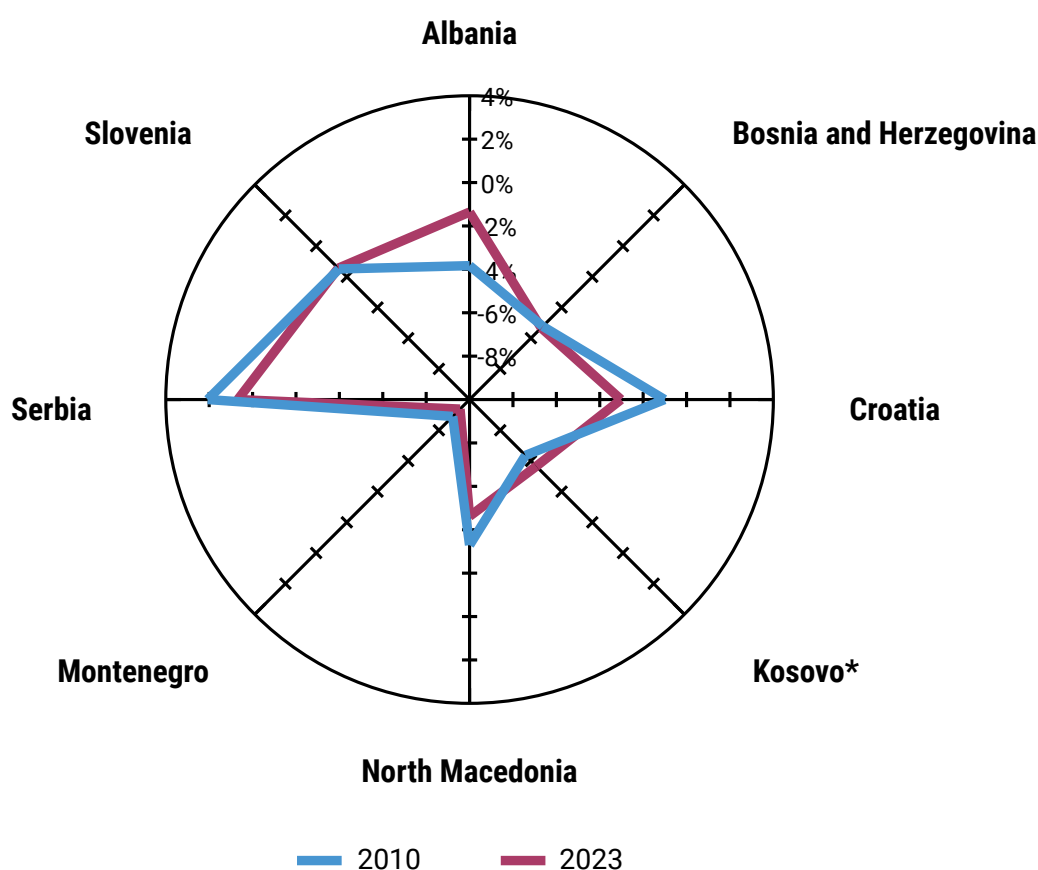
Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

Figure 38 examines the share of intra-regional trade in total agri-food exports and imports among the Western Balkans Six (WB6) economies between 2010 and 2023, offering insights into the dynamics of regional integration in the agri-food sector. Overall, 42% of the WB6 economies' agri-food exports were intra-regional and 24% of its imports. This implies that while intra-regional trade is not insignificant, most of the WB6's agri-food trade is with partners outside the region. Moreover, there has been a downward trend in these shares which in 2010 stood at 48% for exports and at 33% for imports. These shares have broadly stabilised during the CRM implementation period but there has clearly not been a trend towards a deeper regional integration of agri-food markets.

The results further indicate that intra-regional trade is most important for Montenegro. However, this share has seen a notable decline over the observed period. In 2010, Montenegro exported over 86% of its agri-food products to other WB6 economies, but this figure dropped to 58% by 2023. This decreasing trend suggests a shift in Montenegro's trade orientation, possibly towards diversifying export markets beyond the immediate region. Despite the decline, Montenegro remains a key player in regional trade, highlighting its reliance on neighbouring markets for agri-food exports.

A similar pattern is observed for Kosovo\*, where the share of agri-food exports to WB6 economies decreased from 71% in 2010 to 60% in 2023. While Kosovo\* still maintains strong ties within the region, the declining share reflects increasing efforts to access markets outside the WB6. This diversification may enhance Kosovo\*'s resilience to regional economic fluctuations but underscores the need to sustain its traditional trade linkages. In contrast, Bosnia and Herzegovina demonstrates an increasing trend in intra-regional agri-food trade. Its share of exports to WB6 economies rose from 26% in 2010 to 43% in 2023, indicating stronger trade integration within the region. This upward trajectory suggests that Bosnia and Herzegovina has successfully expanded its agri-food trade relationships with neighbouring economies, leveraging regional demand to support its agricultural sector. Meanwhile, Albania engages the least in intra-regional trade of agri-food products while North Macedonia and Serbia are somewhere in the middle but with downward trends.

**Figure 39: Trade balance of agri-food industry (in % of GDP)**



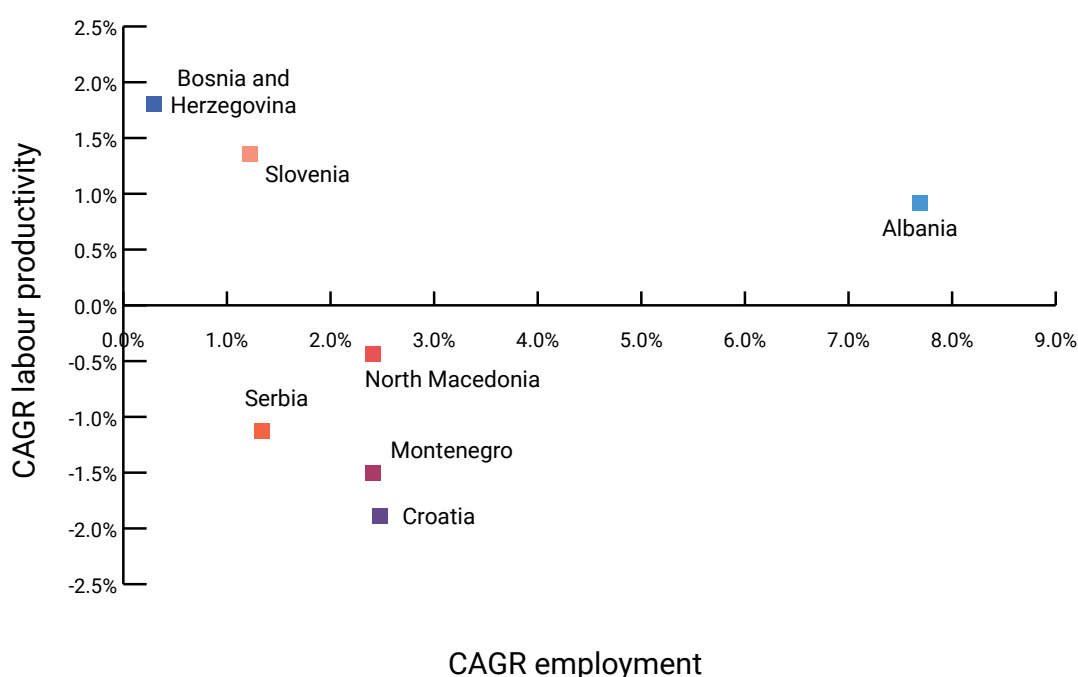
Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

Figure 39 presents the trade balance in the agri-food industry as a share of GDP for selected economies in 2010 and 2023. In 2023, Albania showed an agri-food trade deficit of -1% of its GDP, reflecting an improvement from 2010 when the deficit stood at -4%. This narrowing gap suggests progress in enhancing the economy's food exports or reducing its reliance on imports. Bosnia and Herzegovina, on the other hand, has maintained a consistent trade deficit of -5% of its GDP in both 2010 and 2023, indicating stagnation in efforts to improve the balance of trade in manufactured goods. North Macedonia's trade deficit has worsened over the observed period, increasing from -3% in 2010 to -5% in 2023. This trend signals growing challenges in addressing trade imbalances within its food sector. Kosovo\* showed moderate progress, with its agri-food trade deficit decreasing from -6.4% of GDP in 2010 to -5.7% in 2023. Although this represents an improvement, the persistently high deficit underscores ongoing structural issues, including reliance on imported goods and challenges in scaling export-oriented food products. Meanwhile, Montenegro has consistently recorded the largest trade deficit, with -9% of GDP in both 2010 and 2023, revealing persistent structural weaknesses in its food sector and a continued heavy reliance on imported goods.

### 3.2.1.2. Assessment of agri-food industry's social performance

After this tracking of economic performance of the agri-food sub-sectors in the WB6 economies, we will now shed some light on how they have fared across a couple of social performance indicators.

**Figure 40: Labour market dynamics in agro-industry: Job creation and productivity growth 2010-2022**

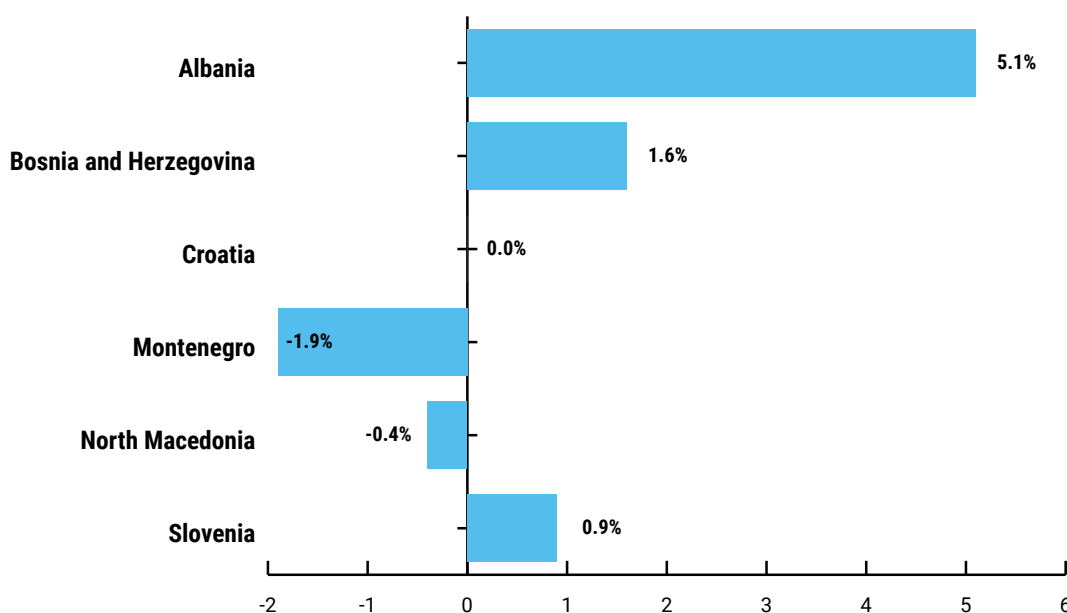


Source: Authors' elaboration based on data from UNIDO INDSTAT

First, we look at recent trends in the agri-food industry labour markets across the WB6 economies, plotting the Compound Annual Growth Rate (CAGR) of sub-sectoral employment (2010-2022) on the x-axis and the CAGR of labour productivity (measured as sub-sectoral value-added per employee) on the y-axis in Figure 40.

The graph can be divided into four quadrants along the x- and the y-axes with each representing distinct labour market dynamics. The top-right quadrant features economies that have achieved both positive employment growth and rising labour productivity in the agri-food industry. Albania, Bosnia and Herzegovina, and Slovenia occupy this quadrant, signalling a robust balance between job creation and improvements in labour efficiency. Albania's agri-food sector stands out with the fastest employment growth, averaging 7.8% annually since 2010, with its registered annual labour productivity gains of 0.8%. Bosnia and Herzegovina demonstrates the strongest productivity growth, with an average yearly increase of 1.8%, while it has created new agri-food jobs at a pace of 0.2% a year. This combination indicates a thriving agri-food sector that is both expanding its workforce and enhancing its output per worker.

In contrast, Serbia, North Macedonia, Montenegro, and Croatia are positioned in the bottom-right quadrant, characterised by increasing labour productivity but declining employment in the agri-food industry. This dynamic suggests a shift towards efficiency gains, possibly driven by technological advancements or structural changes in the industry, but at the cost of reduced job opportunities. While this trend can reflect modernisation and competitiveness, it also underscores challenges related to employment generation in the sector. Within this group, Montenegro's and North Macedonia's agri-food industries have generated new jobs at a rate of between 2.4% and 2.5% a year while in Serbia the annual job creation rate has been lower at 1.4% a year since 2010. Labour productivity has declined the most in Montenegro (by -1.7% a year), followed by Serbia (-1.4% p.a.) and North Macedonia (-0.6% p.a.). Examining trends for the WB6 region as a whole shows that the agri-food industry has slightly reduced employment (at -0.2% a year) while raising labour productivity by, on average, 1.9% per annum.

**Figure 41: Growth rate of average wages paid in the agri-food industry (2010-2022)**

Source: Authors' elaboration based on data from UNIDO INDSTAT

Figure 41 illustrates the growth rate of average wages paid in the agri-food industry between 2010 and 2022, providing insights into how earnings in this sector have evolved across the WB6 economies and their comparators. The results reveal significant disparities in wage growth rates across the region. Albania stands out with the highest growth rate of average wages, exceeding 5% annually, signalling robust improvements in worker compensation. This growth suggests that Albania's agri-food sector has experienced increased productivity, better profitability, or both, which have translated into higher wages for employees. Bosnia and Herzegovina follows with a wage growth rate of 1.6%, indicating moderate progress in enhancing worker earnings in this sector. They are both ahead of Slovenia which has recorded a relatively low but positive growth rate of 0.9%.

In contrast, Montenegro, North Macedonia, and Croatia exhibit negative wage growth rates over the same period. This decline suggests potential challenges such as reduced profitability, increased competition, or structural shifts within their agri-food industries, which may have constrained wage growth. Negative wage trends can also indicate reduced bargaining power for workers, particularly in sectors undergoing modernisation or consolidation.

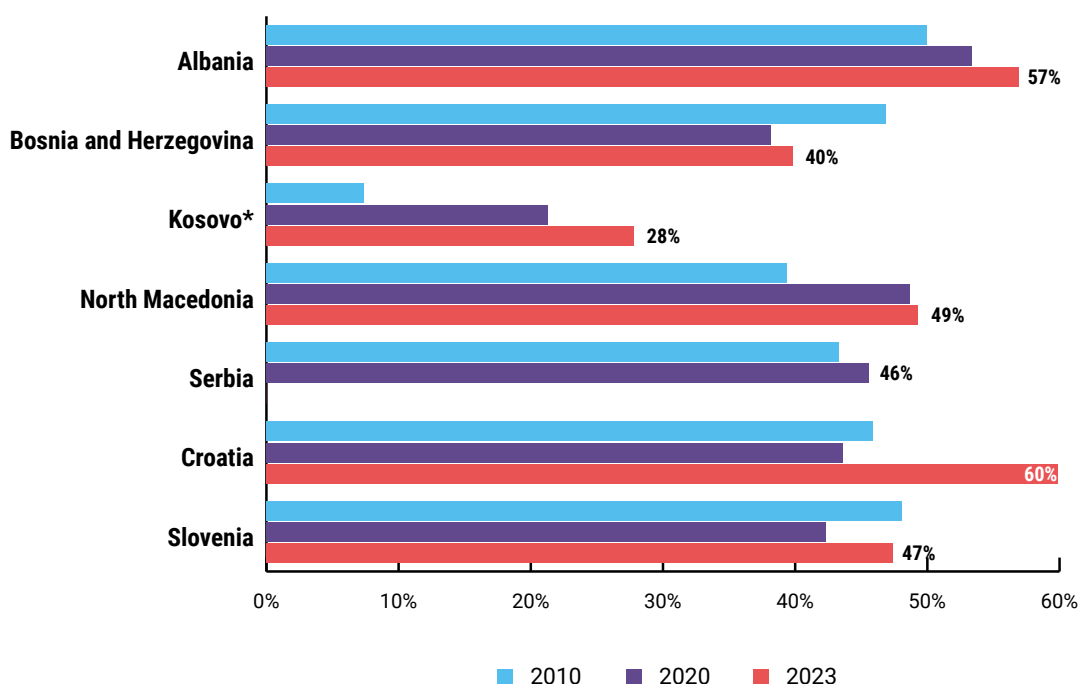
**TABLE 3: EMPLOYMENT ELASTICITY OF VALUE-ADDED GROWTH IN THE AGRI-FOOD INDUSTRY (2010-2022)**

	Employment growth 2010-2022	MVA growth 2010-2022	Elasticity	Classification
<b>Albania</b>	1.47	1.74	0.85	High Employment Generation
<b>Bosnia and Herzegovina</b>	0.03	0.27	0.09	Low/Moderate Employment Generation
<b>Croatia</b>	0.33	0.04	9.31	High but Unproductive Employment Generation
<b>Montenegro</b>	0.34	0.11	3.04	High but Unproductive Employment Generation
<b>North Macedonia</b>	0.32	0.25	1.29	High but Unproductive Employment Generation
<b>Serbia</b>	0.18	0.19	0.93	High Employment Generation
<b>Slovenia</b>	0.15	0.37	0.42	Low/Moderate Employment Generation

Source: Authors' elaboration based on data from UNIDO INDSTAT

Comparing sub-sectoral dynamics in value-addition versus job creation, Table 3 provides a detailed assessment of employment elasticity in the agri-food industry across several economies during the period from 2010 to 2022. In Albania and Serbia, the agri-food industry has demonstrated high employment elasticity, indicating that economic growth in this sector has translated into robust job creation. This trend underscores the labour-intensive nature of the agri-food industry in these economies, where a significant share of the workforce has been absorbed into newly created jobs. The strong link between value-added and employment growth suggests that the sector plays a crucial role in providing income opportunities, particularly for low- and medium-skilled workers.

Montenegro, North Macedonia, and Croatia also display high levels of employment elasticity. However, the employment generated in these economies is characterised as “unproductive” because job growth has outpaced value-added growth, implying that there has been a simultaneous drop in labour productivity. In contrast, Slovenia and Bosnia and Herzegovina exhibit low to moderate employment elasticity. In these cases, value-added growth in the agri-food industry has not triggered significant employment gains.

**Figure 42: Female share in employment in the agri-food industry (in %)**

Source: Authors' elaboration based on data from the ILOSTAT Data Explorer

Adding a further nuance to the labour market analysis, Figure 42 illustrates the female share in employment within the agri-food industry across the WB6 economies for 2010, 2020 and 2023. It shows that women are quite well represented in the sectoral workforce, accounting for around half (or a bit less) of employees. This is broadly in line with the levels seen in Slovenia and Croatia where they tend to be a bit higher.

In Albania, women actually make up even more than half of the sectoral workforce (namely 57%). By contrast, in Kosovo\* only a bit more than a quarter of people working in the agri-food industry are females. However, it has to be noted that the industry has offered more and more job opportunities for women over the last decade, with the female share in sectoral employment quadrupling from a mere 7% in 2010 to 28% in 2023.

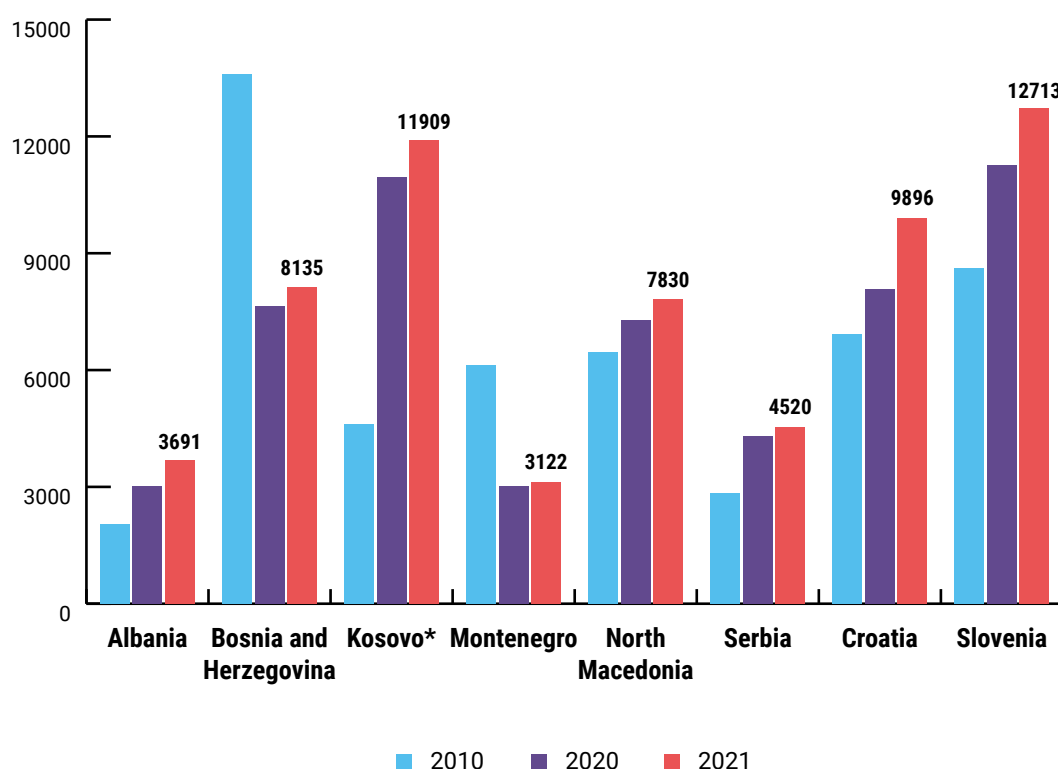
In fact, over the last decade, women have been able to expand their role as employees in this sub-sector in all WB6 economies except for Bosnia and Herzegovina. There, the share of females in the workforce fell from 47% in 2010 to 40% in 2023. Overall, the agri-food industry appears to be pretty open for female employment and gender imbalances are quite limited in most WB6 economies, and continued efforts to further integrate women into the industry will help to reduce the gap even more.

### 3.2.1.3. Assessment of agri-food industry's environmental performance

In the final step, we investigate the size and recent trends in the environmental footprint of the agri-food sub-sectors of the WB6 economies by examining a range of indicators.



**Figure 43: Energy efficiency: Value-added created per ktOE of agri-food industry's energy consumption (US\$ per ktOE)**



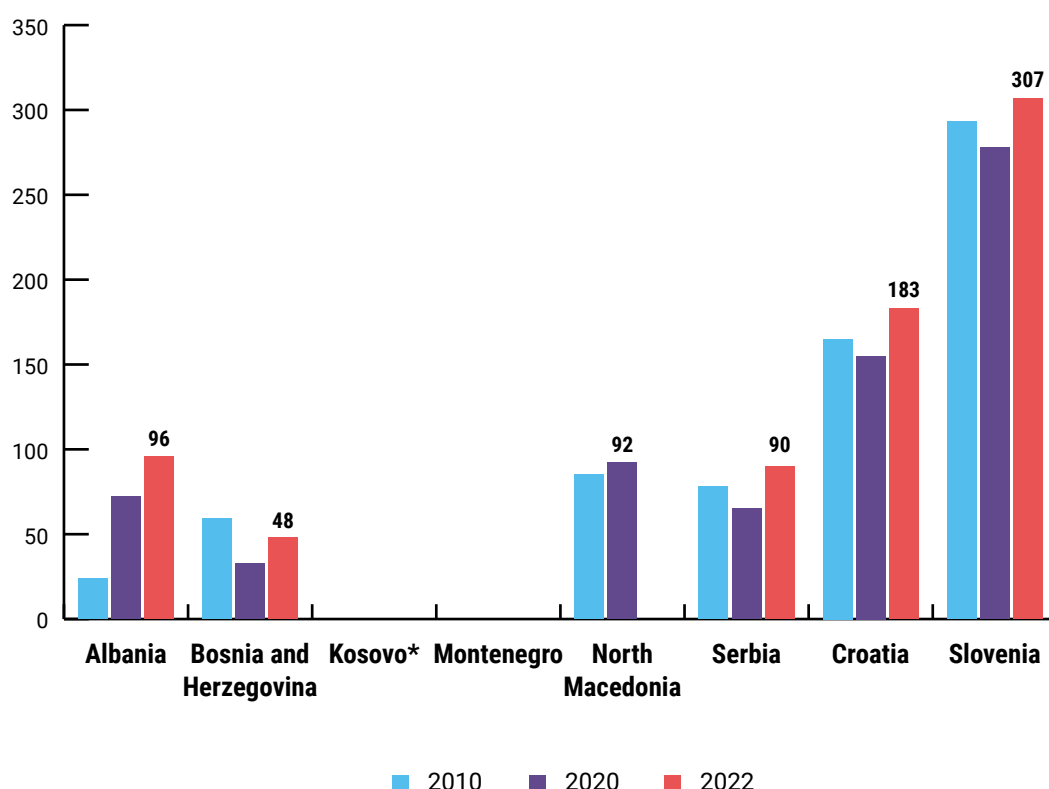
Source: Authors' elaboration based on data from UNIDO INDSTAT and the IEA Data Explorer

Figure 43 reports on the energy efficiency of the agri-food industry, measured as the value-added created for each kiloton of oil equivalent (ktOE) of energy that the industry consumes (US\$ per ktOE). The results highlight significant variation across the region. Kosovo\* demonstrates the highest value in 2021, with a notable upward trend from \$4,610 per ktOE in 2010 to \$11,909 per ktOE in 2021. This sharp increase suggests significant improvements in energy utilisation, possibly driven by investments in energy-efficient technologies, modernisation of agri-food production processes, or shifts towards renewable energy sources or higher-value production.

At the other end of the spectrum, Albania shows the lowest energy efficiency values, although it also records an upward trend, increasing from \$2,035 per ktOE in 2010 to \$3,691 per ktOE in 2021. Bosnia and Herzegovina, however, shows a concerning downward trend, with energy efficiency decreasing from \$13,591 per ktOE in 2010 to \$8,135 per ktOE in 2021. Similarly, Montenegro has experienced a decline from \$6,123 to \$3,122 per ktOE over the same period. These trends suggest potential issues such as outdated technologies, inefficiencies in production processes, or increased reliance on energy-intensive activities within the agri-food industry. Addressing these declines will require targeted interventions to enhance energy efficiency and reduce energy waste.

In contrast, North Macedonia reports an upward trend, with energy efficiency increasing from \$6,445 per ktoe in 2010 to \$7,830 per ktoe in 2021. Similarly, Serbia's agri-food industry improved its energy efficiency from US\$ 2,847 in 2010 to US\$ 4,520 in 2021. For the WB6 region as a whole, a positive upward trend can be noted with the regional agri-food industry registering energy efficiency gains of 52% over 2010-2021.

**Figure 44: Resource use efficiency: Value-added created per kg of raw materials consumption of the agri-food industry (US\$ per kg)**

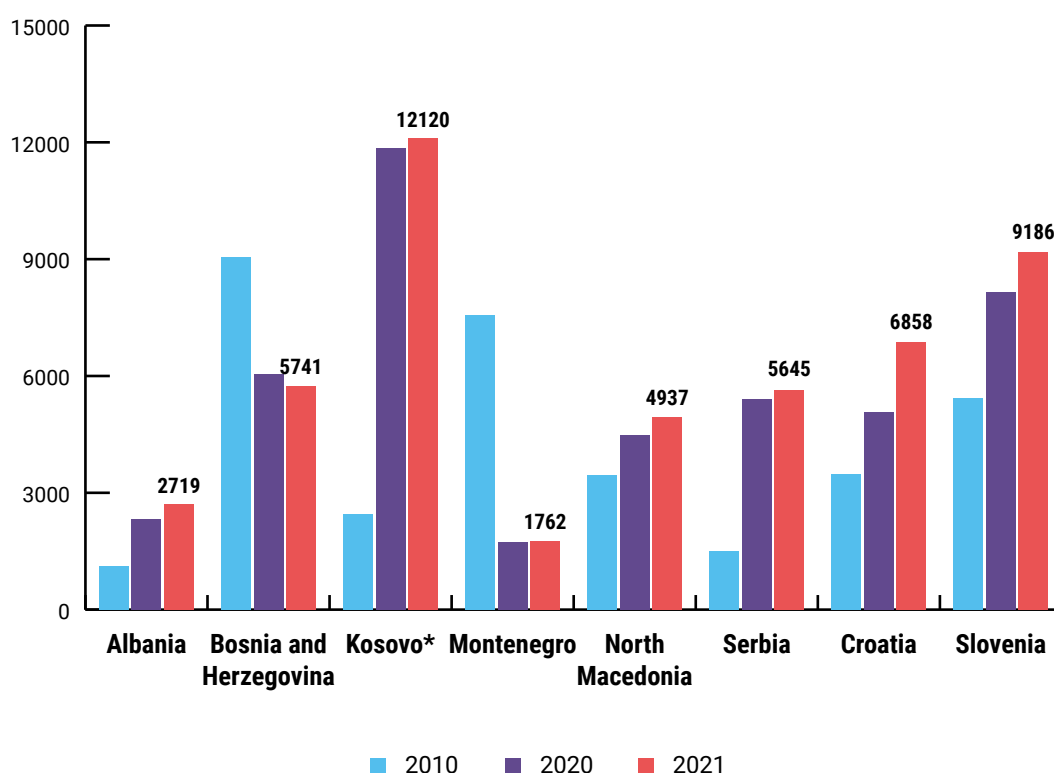


Source: Authors' elaboration based on data from UNIDO INDSTAT and UNEP's SCP-HAT database

To shed light on another dimension of efficiency, namely the agri-food industry's use of material resources, Figure 44 depicts the value-added generated per kilogram of raw materials consumed (US\$ per kg). The results indicate that all WB6 economies for which data is available—Albania, Bosnia and Herzegovina, North Macedonia, and Serbia—lag behind their regional comparators, Croatia and Slovenia. The lower values recorded for the WB6 economies reflect significant challenges in optimising raw material usage within the agri-food industry. These inefficiencies can stem from outdated technologies, limited adoption of best practices in production, and constraints in value addition processes, which prevent the sector from fully leveraging its raw material inputs.

While the Albanian, Macedonian and Serbian agri-food sector generates a bit more than US\$ 90 of value-added for each kg of raw materials they use, their Croatian counterparts achieve twice as much and their Slovenian counterparts more than three times as much. With only US\$ 48 of value-added per kg of resources processed, the agri-industry in Bosnia and Herzegovina lags even further behind. In fact, Bosnia and Herzegovina is the only economy in the WB6 where efficiency has declined since 2010 whereas Albania recorded remarkable increases and North Macedonia and Serbia at least minor improvements. As a result, for the WB6 region as a whole, the agri-food sector's resource use efficiency has increased modestly by 12% between 2010 and 2021 – basically at par with improvements in Croatia but ahead of Slovenia.

**Figure 45: Emissions efficiency of agri-food industry: US\$ of value-added per Mt of CO<sub>2</sub> emitted**

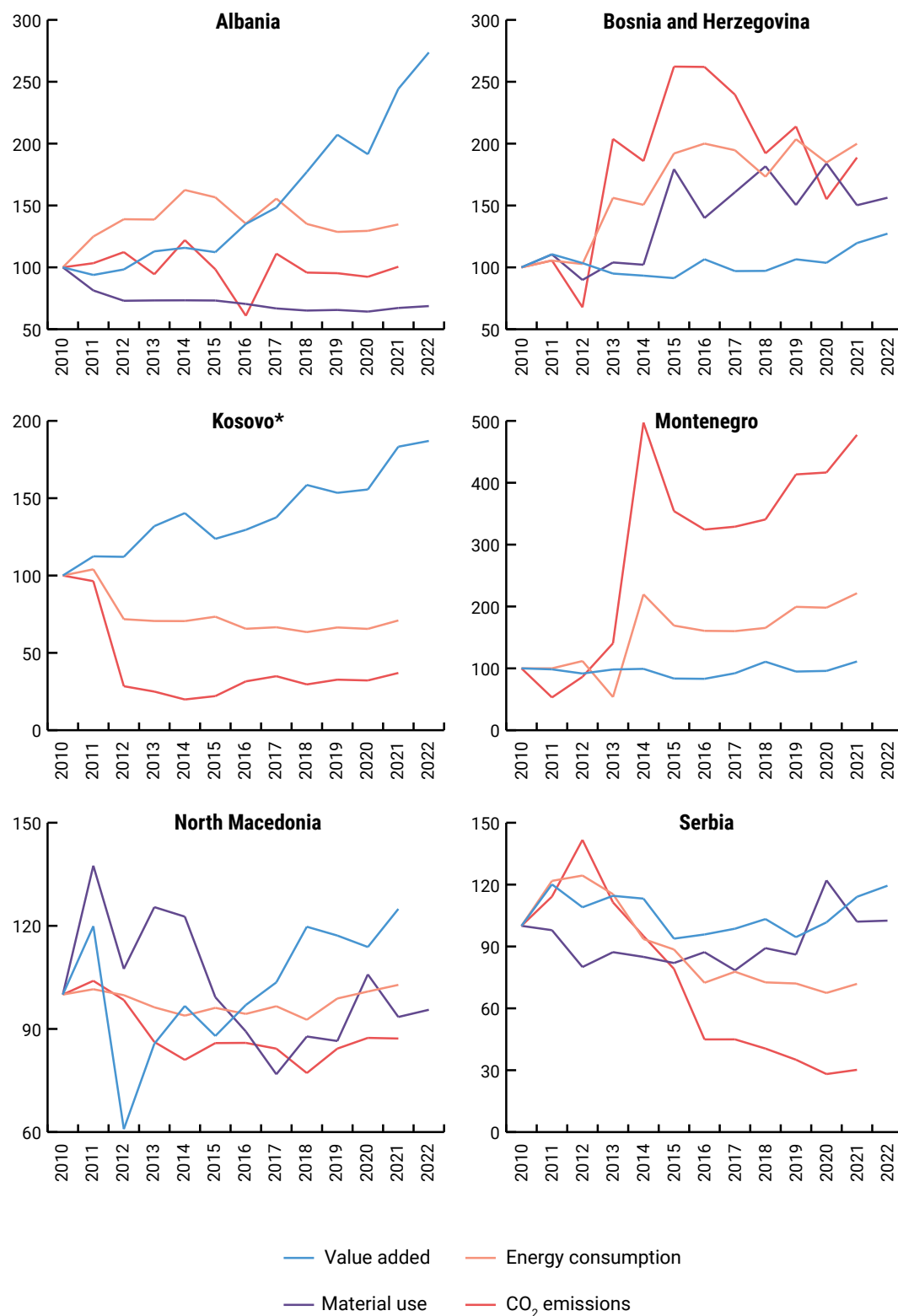


Source: Authors' elaboration based on data from UNIDO INDSTAT and the IEA Data Explorer

To learn more about how polluting the agri-food industry is, Figure 45 illustrates its emissions efficiency, measured as the value-added generated per metric ton (Mt) of CO<sub>2</sub> emitted (US\$ per Mt). The results show substantial variation across economies in the region. Kosovo\* demonstrates the highest emissions efficiency, with a consistent increase between 2010 and 2021. This upward trend suggests improvements in energy use, production practices, or technology adoption to reduce emissions, enabling Kosovo\*'s

agri-food industry to generate more value per unit of CO<sub>2</sub> emitted. The consistent gains underline the economy's potential as a regional leader in environmentally sustainable agri-food production.

In contrast, Albania records the lowest emissions efficiency, with values consistently below those of the WB6 comparators and EU benchmarks, while at least following an upward trend. Serbia's and North Macedonia's agro-industries have also improved their emissions efficiency, the former even impressively so. By contrast, Montenegro's agro-industry shows a significant decline in emissions efficiency, falling from U\$7,569 per Mt of CO<sub>2</sub> in 2010 to just U\$1,762 in 2021. Similarly, Bosnia and Herzegovina has experienced a notable decrease, from \$9,055 in 2010 to \$5,741 in 2021. These downward trends suggest growing inefficiencies, potentially caused by increased reliance on carbon-intensive practices, outdated technologies, or a failure of mitigation measures. For the region as a whole, we can still note a 32% uptick in the agri-food industry's emissions efficiency, bringing it up to \$5,554 of value-added per Mt of CO<sub>2</sub> emitted, thereby coming quite close to the level seen in Croatia while also narrowing the gap vis-à-vis Slovenia.

**Figure 46: Environmental decoupling in the agri-food industry**

Source: Authors' elaboration based on data from sources quoted above

Figure 46 depicts the trajectories of the core indicator of the sub-sector's economic performance, namely value-added (VA), alongside three variables that represent the environmental footprint of the agri-food industry: energy consumption, raw material use, and CO<sub>2</sub> emissions. By comparing these trajectories, we can assess the extent to which the WB6 economies have managed to decouple economic growth in the agri-food sector from its environmental impacts.

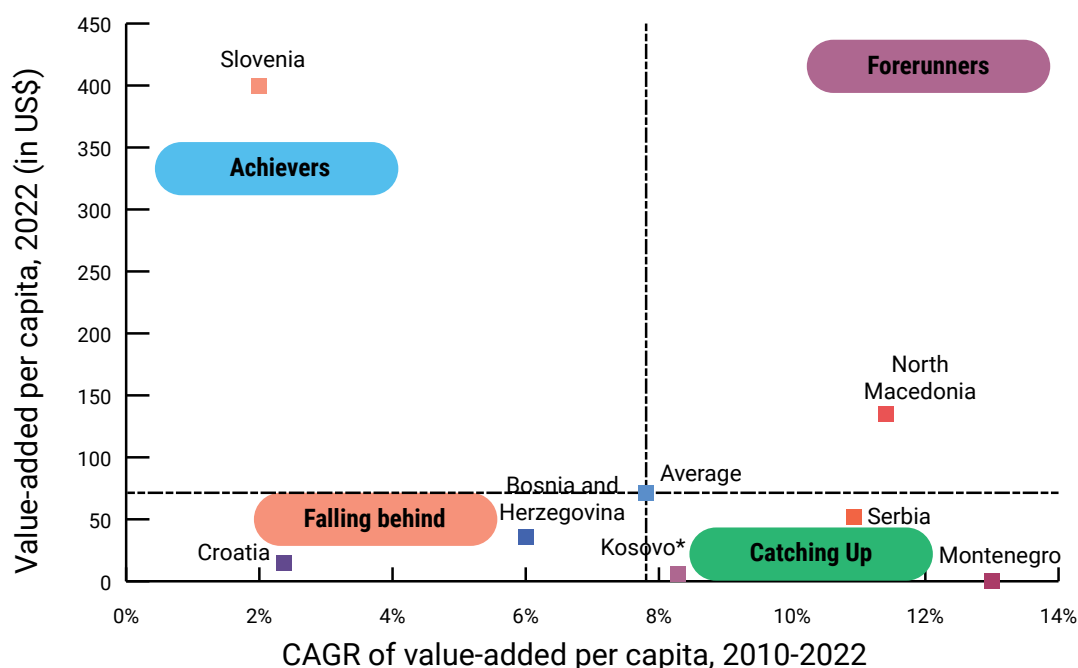
The analysis reveals distinct trends across the region. In Albania, Kosovo\*, North Macedonia, and Serbia, the agri-food industry has demonstrated significant progress in decoupling economic performance from environmental degradation. Across all categories, these economies have achieved relative decoupling, with the growth rate of VA in the agri-food sector consistently surpassing the growth rates of their environmental impact indicators. This suggests that these economies have managed to enhance resource efficiency and adopt more sustainable practices, enabling economic growth with a comparatively smaller increase in environmental pressures. In contrast, Bosnia and Herzegovina and Montenegro have not achieved any decoupling as all environmental indicators have grown at a faster rate than VA.

### **3.2.2. Automotive Industry<sup>23</sup>**

The automotive industry is the second priority sub-sector mentioned in the CRM Action Plan. Its recent performance will be examined in the following section. At the outset it should be mentioned, though, that this industry is not equally prominent across all WB6 economies. Its most prominent role is in Serbia and North Macedonia. In all other WB6 economies, it generates value-added of less than US\$ 100 million.

#### **3.2.2.1. Assessment of automotive industry's economic performance**

<sup>23</sup> The automotive industry is defined to cover division "34 – Motor vehicles, trailers, semi-trailers" in the ISIC rev. 3 nomenclature or, where applicable, division 29 of ISIC rev. 4.

**Figure 47: Production capacity in the automotive industry and its growth rate**

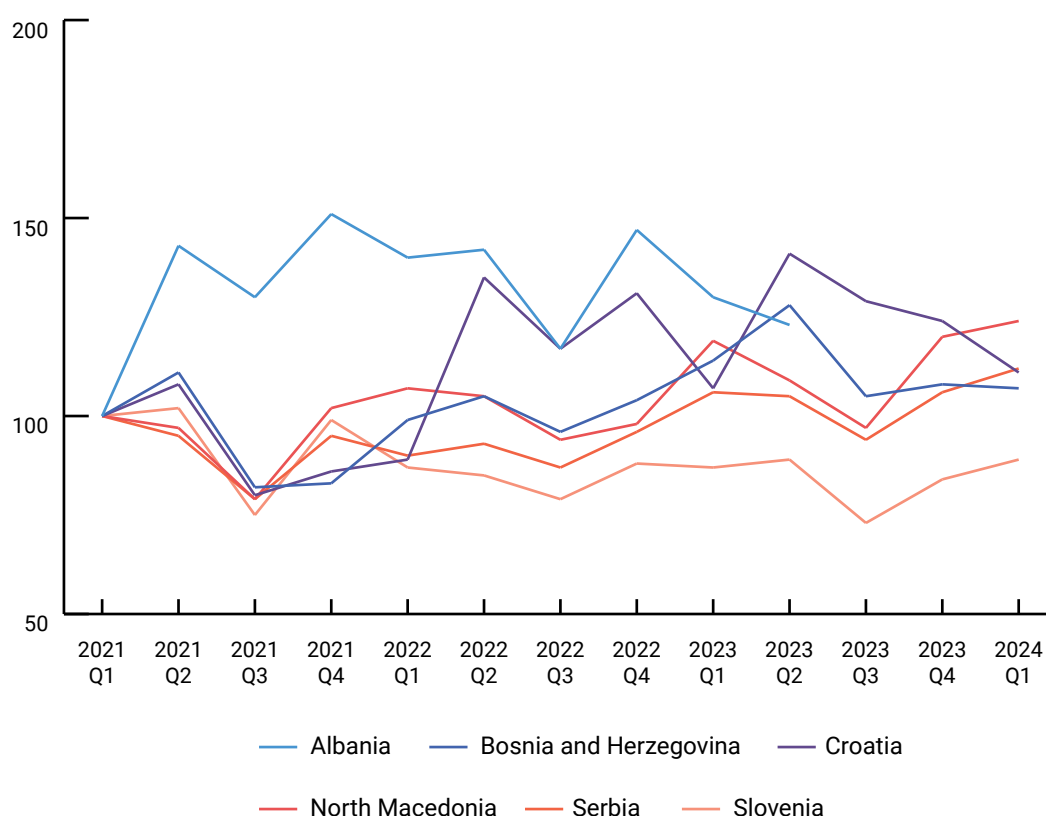
Source: Authors' elaboration based on data from UNIDO INDSTAT

The first indicator to be analysed will again be sub-sectoral production capacity, measured as value-added created per capita. Figure 47 presents the automotive industry's production capacity and its growth rate over 2010-2022 across the WB6 and comparator economies, offering insights into their relative industrial performance and development trajectories. The results indicate that North Macedonia stands out as a forerunner in the automotive industry. This classification reflects its strong production capacity (of US\$ 131 per capita) combined with robust growth rates (CAGR of 11%), positioning it as a leader in the region. North Macedonia's performance can be attributed to sustained investments in automotive manufacturing, strategic integration into global supply chains, and its focus on high-value-added production.

Slovenia, categorised as an achiever, exhibits high production capacity but slower growth rates. As a mature economy with an established automotive sector, Slovenia's focus is likely on maintaining its competitiveness through advanced technologies, product innovation, and operational efficiency rather than rapid capacity expansion. Serbia is identified as catching up, with below-average production capacities (of US\$ 49 per capita) but promising growth rates (+11% p.a.). Kosovo\* and Montenegro have only very tiny production capacities (of US\$ 2.9 and US\$ 0.1 per capita, respectively) which, however, have grown since 2010 at annual rates of 8% and 13%, respectively. In contrast, Bosnia and Herzegovina (along with Croatia) is classified as falling behind, characterised by low production capacity (US\$ 27) and below-average growth rates (6% p.a.). Considering the WB6 region as a whole, the automotive industry has increased its production capacity by 10% a year since 2010, reaching US\$ 45 per capita in 2021 which is higher than Croatia's

(US\$ 14, although Croatia is not an automobile production powerhouse) but still only a bit more than a tenth of Slovenia's (US\$396).

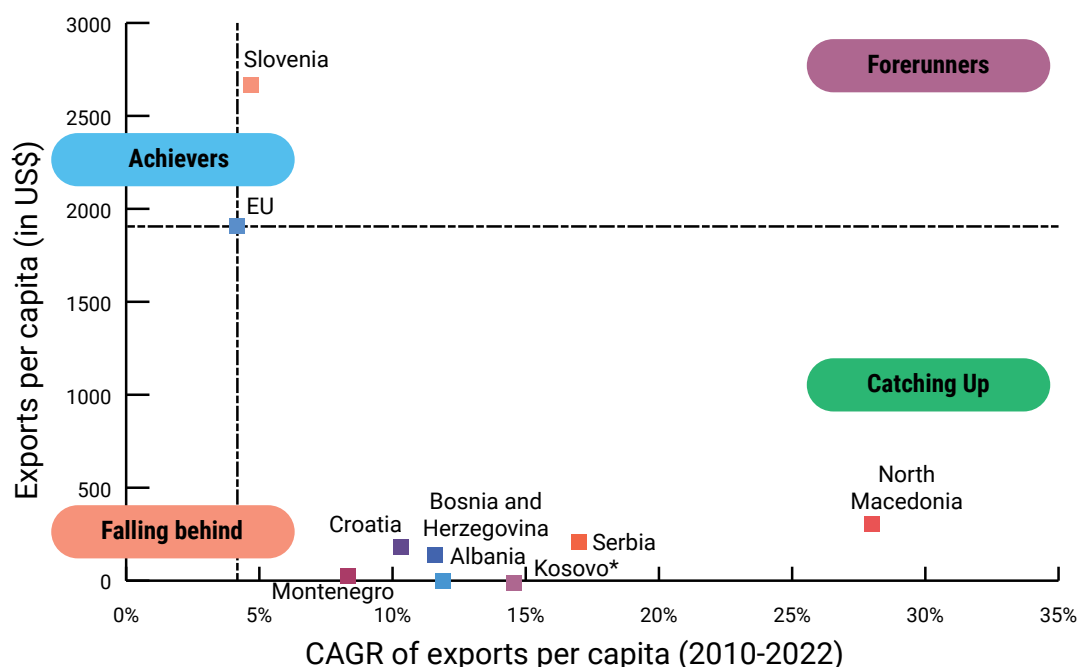
**Figure 48: Quarterly Index of Industrial Production (IIP) in the automotive industry**



Source: Authors' elaboration based on data from UNIDO IIP database

Figure 48 presents how the Quarterly Index of Industrial Production (IIP) in the automotive industry has developed between Q1 2021 and Q1 2024. It shows that at the end of this period North Macedonia's IIP stood at 124, implying that its automotive output was almost a quarter higher than at the beginning of the period. The IIP also points to a 11% increase in Serbia's automotive output and a 7% expansion of Bosnia and Herzegovina's. For Albania, the latest data available is for Q3 2023 when its automotive IIP had a value of 123. With that, all the WB6 economies outperformed Slovenia where, according to the IIP, output dropped by 11% during that timeframe. Meanwhile, Croatia recorded an uptick of 11 index points. Overall, hence, automotive production has expanded in the WB6 region since the CRM was initiated.



**Figure 49: Export capacity of the automotive industry and its growth rate 2010-2022**

Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

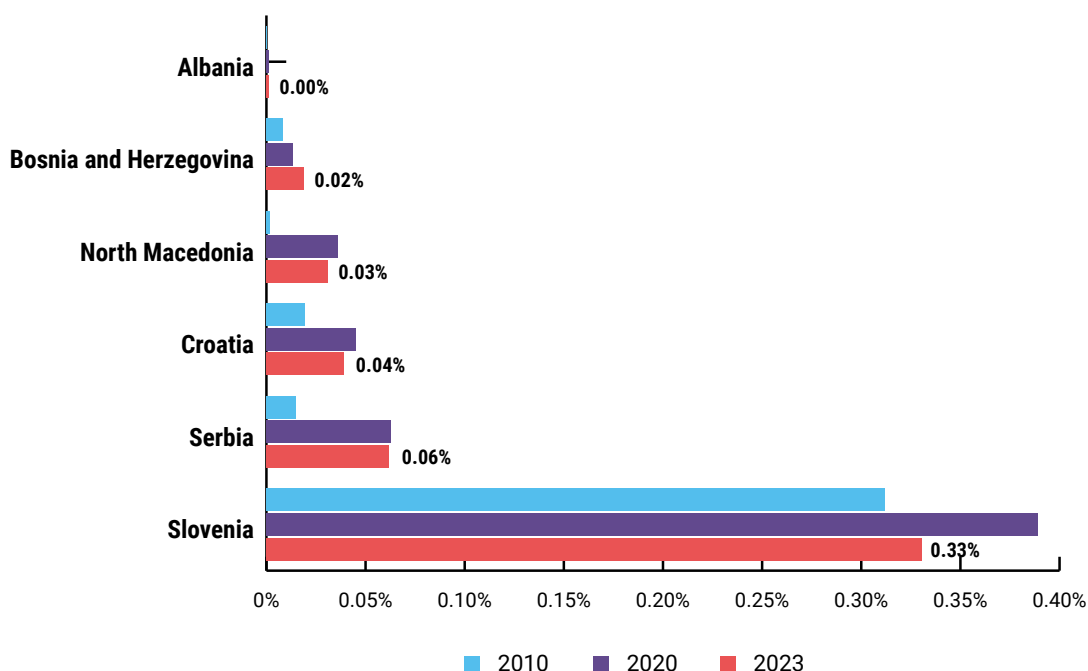
Figure 49 illustrates the export capacity of the automotive industry and its growth rate across the WB6 economies and comparators and relates them to the EU average. This provides critical insights into their integration into global markets and the competitiveness of their automotive sectors.

The results reveal that Slovenia is the only economy classified as a forerunner. Slovenia's automotive industry demonstrates both high export capacity (at US\$ 2,633 of automotive exports per capita) and sustained growth (CAGR of 3.8% during 2010-2022), underscoring its position as a leader in the region. This success can be attributed to its advanced manufacturing capabilities, integration into global value chains, and production of high-value-added automotive components. Slovenia's strong export performance reflects the maturity of its automotive sector, which is characterised by technological innovation, skilled labour, and adherence to international quality standards.

All other economies in the analysis, including Serbia, Kosovo\*, Bosnia and Herzegovina, North Macedonia, Albania, and Montenegro, are categorised as catching up. These economies exhibit export capacities below the EU's (at US\$ 1,880 per capita) but promising growth rates, signalling ongoing efforts to enhance their competitiveness in the automotive industry. Among them, North Macedonia boasts the highest export capacity (US\$ 289 per capita), followed by Serbia (US\$ 157) and Bosnia and Herzegovina (US\$ 100). Kosovo\* (US\$ 4.8) and Albania (US\$ 7.5) have only miniscule export capacity, but both have seen high growth rates over 2010 (15% p.a. and 12% p.a., respectively). North Macedonia (+29% p.a.), Serbia (16% p.a.) as well as Bosnia and Herzegovina (+12%

p.a.) have also significantly expanded their export capacity over the last decade while Montenegro's growth performance (+8% p.a.) has been a little bit less impressive. Overall, the WB6 region has narrowed the gap towards the levels seen in the EU.

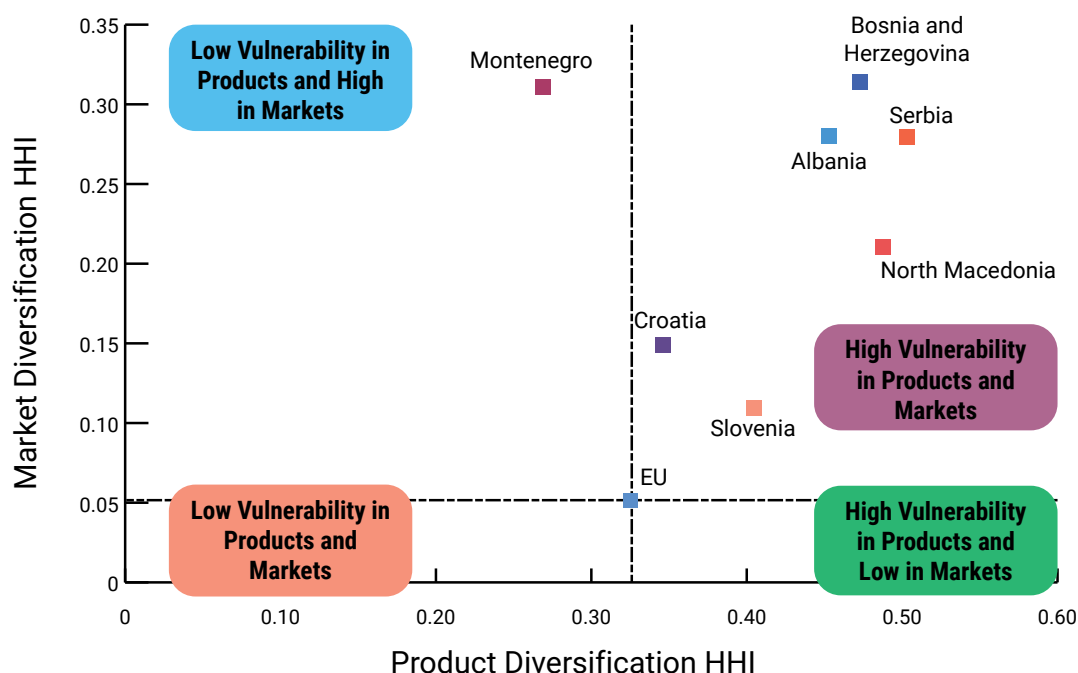
**Figure 50: World export market share in the automotive industry**



Source: Authors' elaboration based on data from the World Bank's WITS data portal

Despite this, the WB6 economies are still minor players in the global automotive industry. Figure 50 illustrates the world export market shares of automotive industry, offering a comparative analysis of the performance of WB6 economies relative to regional peers such as Croatia and Slovenia. The results reveal that WB6 economies consistently hold lower world export market shares compared to their more advanced regional counterparts. Slovenia stands out as the regional leader, maintaining a significant share of global automotive exports due to its well-established industrial base, technological advancement, and strong trade linkages. Croatia and Serbia also achieve relatively high shares, benefiting from mature automotive sectors and strategic integration into regional and global supply chains.

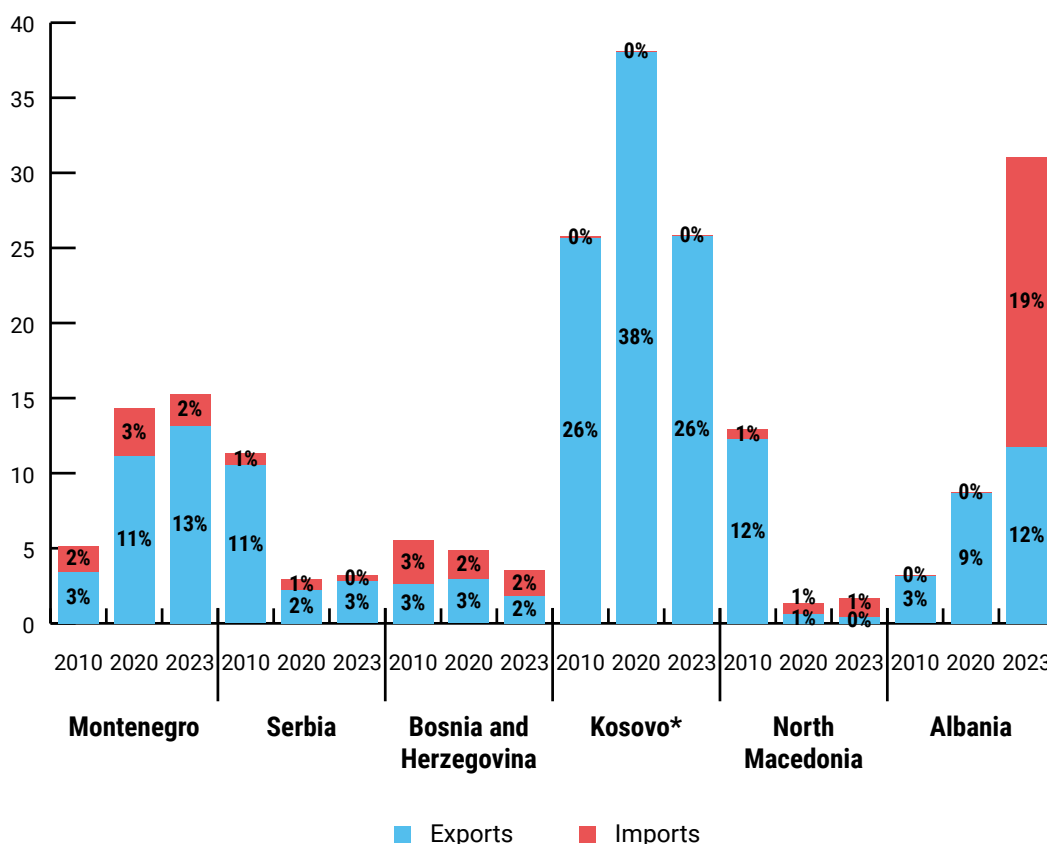
In contrast, Albania and North Macedonia exhibit some of the lowest export market shares among WB6 economies, with Albania at the bottom. These low shares reflect both their population sizes and the limited role their industries currently play in the global automotive market. Bosnia and Herzegovina follows with slightly higher shares but still far below the regional leaders. Despite this, the data indicates a positive trajectory for all WB6 economies, at least from a longer-term perspective, with export market shares steadily increasing between 2010 and 2023.

**Figure 51: Diversification matrix for automotive exports**

Source: Authors' elaboration using WITS data

Figure 51 presents the vulnerability matrix for the automotive industry's exports, analysing the degrees of product and market diversification across WB6 economies. The results indicate that Montenegro stands out as the only economy classified as vulnerable in terms of market concentration but low in products. This suggests that Montenegro's automotive industry exports to only a narrow set of markets, implying a high exposure to risks from shifts in their demand. However, its broader product mix provides some balance, reducing the risks associated with a strong reliance on just a few product items.

In contrast, all other economies—Bosnia and Herzegovina, Albania, Serbia, North Macedonia, Croatia, and Slovenia— have HHI values above the EU's, which classifies them as vulnerable in both products and markets. In other words, their automotive exports are less diversified than the EU's both in terms of product mix and markets. This positioning highlights the relative vulnerability of their automotive export sectors, with rather concentrated product portfolios and a small base of trading partners. Such a lack of diversification reduces their ability to weather external shocks and adapt to changing global market conditions.

**Figure 52: Share of intra-regional trade in total automotive exports and imports**

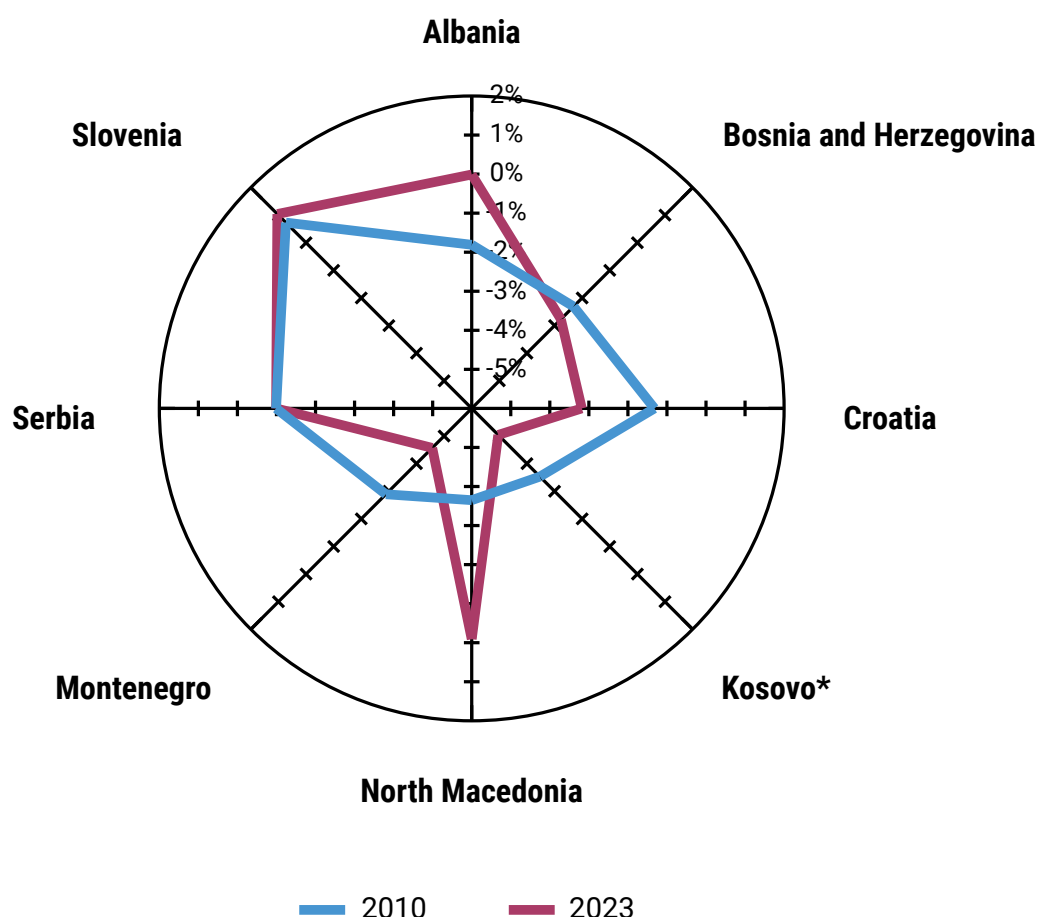
Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

Figure 52 explores the share of intra-regional trade in total automotive exports and imports, offering insights into the degree of integration of these economies within the regional market. The results reveal contrasting trends in intra-regional trade dynamics. Albania emerges as the most integrated economy in terms of intra-regional trade, with its share of intra-regional exports increasing from 3% in 2010 to 12% in 2023 and the share of intra-regional imports jumping from 0% to 19%. This growth underscores Albania's expanding role within the regional automotive value chain. Similarly, Montenegro expanded the WB6's shares in its automotive exports (from 3% to 13% between 2010 and 2023) and imports (from 1.8% to 2.1% during that time period). Kosovo\* also sends a significant share of its automotive exports (26%) to other WB6 economies while importing barely any automotive products from them.

In contrast, North Macedonia experienced a significant decline in its share of intra-regional exports, dropping from 10.9% in 2010 to just 0.9% in 2023. This sharp decrease suggests a shift in focus towards extra-regional markets or a weakening of its ties within the regional automotive network; the share of its intra-regional imports meanwhile stayed the same during that period (at 1%). A similar downward trend is observable for Serbia, where the intra-regional share dropped from 10.5% to 2.8% for exports and from 0.8% to

0.4% for imports. Bosnia and Herzegovina has only marginal trade in automotive products with the WB6, which maintained a consistent share over the period (at 2%). Overall, intra-regional trade is quite limited in the automotive industry, accounting for roughly 9% of exports and 4% of imports – and both shares have declined since 2010.

**Figure 53: Trade balance of the automotive industry (in % of GDP)**



Source: Authors' elaboration based on data from the World Bank's WITS data portal and KAS

Figure 53 examines the trade balance of automotive industry as a percentage of GDP, highlighting the net trade performance of selected economies in the sector between 2010 and 2023. The results show mixed performance among the analysed economies. North Macedonia has made notable progress, improving its trade balance from -4% of GDP in 2010 to a tiny deficit (-0.1%) in 2023. This shift suggests strengthening of the economy's export capacity and competitiveness in the automotive industry. Similarly, Albania has improved its trade balance, moving from -2% in 2010 to 0% in 2023.

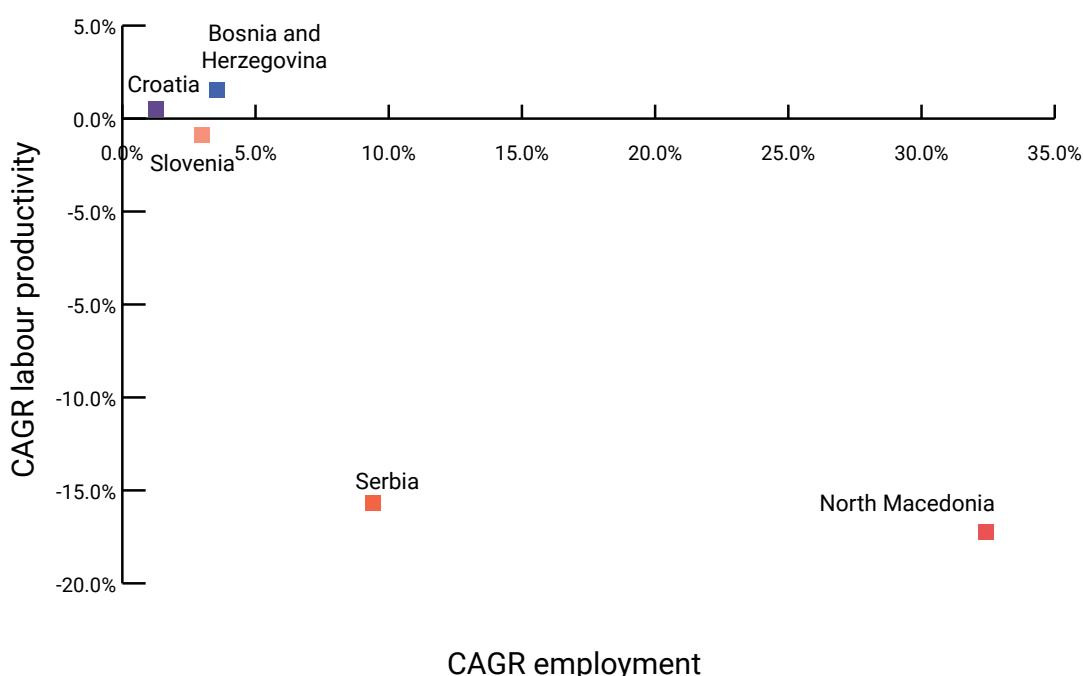
In contrast, Montenegro experienced a deterioration in its trade balance, widening its deficit from -3% in 2010 to -5% of GDP in 2023. This decline highlights ongoing challenges

in boosting export capacity and reducing reliance on imports. Bosnia and Herzegovina saw its trade deficit worsen slightly, moving from -2% to -3%, suggesting limited progress in addressing structural issues within its automotive sector. Serbia maintained a relatively stable trade balance, remaining at -1% throughout the observed period, reflecting a steady but unremarkable trade performance.

### 3.2.2.2. Assessment of automotive industry's social performance

In the next step, we will examine how the WB6's industries have performed on a range of social indicators related to employment, labour productivity and wages.

**Figure 54: Labour market dynamics in the automotive industry: Job creation and labour productivity growth (2010-2022)**



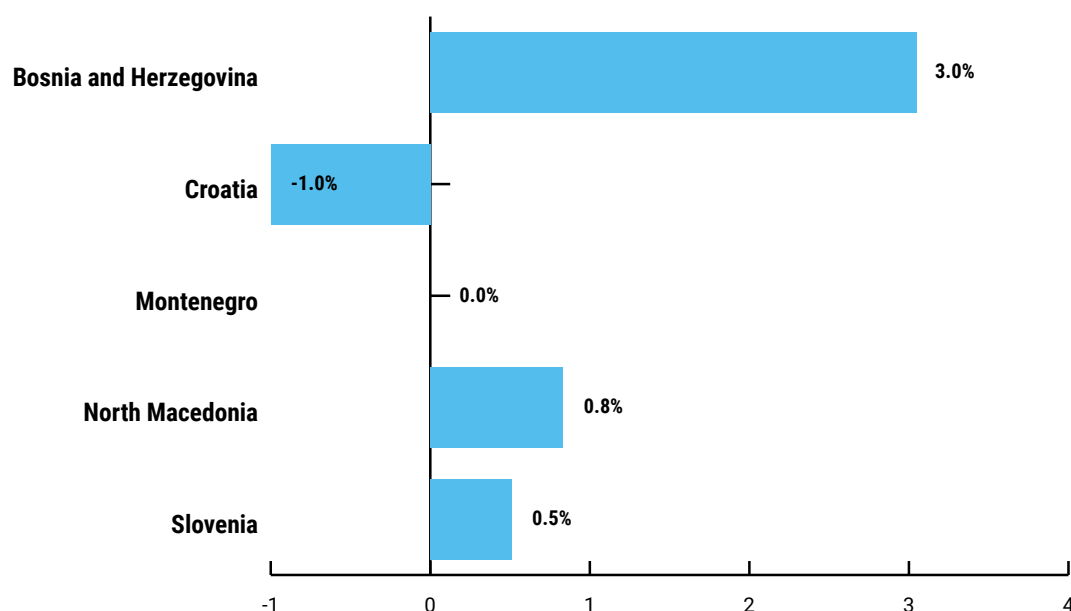
Source: Authors' elaboration based on data from UNIDO INDSTAT

Figure 54 analyses labour market dynamics in the automotive industry by examining the interplay between job creation and labour productivity growth. The results show that Croatia and Bosnia and Herzegovina are positioned in the top-right quadrant, indicating robust performance with simultaneous gains in both employment (+3.1% p.a. for Bosnia and Herzegovina) and labour productivity (+1.4% p.a. for Bosnia and Herzegovina). This alignment suggests that their automotive industries are expanding workforce opportunities while also enhancing efficiency and output per worker.

In contrast, North Macedonia, Serbia, and Slovenia occupy the bottom-right quadrant, where employment is increasing but labour productivity in the automotive industry is declining.

North Macedonia (+32.7% p.a.) and Serbia (+9.1% p.a.) have actually seen an impressive rate of job creation in automotive but also significant drops in labour productivity (-18.8% p.a. for North Macedonia and -16.4% p.a. for Serbia). This trend signals structural shifts, such as the adoption of automation, digitalisation, and advanced production techniques, which enhance output efficiency but reduce the demand for labour. While productivity gains are vital for competitiveness, declining employment poses challenges related to workforce displacement and social equity. Slovenia's position is indicative of a mature automotive industry focusing on high-value, efficiency-driven production, while Serbia and North Macedonia may be undergoing transitions that prioritise modernisation over job growth. The WB6 region as a whole created automotive jobs at a pace of 13.1% a year.

**Figure 55: Growth rate of average wages paid in the automotive industry (2010-2022)**



Source: Authors' elaboration based on data from UNIDO INDSTAT

Figure 55 illustrates the growth rate of average wages in the automotive industry from 2010 to 2022 across selected economies, providing a critical measure of labour market conditions and the economic health of the sector. The results indicate that Bosnia and Herzegovina leads with the highest positive average wage growth rate of 3% per year over the observed period. This notable increase suggests a robust demand for skilled labour in the automotive sector, supported by steady productivity gains and possibly enhanced profitability among firms.

North Macedonia follows with an average annual wage growth rate of 0.8%. This moderate increase indicates gradual improvements in labour market conditions, likely driven by ongoing industrial development and integration into global value chains. Slovenia, with a growth rate of 0.5%, exhibits slower but stable wage increases. As a more

advanced economy with a mature automotive sector, Slovenia's wage growth aligns with its emphasis on maintaining high productivity and competitiveness in high-value-added segments of the industry.

**TABLE 4: EMPLOYMENT ELASTICITY OF VALUE-ADDED GROWTH IN THE AUTOMOTIVE INDUSTRY (2010-2022)**

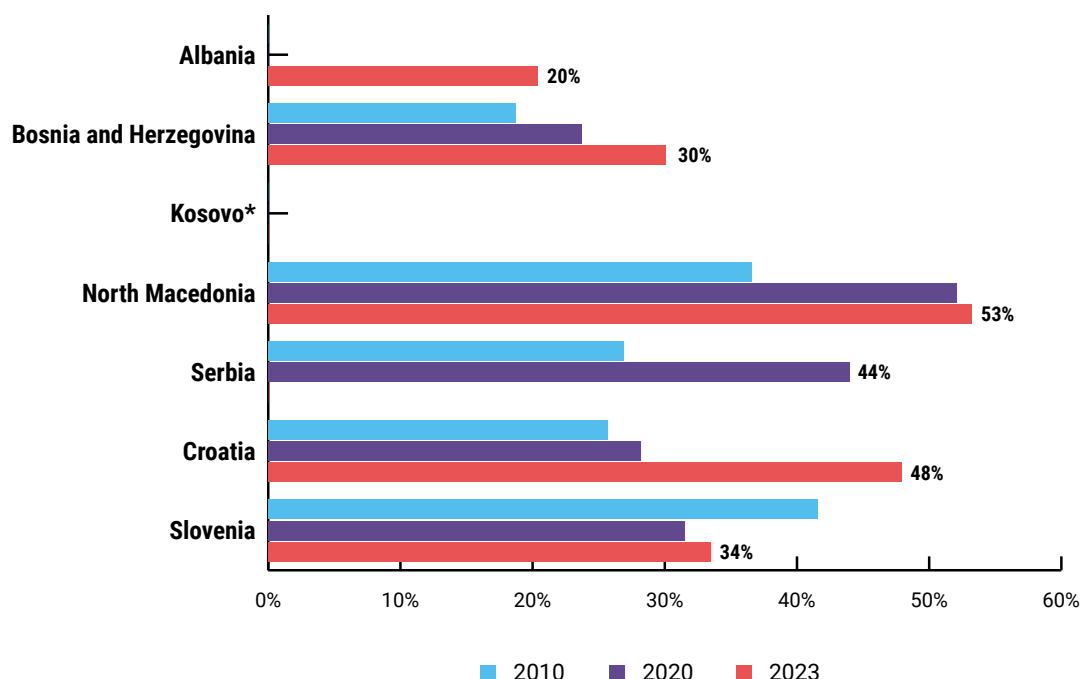
	Employment growth 2010-2022	MVA growth 2010-2022	Elasticity	Classification
<b>Bosnia and Herzegovina</b>	0.44	0.71	0.62	High Employment Generation
<b>Croatia</b>	0.15	0.18	0.84	High Employment Generation
<b>North Macedonia</b>	28.72	2.06	13.96	High but Unproductive Employment Generation
<b>Serbia</b>	1.84	2.23	0.82	High Employment Generation
<b>Slovenia</b>	0.37	0.31	1.20	High but Unproductive Employment Generation

Source: Authors' elaboration based on data from UNIDO INDSTAT

Table 4 presents the employment elasticity of value-added growth in the automotive industry from 2010 to 2022, offering insights into how effectively growth in the sector translates into job creation. Bosnia and Herzegovina, Croatia, and Serbia are classified as high employment generation economies. In these economies, the automotive industry has demonstrated a strong capacity to create jobs in response to growth in value-added output. This classification highlights the ability of these economies to expand their workforce alongside industrial growth, suggesting that their automotive sectors rely on labour-intensive production processes and have successfully integrated job creation into their growth strategies.

North Macedonia and Slovenia are classified as high but unproductive employment generation economies, indicating that while these economies generate significant employment, the growth in jobs does not necessarily correspond to proportional increases in productivity or economic output. This points to a situation where employment growth may primarily be in low-value-added jobs.



**Figure 56: Female share in employment in the automotive industry (in %)**

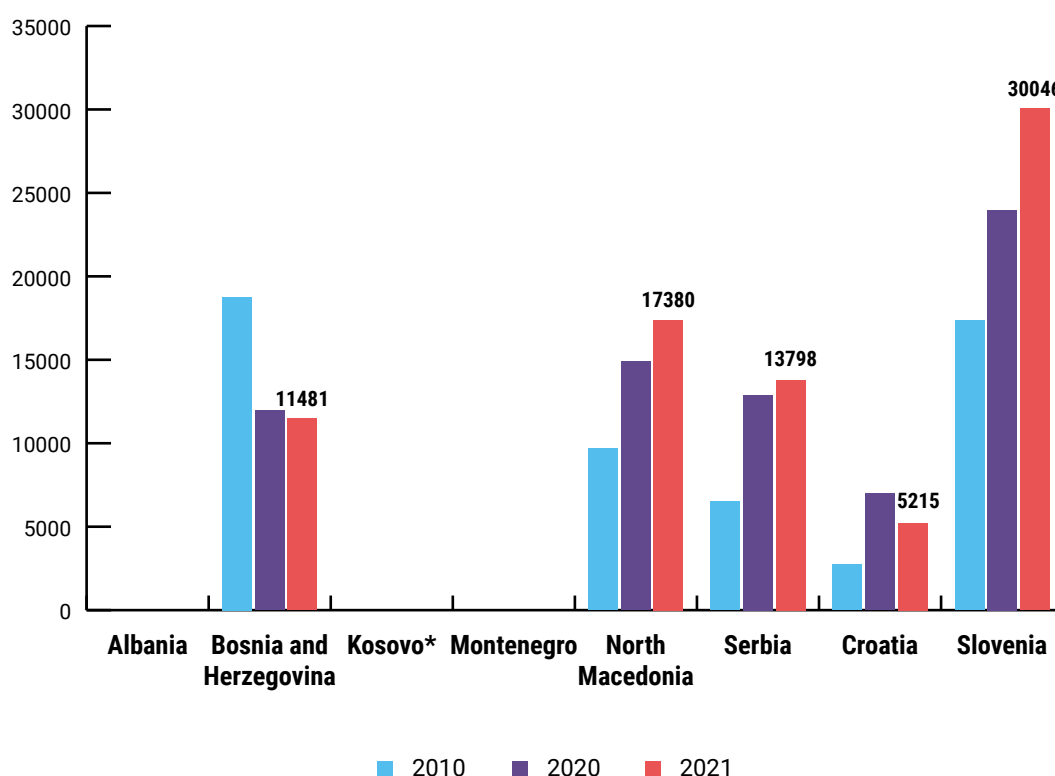
Source: Authors' elaboration based on data from the ILOSTAT Data Explorer

How much of this employment is actually occupied by women? To answer this question, Figure 56 examines the female share in employment within the automotive industry, tracking changes between 2012 and 2023. North Macedonia emerges as a leader in gender inclusion within the automotive sector. While the industry is typically perceived as being male-dominated, more than half of its employees are women. They have actually significantly increased their presence in the sector's workforce from a share of 37% in 2010 to 53% in 2023.

There seems to be a softening of gender stereotypes also elsewhere, with the female share in industry employment going up everywhere (bar Slovenia). In Serbia it increased from 27% in 2010 to 44% in 2023 while in Bosnia and Herzegovina it rose from 24% to 30%. These significant increases reflect successful efforts to create opportunities for women in the industry, potentially driven by initiatives such as mindset changes, skills development programmes, greater awareness of gender diversity benefits, and targeted hiring practices. While historical data is not available for Albania, it appears to be a laggard in this area as currently only a fifth of automotive employees are female.

### 3.2.2.3. Assessment of automotive industry's environmental performance

In the final step, we will now examine the environmental performance of automotive industries of the WB6 economies across a range of metrics.

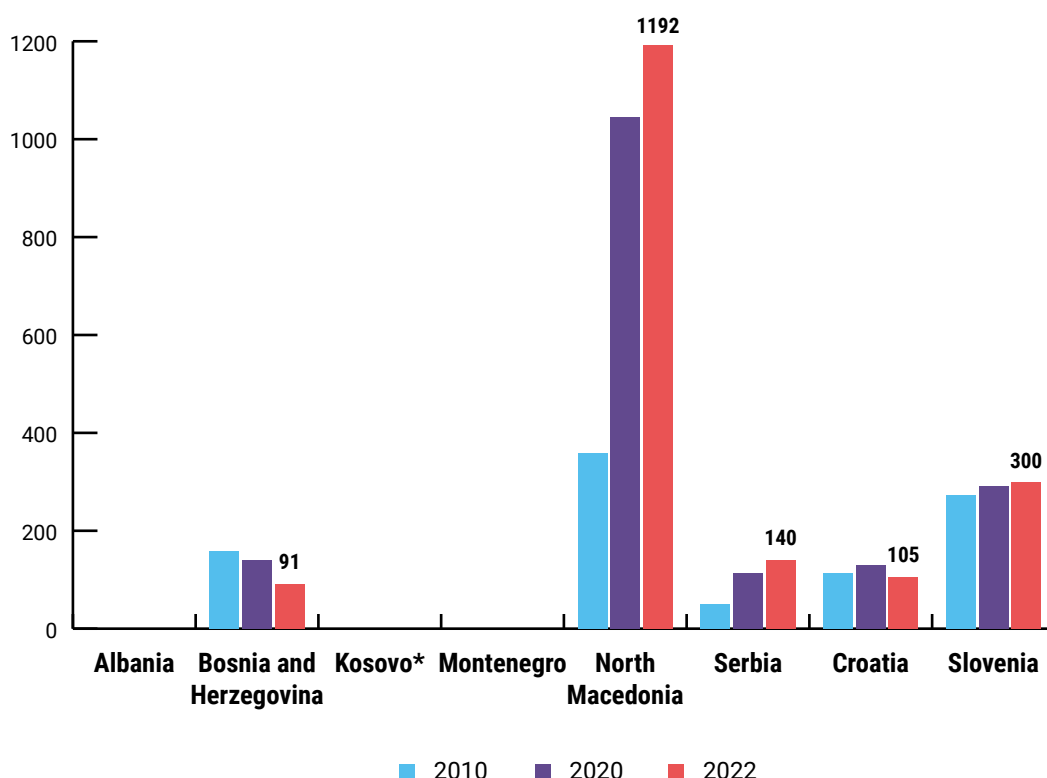
**Figure 57: Energy efficiency: Value-added created per ktoe of energy consumption of the automotive industry (US\$ per ktoe)**

Source: Authors' elaboration based on data from UNIDO INDSTAT and the IEA Data Explorer

Figure 57 presents the energy efficiency of the automotive industry, measured as the value-added generated per kiloton of oil equivalent (ktoe) of energy consumption (US\$ per ktoe). Among the WB6 economies for which data is available, North Macedonia achieves the highest value, churning out US\$17,380 of automotive value-added per ktoe of energy consumed in 2021. This represents almost a doubling in the energy efficiency of its automotive production from 2010 when it stood at US\$9,692 per ktoe. Serbia's industry has followed a similar path, improving its energy efficiency from US\$6,497 per ktoe in 2010 to US\$13,798 per ktoe in 2021, reflecting its relative success in optimising energy use in automotive production.

Bosnia and Herzegovina shows a different pattern. Its automotive industry was highly energy-efficient a decade ago but then experienced a notable decline, from \$18,762 per ktoe in 2010 to \$11,481 per ktoe in 2021. This downward trend highlights challenges in maintaining energy efficiency gains, which could stem from shifts towards more energy-intensive production methods or inefficiencies in the adoption of sustainable practices. In any case, the WB6 economies examined here are ahead of Croatia in terms of the energy efficiency of their automotive industries but still quite far behind Slovenia where the energy intensity of automotive production also almost halved over the last decade.

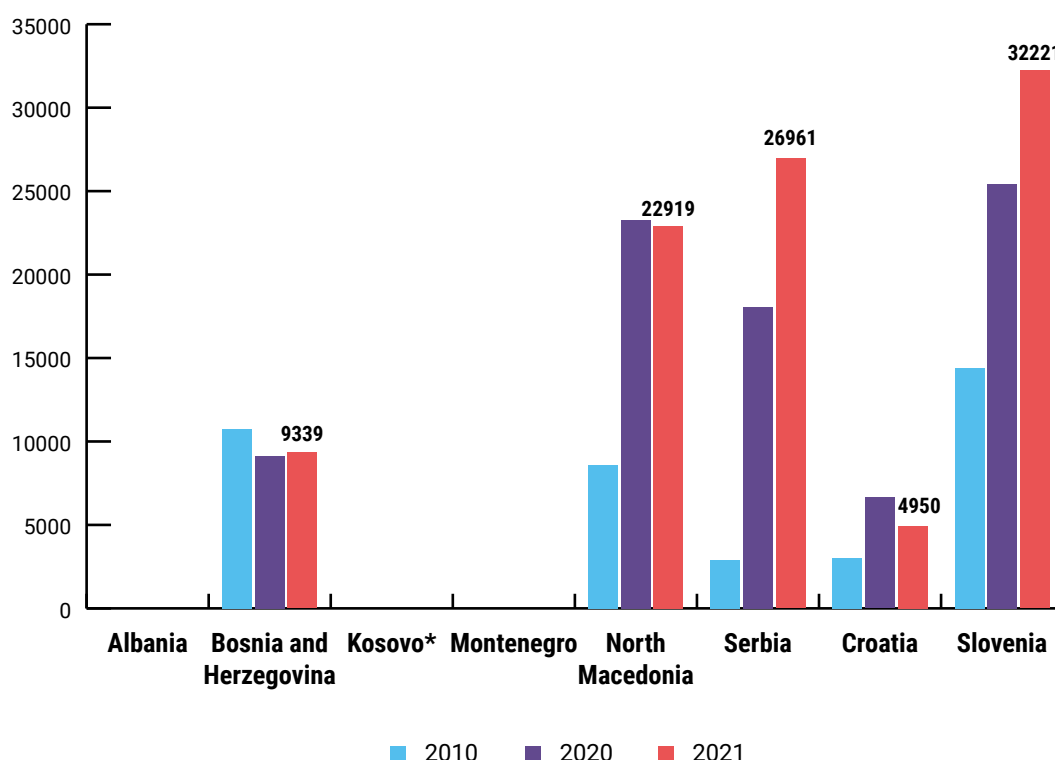
**Figure 58: Resource use efficiency: Value-added created per kg of raw materials consumption of the automotive industry (US\$ per kg)**



Source: Authors' elaboration based on data from UNIDO INDSTAT and UNEP's SCP-HAT database

Figure 58 examines the resource use efficiency of the automotive industry, measured as the value-added generated per kilogram of raw materials consumed (US\$ per kg). The results show significant disparities in resource use efficiency across the region. North Macedonia again leads with the highest value among the analysed economies, increasing from US\$358 per kg in 2010 to US\$1,192 per kg in 2022. This remarkable growth reflects substantial improvements in production processes, investments in value-added manufacturing, and a focus on efficiency and sustainability. The ability to extract more value from raw materials positions North Macedonia as a leader in resource-efficient automotive production even in the wider region beyond WB6.

Serbia's automotive industry has also become more efficient in its use of raw materials but at much lower levels (improving from US\$50 per kg in 2010 to US\$140 per kg in 2022). By contrast, Bosnia and Herzegovina demonstrates the lowest resource use efficiency, with values declining from \$158 per kg in 2010 to \$91 per kg in 2022.

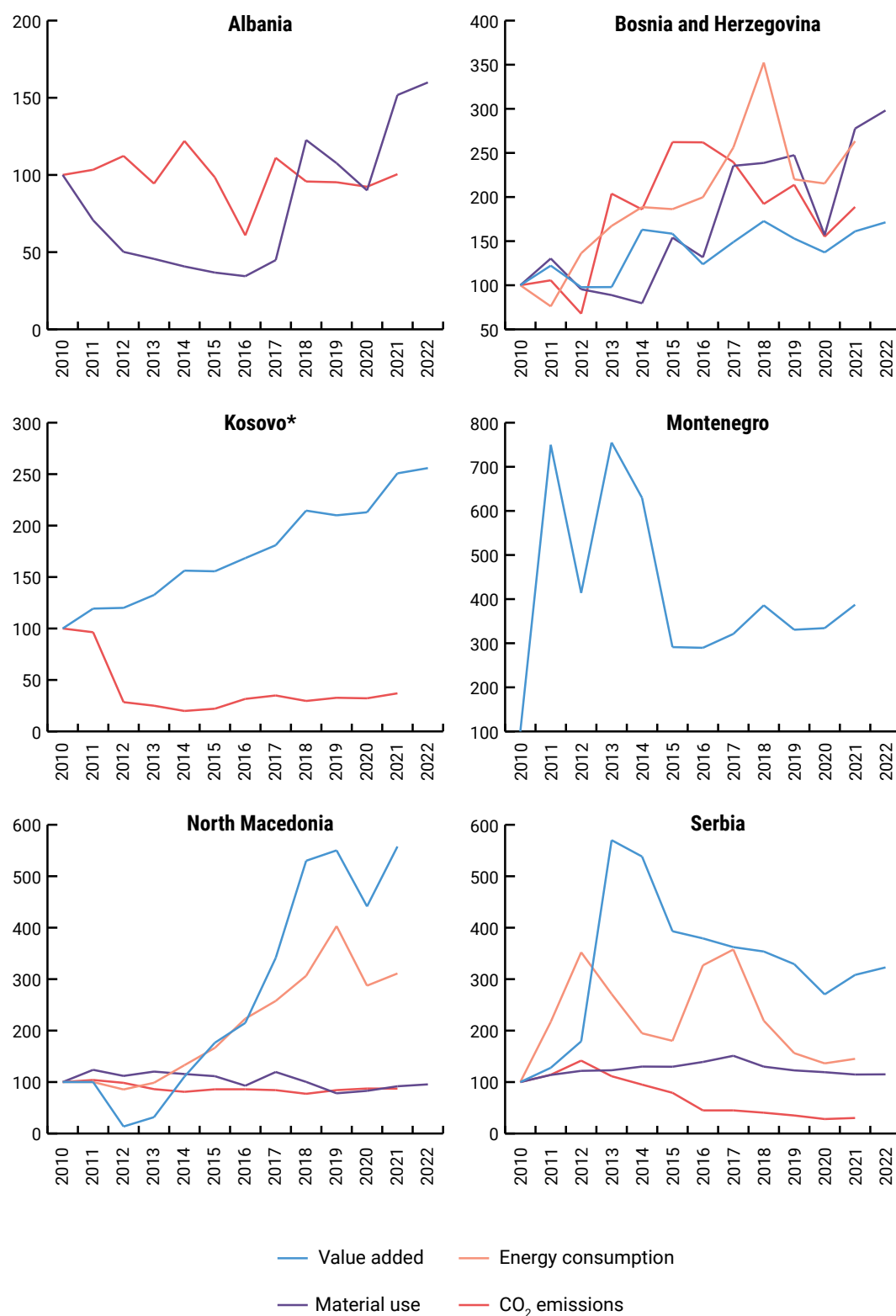
**Figure 59: Emissions efficiency of automotive industry: US\$ of value-added per Mt of CO<sub>2</sub> emitted**

Source: Authors' elaboration based on data from UNIDO INDSTAT and the IEA Data Explorer

We now turn to the question of how polluting the sub-sector is. Figure 59 examines the emissions efficiency of the automotive industry, measured as the value-added generated per metric ton (Mt) of CO<sub>2</sub> emitted (US\$ per Mt). Serbia emerges as leading in the WB6 with both the highest amount of value-added produced for each Mt of CO<sub>2</sub> emitted (US\$26,961 in 2022) and the most pronounced (more than ninefold) improvement since 2010. This strong performance suggests that Serbia's automotive industry has successfully adopted measures to minimise its carbon intensity while maintaining or enhancing economic output. Investments in advanced technologies, cleaner energy sources, and high-value-added production likely contribute to this exemplary efficiency.

North Macedonia's automotive industry has a similar level of emissions efficiency, achieving \$22,919 per Mt of CO<sub>2</sub> in 2022, but has improved more slowly but still by a noteworthy 167% over the last decade.

In contrast, Bosnia and Herzegovina lags significantly behind, with an emissions efficiency of \$9,339 per Mt of CO<sub>2</sub> in 2022 that, on top of it, has slightly deteriorated since 2010. All WB6 economies for which data is available show a gap vis-à-vis Slovenia which Serbia and North Macedonia have managed to narrow while it has widened for Bosnia and Herzegovina.

**Figure 60: Environmental decoupling in the automotive industry**

Source: Authors' elaboration based on data from the sources quoted above

Figure 60 presents the trajectories of value-added (VA) in the automotive industry compared to three key environmental footprint variables (where data is available): energy consumption, raw material use and CO<sub>2</sub> emissions. By indexing all variables to a baseline value of 100 in 2010, the analysis facilitates a direct comparison of trends over time. The results highlight varying levels of decoupling among the analysed economies. Kosovo\*, Serbia and North Macedonia have achieved decoupling, where the growth in VA surpasses the increases—or even reductions—in environmental variables. This demonstrates notable progress in these economies towards aligning industrial growth with environmental sustainability. Their success can likely be attributed to the adoption of energy-efficient technologies, optimisation of resource use, and adherence to practices that reduce emissions and waste while maintaining industrial output. In contrast, Bosnia and Herzegovina has not achieved decoupling. There, the growth in environmental variables exceeds the growth in VA, indicating that the expansion of automotive industry remains closely tied to increased resource use and emissions.

### 3.2.3. Metal processing Industry<sup>24</sup>

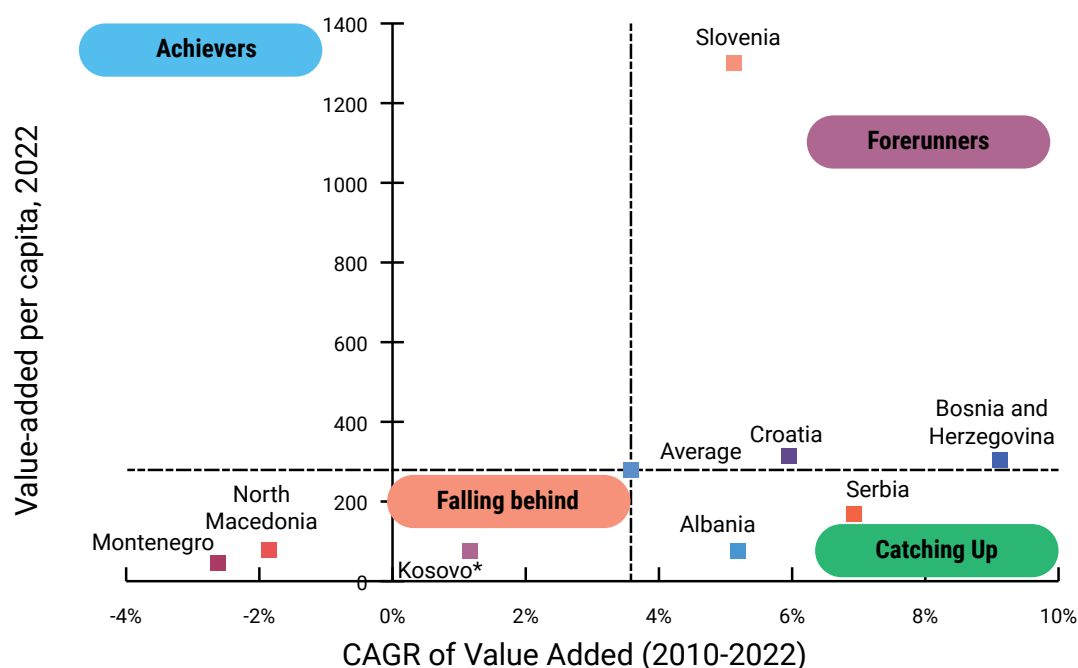
The metal processing industry has also been highlighted as a priority sub-sector in the CRM Action Plan. The following section will deploy the common battery of indicators to analyse the sub-sector's recent performance across economic, social and environmental dimensions.

#### 3.2.3.1. Assessment of metal processing industry's economic performance

We will first look at the production capacity in the metal processing industry across the WB6, which we measure as the value-added that the industry generates per capita. Figure 61 illustrates this indicator as well as its growth rate over 2010-2022 for the WB6 and comparator economies while benchmarking it against the group average, providing insights into the relative performance and trajectory of this vital industrial sub-sector.

The results indicate that Bosnia and Herzegovina – along with Slovenia and Croatia – is a forerunner in the metal processing industry, with strong production capacities (at US\$ 298 per capita) and sustained growth rates (CAGR of 9%). With that, it has converged towards the production capacities seen in Slovenia (at US\$ 1,270), the regional leader, where the CAGR was somewhat lower at 5%. These frontrunner economies have leveraged advanced technologies, skilled labour, and integration into global value chains to create production capacities.

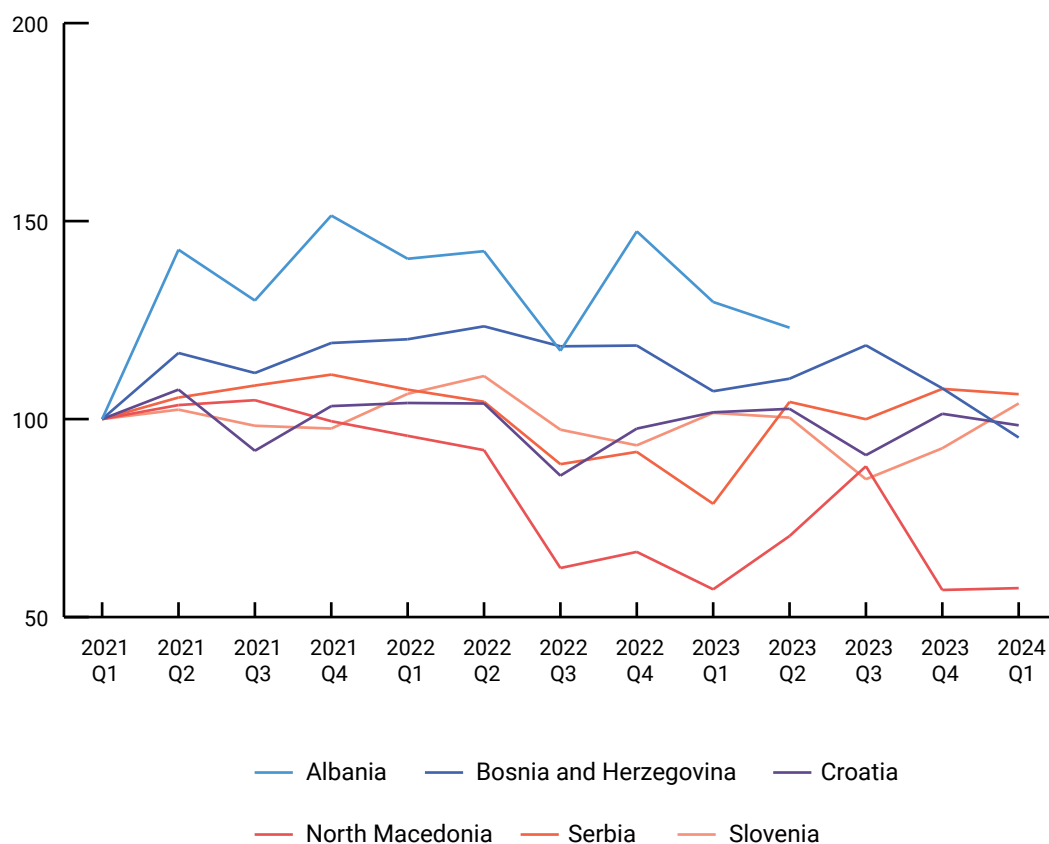
<sup>24</sup> The metal processing industry is defined to cover divisions “27 – Manufacture of basic metals” and “28 – Manufacture of fabricated metal products” of the 3rd revision of the International Standard Industrial Classification of All Economic Activities (ISIC rev. 3) or, where applicable, divisions 24 and 25 of ISIC rev. 4.

**Figure 61: Production capacity in the metal processing industry and its growth rate**

Source: Authors' elaboration based on data from UNIDO INDSTAT

Albania and Serbia are classified as catching up, with relatively lower production capacities but promising growth rates. Albania, in particular, demonstrates significant potential, as recent improvements suggest an upward trajectory in developing its metal processing industry (with a CAGR of 5% over the last decade to reach US\$ 60 per capita). Serbia, already a regional industrial hub, is further consolidating its position by expanding its capacity (at a CAGR of 7% over 2010-2022 to reach US\$ 180 per capita) and diversifying its production.

In contrast, Kosovo\*, Montenegro, and North Macedonia fall into the category of falling behind, characterised by both low production capacity and slow or negative growth rates. Montenegro has seen the most significant drop in its metal processing capacity (-3% p.a.), decreasing to US\$ 40 in 2022. North Macedonia's metal processing sector also experienced a decline in production capacity (-2% p.a.) to US\$ 55. Meanwhile, production capacities in Kosovo\*'s metal processing industry have expanded somewhat, albeit at a below average rate (+1%), bringing it up to US\$ 77 in 2022. For the WB6 region as a whole, there is also a long-term upward trend to observe. More precisely, regional metal processing capacities have more than doubled since 2010, reaching US\$ 164 in 2022 – which, however, is still below the levels seen in Croatia and Slovenia.

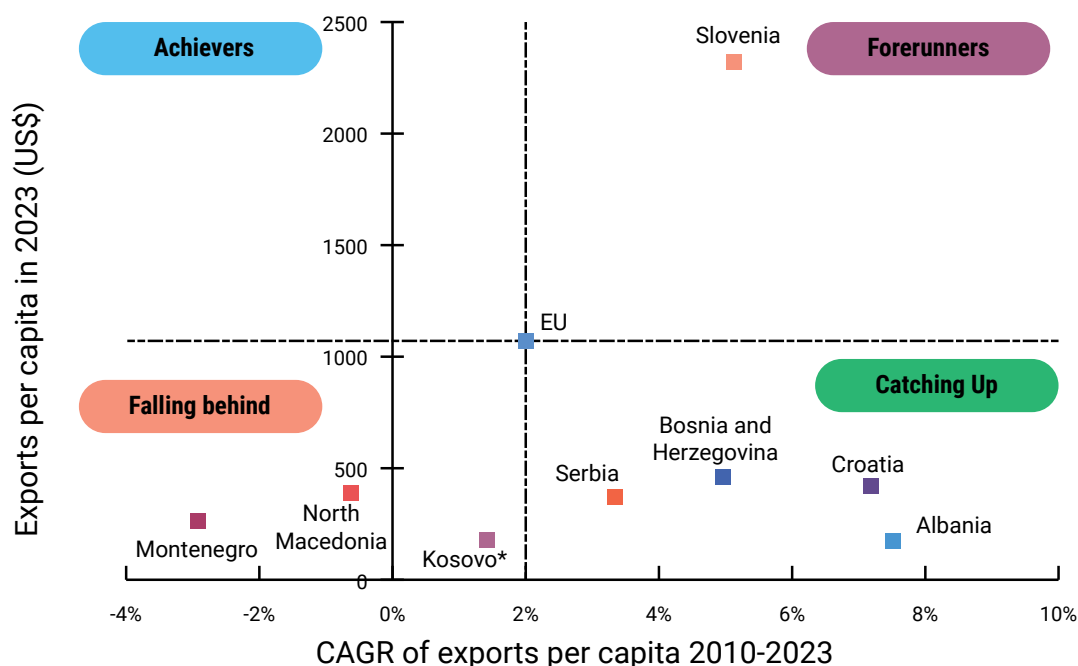
**Figure 62: Quarterly Index of Industrial Production (IIP) in the metal processing industry**

Source: Authors' elaboration based on data from UNIDO's IIP database

In the more recent past, since the CRM Action Plan was put in place, developments have been less rosy. According to the Quarterly Index of Industrial Production (IIP), output has gone down in Bosnia and Herzegovina's and, dramatically so, also in North Macedonia's metal processing industries between Q1 2021 and Q1 2024. As can be seen in Figure 62, North Macedonia's IIP stood at 57 in Q1 2024 (meaning that the sub-sector's output was 43% below its level in Q1 2021) while Bosnia and Herzegovina's IIP stood at 95.

By comparison, production has somewhat expanded in Serbia (with an IIP value of 106 in Q1 2024) and also in Albania (with an IIP value of 123 in Q2 2023, the latest data point available). With that, the performance of Serbia's metal processing sub-sector was similar to Slovenia's where the IIP climbed to a value of 104 after some unsteady developments in the preceding quarters.



**Figure 63: Export capacity in the metal processing industry and its growth rate**

Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

Note: The value for Kosovo\*'s export capacity is for 2021

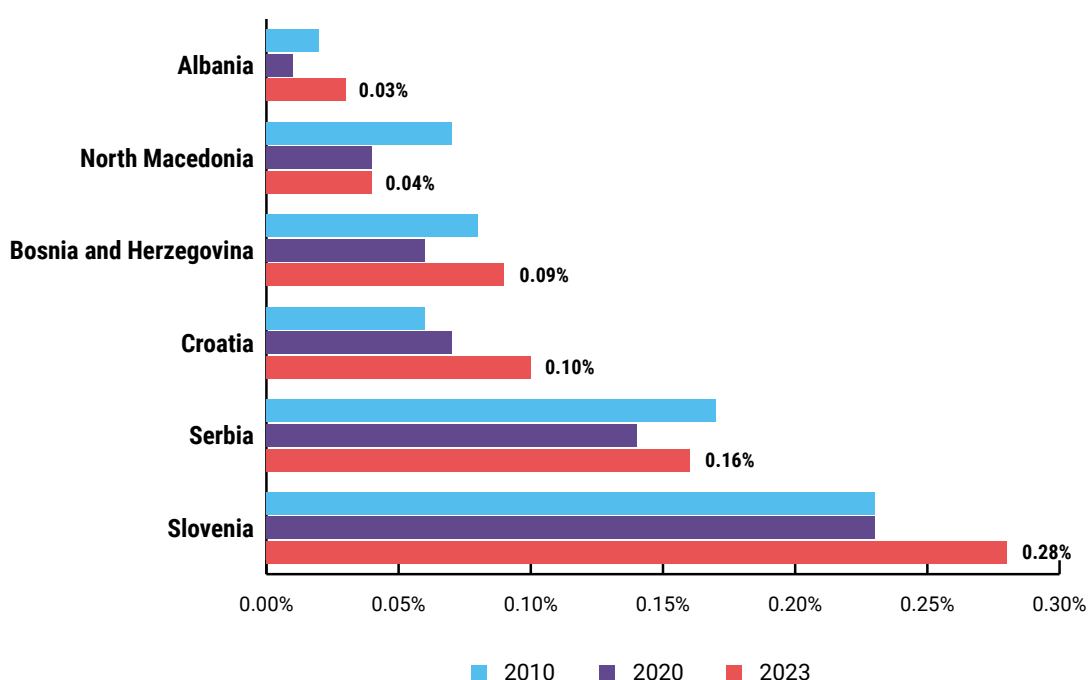
Turning to the sub-sector's external trade performance, Figure 63 presents the metal processing industry's export capacity and its growth rate across the Western Balkans Six and compares them to the EU's performance as a benchmark. The results show that Slovenia is the only forerunner, with an export capacity above the EU's (at US\$ 2,268) and sustained growth (CAGR of 4% over 2010-2023). Slovenia's advanced production capabilities, established trade networks, and high-value-added exports underscore its regional leadership in the metal processing industry.

Serbia, Bosnia and Herzegovina, Albania as well as Croatia are classified as catching up, demonstrating improving export capacities paired with notable growth rates. These economies are leveraging increasing demand for processed metal goods and gradually enhance their integration into international supply chains. Among them, Albania has still the lowest export capacity (US\$ 176) but also the highest growth rate (+7.5% p.a. since 2010). Bosnia and Herzegovina's metal processing industry has also exhibited steady progress in export orientation, with its export capacity expanding by 5.1% a year to reach US\$ 463 per capita in 2023, benefiting from proximity to the EU market and improvements in manufacturing capabilities. The performance of Serbia's metal processing sub-sector is a few notches lower, recording an average annual increase in export capacity of 3.5% that brought it up to US\$ 419 per capita.

On the other hand, Montenegro, Kosovo\*, and North Macedonia are falling behind, with both limited export capacities and slow or negative growth rates. Among them, Kosovo\*

stands out as the WB6 economy with the lowest export capacity for processed metals (at US\$ 161) but at least positive growth over 2010-2021 (+1.4% p.a.). The export capacity of North Macedonia's metal industry (at US\$ 418) is more or less at par with Serbia's and Croatia's but has slightly declined since 2010 (by, on average, 0.3% a year). Montenegro's metal processing sector has seen the strongest fall in export capacity (CAGR of -2.8%), bringing it down to US\$ 223. The WB6 region as a whole had an export capacity of US\$ 353 in 2023 which corresponds to roughly a third of the EU's (at US\$ 1,129). However, it has grown somewhat faster than the EU's (3% p.a. vs. 2% p.a.) so that the gap is narrowing.

**Figure 64: World export market share in the metal processing industry**



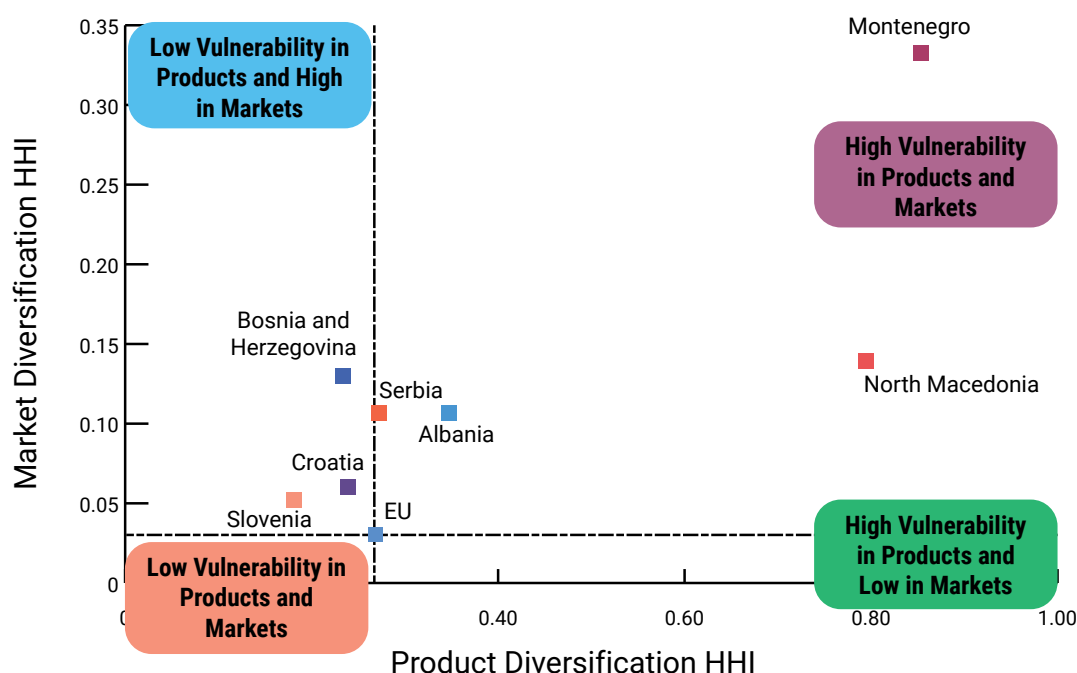
*Source: Authors' elaboration based on data from the World Bank's WITS data portal*

Figure 64 presents the world export market shares of the metal processing industry for the WB6 economies and their regional comparators. The results show that all WB6 economies are niche players and have significantly lower world export market shares compared to Slovenia. Albania records the lowest value among the WB6 economies, underscoring its limited role in global metal processing exports.

North Macedonia follows Albania with a marginally higher world export market share. Similarly, Bosnia and Herzegovina has a slightly better performance but still lags behind the regional comparators. Serbia is the largest global player among WB6 economies, accounting for 0.16% of global exports of metal products. However, it has lost some market shares since 2010 – as did North Macedonia. Albania and Bosnia and Herzegovina, on the other hand, have been able to somewhat enhance their presence in world export

markets. Yet, none of them has been as successful as Slovenia which already had the largest world export market share among sample economies in 2010 (at 0.23%) and subsequently managed to add another 0.05 percentage points.

**Figure 65: Diversification matrix for exports of the metal processing industry**



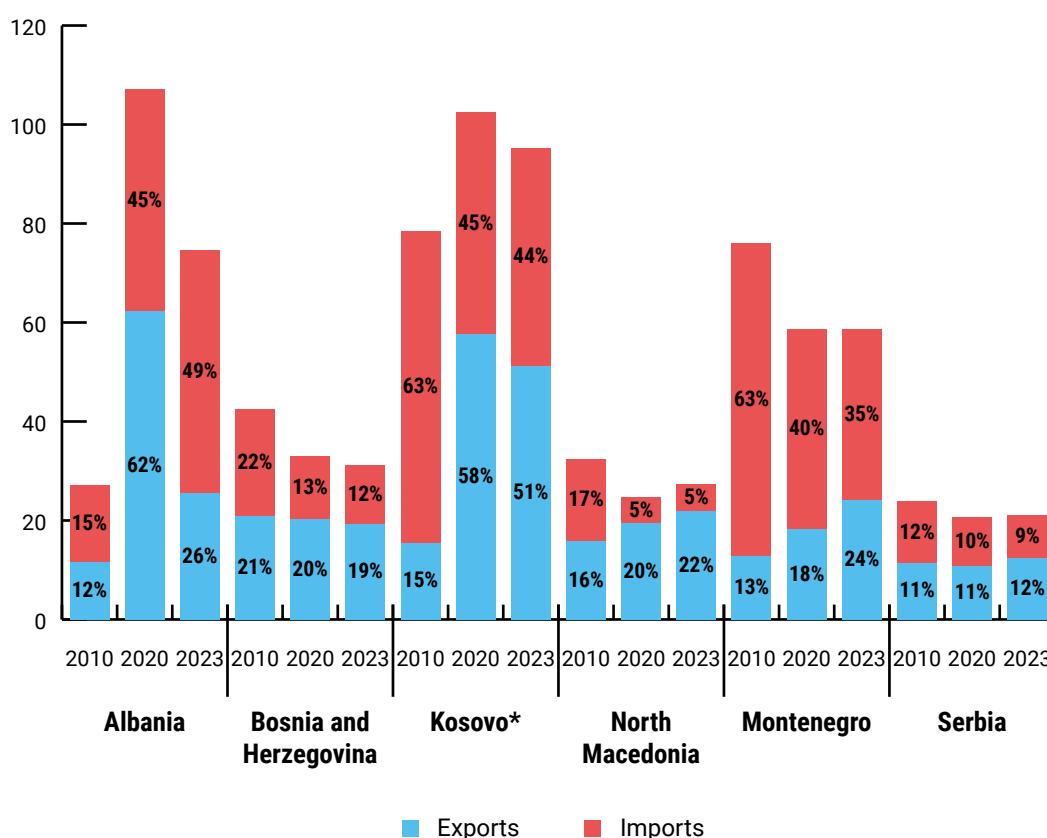
Source: Authors' elaboration based on data from the World Bank's WITS data portal

Figure 65 presents the diversification matrix for the metal processing industry, analysing how diversified the WB6 economies' metal exports are across different products and markets compared to the EU as the benchmark. The results indicate that Montenegro and North Macedonia face high vulnerability especially in terms of product portfolio concentration but also, to a much lesser degree, in terms of limited market reach. Albania's metal exports are also less diversified than the EU's with its HHI values being higher than those in the EU. This dual vulnerability highlights a significant dependence on a limited range of exported metal products and a narrow set of trading partners.

In contrast, Bosnia and Herzegovina, Croatia, and Slovenia exhibit lower-than-EU vulnerability in their product baskets, indicating a diversified range of metal products in their export portfolios. These economies have an HHI for market diversification higher than the EU, reflecting a somewhat larger dependence than the EU on a limited number of trading partners. However, it has to be said that, generally speaking, their HHI values are quite low so that they are not severely exposed to risks related to market concentration.

Serbia is positioned at the frontier between the two dimensions, reflecting a balanced but mixed profile. Serbia shows moderate diversification in both product range and market reach, suggesting that its metal exports should be relatively resilient to unexpected changes in product or market dynamics.

**Figure 66: Share of intra-regional trade in total metal processing exports and imports**

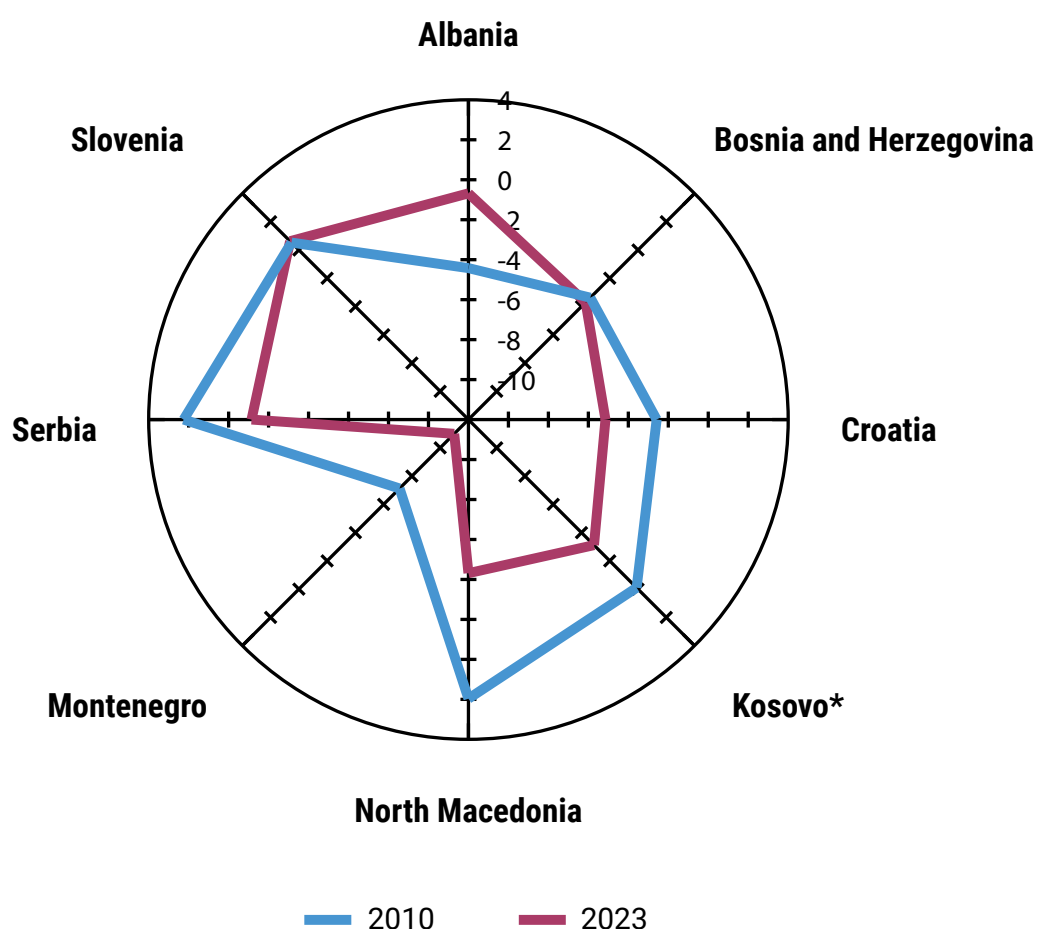


Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

Figure 66, which examines the share of intra-regional trade in total processed metal exports and imports, provides additional context to these trends. The metal processing industries of Kosovo\* and Albania emerge as the most integrated within the regional economy. Close to half of their metal imports come from within the WB6 region which is also the destination of more than half of Kosovo\*s metal exports and more than a quarter of Albania's. Compared to 2010, both economies have intensified their trade with WB6 fellows – but shares have declined somewhat since the inception of the CRM. For Montenegro's metal processing industry, regional WB6 markets are also relatively important, accounting for 24% of exports and 35% of imports. Interestingly, while intra-regional exports have increased their share, the relative importance of intra-regional imports has gone down.

By contrast, North Macedonia and especially Serbia trade relatively little within the region – and that proportion has also declined over time. Only 9% of Serbia’s metal imports and 12% of its metal exports represent trade with fellow WB6 economies, suggesting a greater focus on extra-regional trade. Bosnia and Herzegovina sits somewhere in the middle with roughly a tenth of its metal imports and a fifth of its metal exports representing intra-regional trade. For both the longer run (since 2010) and the shorter term (since the CRM inception in 2021) a clear downward trend in intra-regional trade can be discerned, reflecting underdeveloped regional supply chains and integration.

**Figure 67: Trade balance of the metal processing industry (in % of GDP)**



Source: Authors' elaboration based on data from the World Bank's WITS data portal and from KAS

Figure 67 highlights the trade balance of metal processing industry as a percentage of GDP, providing an indicator of the sector's net trade performance. The results show significant variations across the WB6 and comparator economies between 2010 and 2023. Montenegro exhibits a worsening trade deficit, with the trade balance deteriorating from -7% of MVA in 2010 to -11% in 2023. This growing deficit reflects the decline in local production capacity seen above and increasing dependency on imports for metal

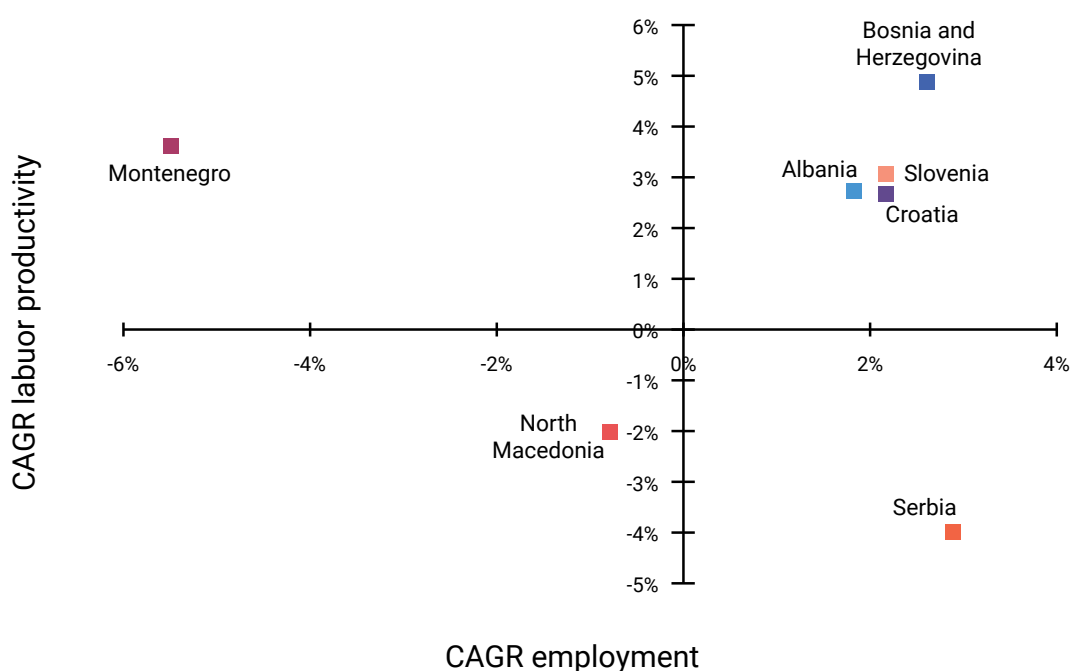
processing goods and raw materials, coupled with challenges in boosting export competitiveness. Slovenia stands out as the only economy maintaining a positive trade balance throughout the period, remaining stable at around 1% of GDP. This consistency underscores Slovenia's strong export performance and well-established industrial base, allowing it to generate a surplus even in a competitive international market.

Albania has shown notable improvement, reducing its trade deficit from more than -4% in 2010 to less than -1% in 2023. This trend suggests progress in enhancing its export capacity and reducing reliance on imports, likely supported by gradual improvements in production and regional trade engagement. Conversely, Bosnia and Herzegovina sees a slight increase in its trade deficit, moving from -3% to -4%. North Macedonia shows a significant reversal in trade balance, shifting from a surplus of 2% in 2010 to a deficit of -4% in 2023, mirroring the declining production capacity revealed above. Similarly, Serbia transitions from a modest surplus of 2% in 2010 to a deficit of -1% in 2023, indicating a decline in trade performance and increasing reliance on imported goods. Moreover, Kosovo\* also widened its sub-sectoral trade deficit from a miniscule -0.1% of GDP in 2010 to more than -3% in 2023. Overall, the trade balances of the WB6 economies' metal processing industries have developed for the worse over the last decade.

### 3.2.3.2. Assessment of metal processing industry's social performance

After this snapshot of the economic performance of WB6 economies' metal processing industries, we will now examine how they delivered on several social indicators.

**Figure 68: Labour market dynamics in the metal processing industry: Job creation and labour productivity growth (2010-2022)**



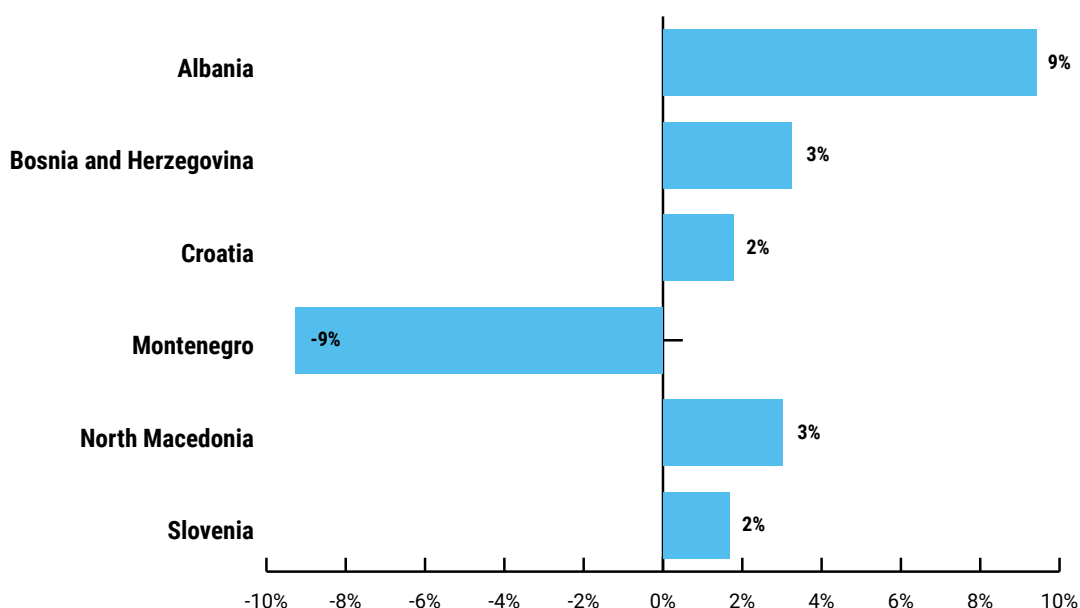
Source: Authors' elaboration based on data from UNIDO INDSTAT

Figure 68 analyses labour market dynamics in the metal processing industry by examining job creation and labour productivity growth. The top-right quadrant represents economies achieving both positive employment growth and rising labour productivity in the metal processing industry. Albania, Bosnia and Herzegovina, Croatia, and Slovenia are positioned in this quadrant, reflecting a healthy balance between expanding job opportunities and increasing labour efficiency. This alignment suggests that these economies are effectively managing to grow their industrial workforce while simultaneously enhancing productivity, likely driven by investments in technology, skills development, and expanding production capacity. Among them, Bosnia and Herzegovina's metal industry stands out due to its leading performance in enhancing both employment (CAGR of 2.6% between 2010 and 2022) and productivity (CAGR of 4.8%). Albania's metal processing industry has also performed well on these indicators with average annual growth of 2% in job creation and 2.8% in labour productivity.

The top-left quadrant includes economies experiencing growth in labour productivity but a decline in employment, indicating a shift towards efficiency gains that may come at the expense of job opportunities. Montenegro is positioned here (with annual productivity gains of 3.6% and average annual job losses of -5.5% since 2010), reflecting a trend where advancements in automation, mechanisation, or operational efficiency reduce the need for a larger workforce. While this dynamic can enhance competitiveness, it also raises concerns about employment sustainability and the need for policies to manage workforce transitions.

The bottom-right quadrant reflects economies with positive employment growth but declining labour productivity, signalling potential inefficiencies in resource allocation or reliance on low-value-added production. Serbia occupies this quadrant, suggesting that while jobs in the metal processing industry have been created (at a pace of 2.8%), sectoral labour productivity is declining (CAGR of -3.9%), potentially undermining long-term competitiveness.

The bottom-left quadrant comprises economies experiencing declines in both employment and productivity, signalling significant structural challenges. North Macedonia is located here because its metal processing sector has shed jobs at an average rate of 0.6% a year and labour productivity has decreased with a CAGR of -1.9%, reflecting struggles to sustain labour market growth or improve labour efficiency.

**Figure 69: Growth rate of average wages paid in the metal processing industry (2010-2022)**

Source: Authors' elaboration based on data from UNIDO INDSTAT

Figure 69 illustrates the growth rate of average wages in the metal processing industry from 2010 to 2022, offering insights into labour market trends and economic conditions of this critical sector. The results reveal substantial disparities in wage dynamics across the region. Albania leads with the highest growth rate of 9%, signalling significant improvements in worker compensation. This robust increase is a result of the fact that the metal processing industry in Albania has experienced rising productivity and growing employment (see above) and potentially also better profitability and increased demand for skilled labour. Rising wages can enhance the sector's attractiveness, helping to retain and attract talent.

Bosnia and Herzegovina, North Macedonia, and Slovenia follow Albania, each showing positive wage growth. In Bosnia and Herzegovina and North Macedonia, wages in the metal processing industry have grown by 3% since 2010, reflecting both increasing demand for workers and rising labour productivity (see above), resulting in steady progress in improving worker earnings. In North Macedonia, wages have gone up despite declines in sub-sectoral employment and labour productivity. Slovenia, with its advanced industrial base, also records positive growth, though at a more modest rate. This stability indicates a mature and well-established sector where wage increases are more gradual due to already high baseline wages.

In stark contrast, Montenegro reports a significant negative wage growth rate of -9%, indicating a sharp decline in average wages over the observed period. This decline might highlight structural challenges within Montenegro's metal processing industry, such as



reduced demand, declining profitability, or an inability to compete effectively in regional and global markets which might also explain the reductions in workforce seen above.

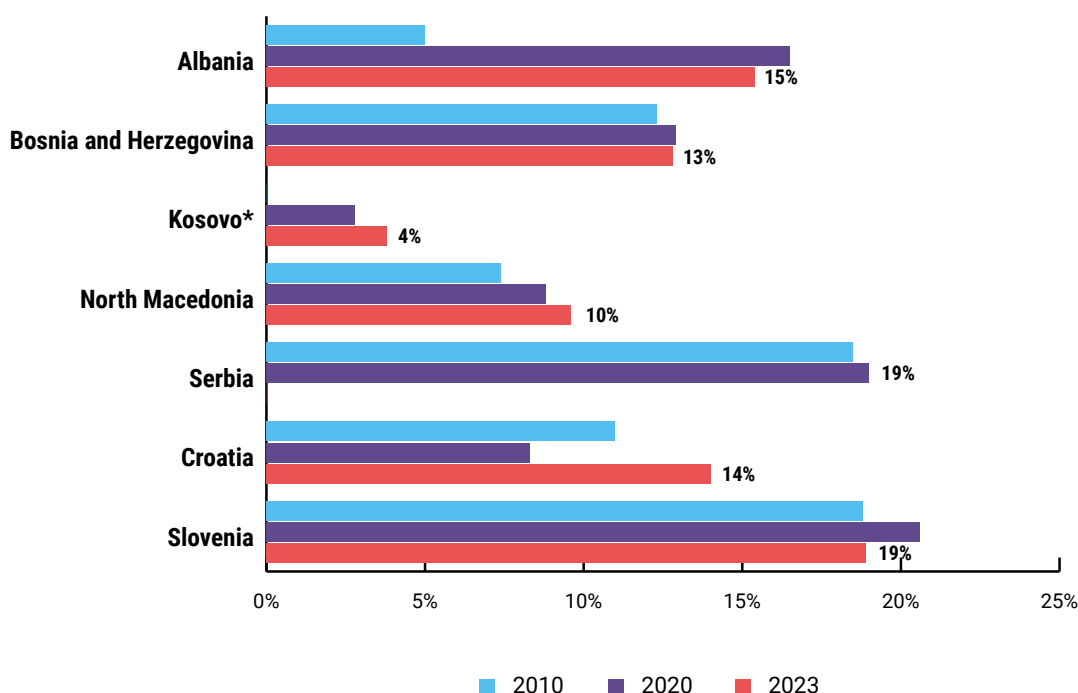
**TABLE 5: EMPLOYMENT ELASTICITY OF VALUE-ADDED GROWTH IN THE METAL PROCESSING INDUSTRY (2010-2022)**

	Employment growth 2010-2022	MVA growth 2010-2022	Elasticity	Classification
<b>Albania</b>	26%	76%	0.35	Low/Moderate Employment Generation
<b>Bosnia and Herzegovina</b>	35%	138%	0.26	Low/Moderate Employment Generation
<b>Croatia</b>	31%	81%	0.39	Low/Moderate Employment Generation
<b>Montenegro</b>	-49%	-25%	1.95	Declining Sector
<b>North Macedonia</b>	-7%	-26%	0.27	Declining Sector
<b>Serbia</b>	39%	107%	0.36	Low/Moderate Employment Generation
<b>Slovenia</b>	31%	88%	0.35	Low/Moderate Employment Generation

Source: Authors' elaboration based on data from UNIDO INDSTAT

Table 5 presents the employment elasticity of value-added growth in the metal processing industry between 2010 and 2022, offering a measure of how effectively output growth in the sector translates into job creation. The results show that Albania, Bosnia and Herzegovina, Croatia, Serbia, and Slovenia fall into the category of low to moderate employment generation. In these economies, growth in the metal industry has resulted in some job creation, but the pace is relatively modest. This suggests that while the sector is expanding in terms of output, factors such as automation, mechanisation, and increasing productivity may be limiting the corresponding growth in employment.

In contrast, metal industries in Montenegro and North Macedonia are classified as “declining sectors”, characterised by negative value-added and employment growth. In these economies, the metal processing sector is shrinking both in terms of output and employment.

**Figure 70: Female share in employment in the metal processing industry (in %)**

Source: Authors' elaboration based on data from the ILOSTAT Data Explorer

Note: Data is on division 25 of the ISIC rev. 4 nomenclature ("Manufacture of fabricated metal products")

The metal processing industry is strongly men-dominated. As can be seen in Figure 70, women present less than a fifth (and often much less) of the sectoral workforce. The share is highest in Serbia (19%, at par with Slovenia) and Albania (at 15%). Some progress can be noted, however, in integrating more women over time. Since 2010, the female share in the metal processing industry's employment has increased across the WB6 and also comparator economies, although there has been a recent reversal in Albania (where it dropped again by two percentage points to 15% after having gone up remarkably from a low 5% in 2010).

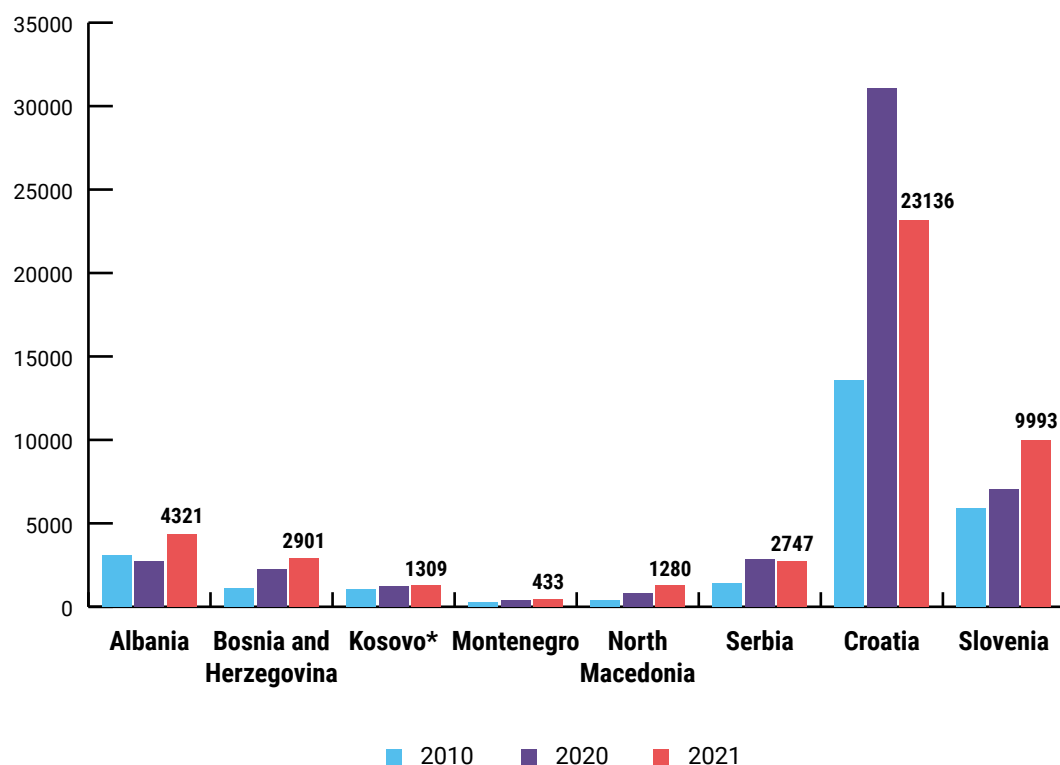
Apart from Albania, gains have been most significant in North Macedonia (where the proportion of women in the sectoral workforce increased by three percentage points from 7% in 2010 to 10% in 2023). By comparison, they have been more modest in Bosnia and Herzegovina, Kosovo\*, and Serbia.

Overall, however, the growing presence of women in metallurgy jobs reflects some progress in tackling structural barriers to balanced gender opportunities such as limited access to technical education, a lack of proactive measures (like targeted vocational training programmes and other workplace inclusion initiatives), cultural factors, limited career advancement opportunities, or a lack of supportive workplace policies.

### 3.2.3.3. Assessment of metal processing industry's environmental performance

The final piece of assessment will be on the environmental performance of the metal processing industries in different WB6 economies.

**Figure 71: Energy efficiency: Value-added created per ktoe of energy consumption of the metal processing industry (US\$ per ktoe)**



Source: Authors' elaboration based on data from UNIDO INDSTAT and the IEA Data Explorer

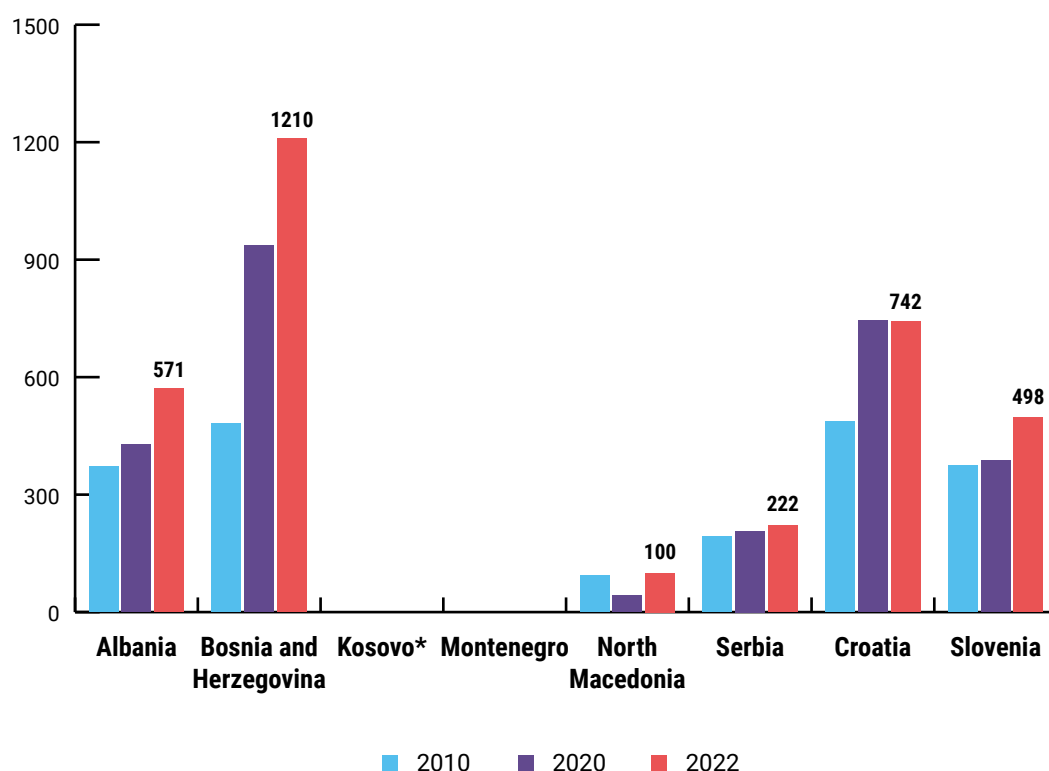
Note: For better legibility, the columns for Croatia have been truncated at US\$ 10,000. The actual values are US\$ 13,596 for 2010, US\$ 31,079 for 2020, and US\$ 23,136 for 2021.

First, we will look at how efficient the sub-sector is in the use of energy and whether any improvements can be observed for recent years. Figure 71 illustrates energy efficiency in the metal processing industry, measured as the value-added generated per kiloton of oil equivalent (ktoe) of energy consumption (US\$ per ktoe). It makes clear that all WB6 economies have energy efficiency values significantly lower than those of comparator economies such as Slovenia and Croatia where greening the metallurgy sector has already progressed further. Among the WB6 economies, Montenegro (at US\$ 433 per ktoe), North Macedonia (at US\$ 1,280 per ktoe) and Kosovo\* (US\$ 1,309 per ktoe) exhibit the lowest energy efficiency levels, indicating certain challenges in moving away from heavy energy use within their metal processing industries. Bosnia and Herzegovina (US\$ 2,901 per ktoe) and Serbia (US\$ 2,747 per ktoe) follow with quite a bit of distance, with

relatively higher values but still well below those of the regional leaders. Albania's metal processing is the most energy efficient in the WB6 region, generating US\$ 4,321 of value-added for every ktoe of energy consumed.

On a very positive note, the values for all WB6 economies have been on a clear upward trajectory between 2010 and 2021, reflecting gradual improvements in greening the industry through more efficient use of energy. These increases suggest ongoing efforts to modernise production facilities, adopt energy-saving technologies, and enhance operational practices. The upward trend can also be observed for the WB6 region as a whole, with the regional average of energy efficiency more than doubling from US\$ 986 in 2010 to US\$ 2,295 in 2021. However, the gap between the WB6 and comparator economies remains substantial, underscoring that there is room to further accelerate the greening of the region's metallurgy sector to improve its competitiveness and environmental performance.

**Figure 72: Resource use efficiency: Value-added created per kg of raw materials consumption of the metal processing industry (US\$ per kg)**



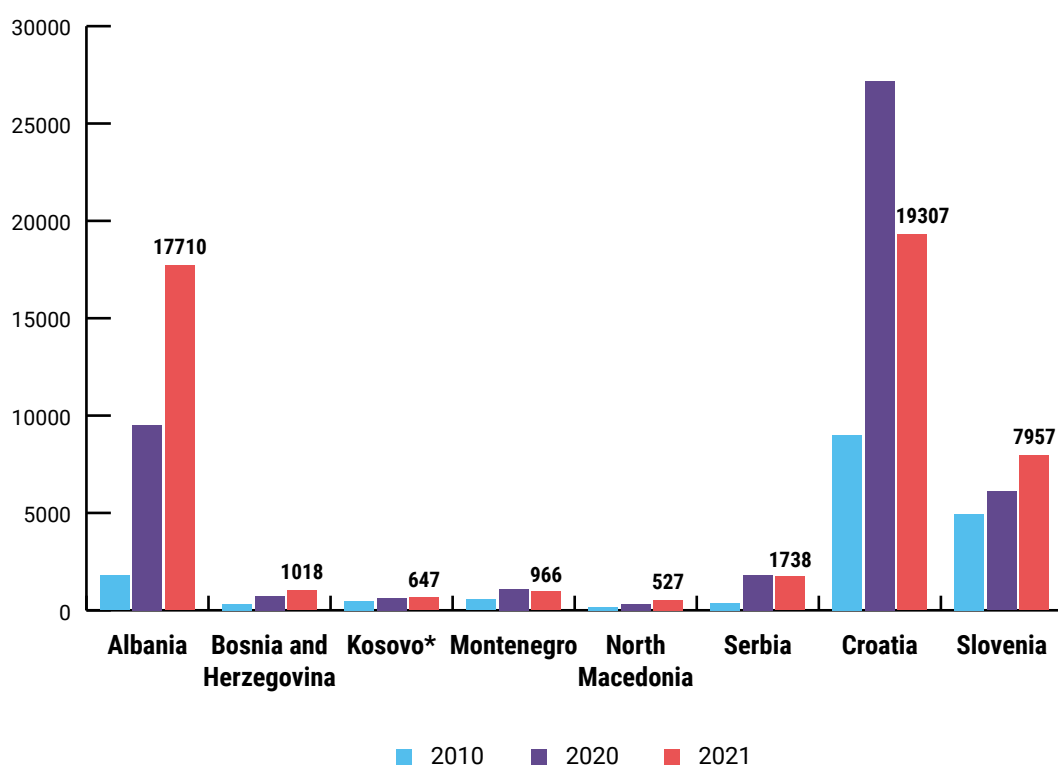
Source: Authors' elaboration based on data from UNIDO INDSTAT and UNEP's SCP-HAT database

To shed additional light on the metal processing industry's efficiency in using inputs, Figure 72 depicts its resource use efficiency which is defined as the value-added created per kilogram of raw materials consumed (US\$ per kg). The results highlight varying levels across the region. Bosnia and Herzegovina's metal processing industry has the highest

level of resource efficiency which, in addition, has steadily improved from \$482 per kg in 2010 to \$1,210 per kg in 2022. This upward trend suggests gradual advancements in production techniques and value addition and has also led to Albania overtaking the EU member states of Croatia and Slovenia in terms of how efficiently its metallurgy sector uses raw materials.

Albania's metal processing industry has also seen notable progress in its resource use efficiency as it climbed from \$371 per kg in 2010 to \$571 per kg in 2022, thereby reaching a higher level than Slovenia's. For Serbia, small but continuous improvements can be observed as the efficiency of the raw materials use of its metal processing subsector raised from \$193 to \$222 per kg over 2010-2022. Meanwhile, the performance of North Macedonia's industry has trailed that of its peers. It consistently records the lowest values for resource use efficiency among the WB6 economies which has only marginally improved from \$94 to \$100 per kg between 2010 and 2022. This indicates persistent challenges in deriving more economic value from raw materials, potentially due to reliance on low-value production or inefficiencies in manufacturing processes. Such limitations may hinder North Macedonia's ability to compete regionally and globally.

**Figure 73: Emissions efficiency of metal processing industry: US\$ of value-added per Mt of CO<sub>2</sub> emitted**

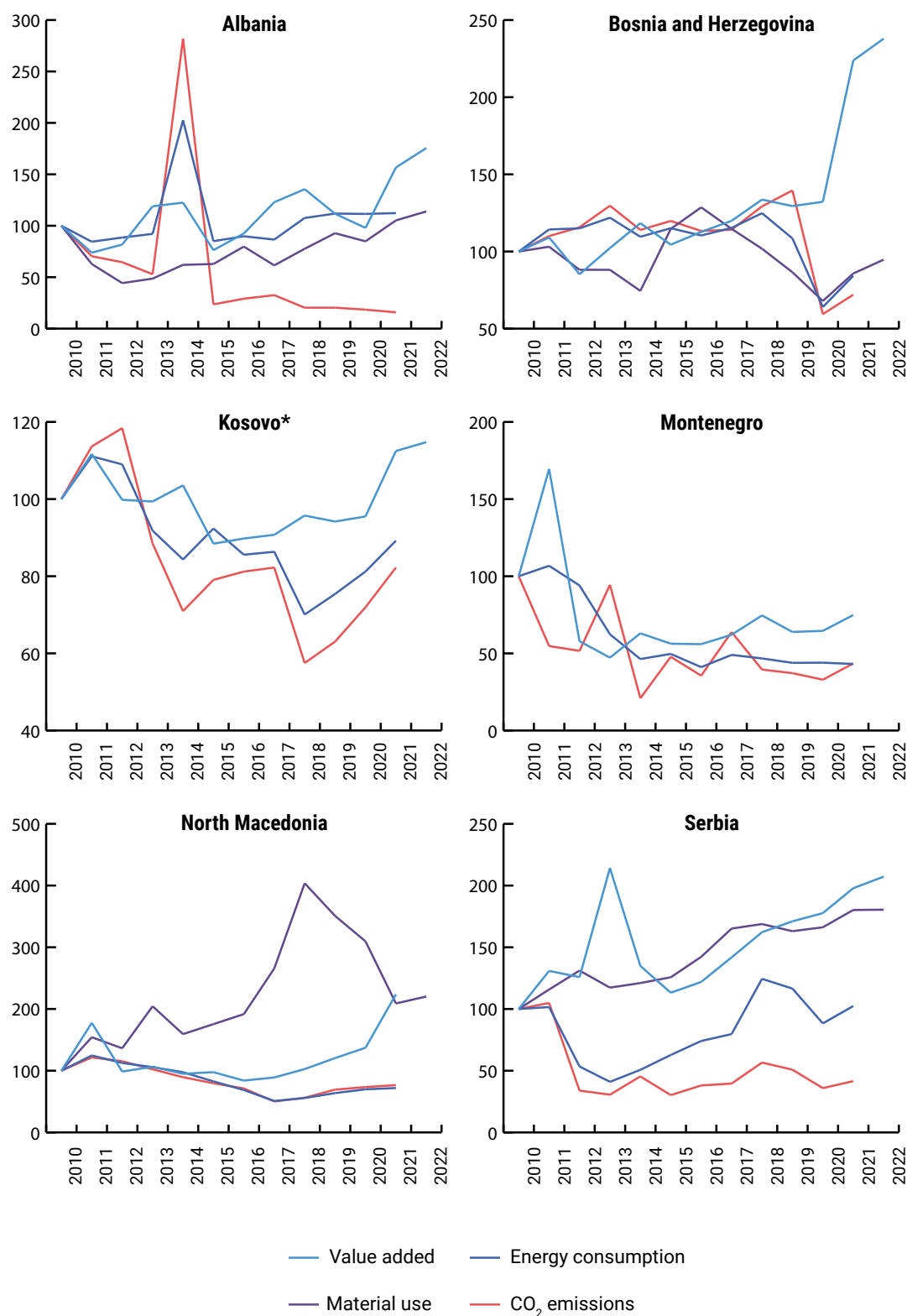


Source: Authors' elaboration based on data from UNIDO INDSTAT and the IEA Data Explorer

Providing a snapshot on emissions efficiency, Figure 73 measures the value-added that the WB6's metal processing industries generated per metric ton (Mt) of CO<sub>2</sub> emitted (US\$ per Mt). The results show that Albania leads the region on this metric, surpassing even advanced comparators like Slovenia and coming close to Croatia. Albania's value-added increased significantly from US\$1,789 per Mt of CO<sub>2</sub> in 2010 to US\$17,710 per Mt in 2021, marking an almost tenfold improvement over the observed period. This remarkable growth indicates substantial progress in optimising energy use, reducing emissions intensity, and enhancing the environmental performance of its metal processing industry.

In contrast, other economies in the WB6 region exhibit much lower emissions efficiency, lagging behind both Albania and regional comparators. Serbia's (at US\$1,738 per Mt) and Bosnia and Herzegovina's (at US\$1,018 per Mt) metallurgy sectors at least show efficiency value above US\$1,000 per Mt while Montenegro, Kosovo\* and North Macedonia are below this threshold. This highlights significant challenges in improving the environmental sustainability of their metal processing sectors. Factors such as reliance on outdated, energy-intensive production methods, limited adoption of clean technologies, and a higher carbon intensity of industrial energy sources may contribute to these lower values.

What is positive to note, however, is that there is a clear upward trend in emissions efficiency across the region. The metal processing industries in all WB6 economies have recorded improvements. As a result, the regional average emissions efficiency has more than tripled between 2010 and 2021, growing from US\$347 to US\$ 1,126 per Mt.

**Figure 74: Environmental decoupling in the metal processing industry**

Source: Authors' elaboration based on data from sources quoted above

Finally, we bring all environmental performance indicators together in one graph on *decoupling*. Figure 74 presents the trajectories of a key economic performance indicator, namely sub-sectoral value-added (VA), alongside three variables related to the environmental footprint of the metal processing industry: energy consumption, raw material use, and CO<sub>2</sub> emissions. To facilitate comparison, the baseline for all variables is set at an index value of 100 in the year 2010, allowing to trace their developments over time from a common starting point.

Figure 74 shows a very positive trend. It makes evident that all WB6 economies have achieved *decoupling* in their metal processing sector's development. That is, growing output and economic value creation could be – to varying degrees – disconnected from environmental degradation. Across all categories examined, these economies have achieved relative decoupling and, in some cases, even absolute decoupling, with the growth rate of metal processing's value-added consistently outpacing the increase in environmental impact indicators. The raw materials consumption of North Macedonia's metallurgy sector was long on a path of growing faster than it's the VA it generated but this was reversed in recent years.

### **3.2.4. Key findings emerging from the performance assessment of priority sub-sectors**

In summary, it is worthwhile highlighting that output in priority sub-sectors has expanded rather modestly during the CRM years but a clear upward trend in productive and export capacities is observable when taking a longer-term perspective (with the exception of Montenegro's and North Macedonia's metal-processing industries where capacities today are lower than in 2010 but higher than in 2020).

WB6 economies are still niche players in the global markets for these industries but for the most part they have been able to increase their world export market shares since the inception of CRM (apart from the automotive sector where Serbia and North Macedonia have taken big additional chunks of the world export market after 2010 but where the momentum has slowed a bit since the launch of CRM). Overall, trade deficits also dominate in the sub-sectors (the only exception being Serbia's surplus in its agri-food trade balance), revealing low degrees of self-sufficiency.

Among the priority sub-sectors, agri-food is the one with the largest share of intra-regional trade. On average, WB6 economies source 24% of their agri-food imports from their regional peers and ship 42% of their agri-food exports to them. However, there are significant variations across economies: Montenegro's agri-food trade is strongly regional whereas Albania's is not. In the metal-processing industry, intra-WB6-region imports and exports, on average, account for a bit more than a quarter. Again, there are differences between WB6 economies: While Kosovo\* trades significantly in metal-processing products with its WB6 peers, Serbia does so only in a very limited fashion. Meanwhile, in automotives intra-regional trade is negligible; regional value chains have not yet formed and no clear trend towards integration is visible. On average, intra-regional exports account for less than a tenth of total automotive exports from the region while intra-regional imports make up



only 4%. In general, the longer-run trend for regional integration in the priority sub-sectors has rather been downward but some stabilisation can be noted since the start of CRM.

Turning to the sub-sectors' social performance, it deserves to be highlighted that, with the exception of metal processing (where North Macedonia and especially Montenegro recorded some employment losses), all sub-sectors have created additional jobs across the WB6 since 2010. This positive trend was largely continued during the CRM implementation period. Similarly, there have been widespread increases in labour productivity since the inception of CRM (whereas the longer-term trend since 2010 has been less positive, with declines in certain sub-sectors and certain WB6 economies, especially in North Macedonia and Serbia).

On the environmental front, long-run energy efficiency improvements can be observed across WB6 economies and sub-sectors, and especially in the agri-food and metal processing industries. They have been least pronounced in the automotive sector, where Bosnia and Herzegovina even saw some deterioration over time. Progress in reducing the emissions intensity of sub-sectoral production has also been notable but less widespread. Finally, decoupling has not been a universal phenomenon across sub-sectors and WB6 economies but still quite common.

# 4. IMPLICATIONS AND RECOMMENDATIONS FOR REGIONAL INDUSTRIAL POLICY INITIATIVES

In this final chapter, the report identifies some policy implications derived from the performance assessments in the preceding chapter and proposes a series of policy initiatives and measures that could be prioritised to promote regional industrial development in the Western Balkans Six. These recommendations are formulated around four core themes: (1) Policy alignment and coordination, (2) Strengthening regional institutional framework, (3) Leveraging the EU and EU accession process, and (4) Ideas on policy initiatives in key areas with a focus on priority sub-sectors.

The following proposals and recommendations focus on those that potentially have region-wide implications. They try to take into account that while the WB6 economies are diverse in their specific strengths and development trajectories, they face common obstacles such as trade imbalances, reliance on low-value-added production, and limited adoption of advanced technologies. At the same time, they could benefit from exploiting complementary advantages in key industrial sectors, making regional collaboration a powerful tool for driving growth and integration. The recommendations will have a certain focus on the priority sub-sectors highlighted in the CRM Action Plan 2021-2024 and previously analysed in more detail, namely agri-food, automotive, and metal processing industries.

## 4.1. POLICY ALIGNMENT AND COORDINATION

According to UNIDO<sup>25</sup>, “cross-border policy coordination within regions is paramount to ensure that common benefits are maximised and the unintended negative impacts of harmful competition are avoided”. Therefore, “regional complementarity should be at the top of the new industrial policy agenda”. (ibid.)

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<sup>25</sup> See UNIDO (2024b).

In view of this, harmonising industrial policies across the WB6 and synchronising them with regional priorities could make regional industrial policies more effective. In fact, closer alignment could be sought at various levels.

- ◆ Closer interlocking of policy-making at the level of individual economies and regional policy-making to avoid trade-offs while maximising synergies; for example, the WB6 economies could seek to incorporate the objectives laid out in the CRM Action Plan into their own industrial strategies and policies.
- ◆ Closer alignment of industrial policies with other policy domains, especially green policies and circular economy initiatives.
- ◆ Closer alignment to EU industrial policy and topics (more on this below).

The definition of priorities should be in close exchange with the private sector (e.g. through the WB6 CIF) and potentially other stakeholders.<sup>26</sup> They could further be informed by industrial intelligence, e.g. through a Regional Economic Observatory (see *below*) which would enable a more strategic transformative approach to regional industrial development.

The CRM framework serves as a critical platform for such harmonisation and coordination of policies which can help to remove trade barriers and enable a smoother flow of goods, services, capital and ideas. Aligning economy-level priorities with the objectives of CRM Action Plan will also foster deeper economic integration among WB6, creating a more unified and cohesive regional bloc that is better capable of competing in global markets and more attractive for foreign investors.

## 4.2. STRENGTHENING THE REGIONAL INSTITUTIONAL FRAMEWORK

Such a regional alignment of industrial policy is more likely and will work better if there is also an adequate institutional framework. In fact, “institutional settings are crucial in facilitating effective collaboration and cooperation within regions”.<sup>27</sup> These settings can take different forms, e.g. set the general framework conditions for economy-level industrial policies and provide guidance and coordination across economies.

While this obviously requires strong political will, we see certain room for institutional strengthening of regional bodies and platforms whose task it is to coordinate and synchronise policies and initiatives across the WB6. First and foremost, this means bolstering existing structures like the Regional Cooperation Council (RCC) and its Working Group on Industrial Development (WGID) on the public sector side. For example, the RCC could be assigned to set up and then administer (in cooperation with the WB6 CIF) a

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26 See also Zavorská et al. (2024).

27 See UNIDO (2024b).

Regional Economic Observatory (REO) in order to create industrial intelligence that is relevant for the region. Such a REO can, for instance, provide:

- ◆ Thorough data analytics and intelligence on comparative advantages and potential synergies of WB6 in industry;
- ◆ A comprehensive mapping of existing regional supply chains across the WB6 to identify inefficiencies, gaps, and opportunities for optimisation which would serve as the informational basis to develop a strategic regional division of labour and concrete cross-border/boundary value chains within the region;
- ◆ Regular monitoring of industrial development and regional industrial cooperation.

On the last point, the indicators used for the quantitative assessments here and the pilot survey on implementation progress undertaken within the scope of this project can serve as a reference.

The WGID, on the other hand, could foresee in its meetings a special session dedicated to peer-to-peer learning whereby one participant presents a case of best practice in a priority area which is then followed by an exchange and discussion. In that context, the WGID could also be empowered by giving it a clear mandate to develop joint proposals for regional policy actions or harmonisation that are then to be presented to the respective political decision-makers.

In what follows, a few ideas on substantive areas are presented where the regional institutional framework could be strengthened. A first necessary step will obviously be to consider region-wide initiatives; some of them should be feasible in the shorter term already, others rather represent ideas for medium- to longer-term aspirations/ ambitions.

1. *Mutual Recognition Agreements (MRAs)* which would enable certifications issued in one WB6 economy to be valid throughout the region, streamlining trade and reducing duplication of effort. These agreements would simplify technical and safety certification processes for products like automotive parts, agri-food items, and industrial goods, reducing costs and delays for businesses.
2. *Launch a regional standards awareness campaign* about the benefits of harmonised standards to encourage widespread adoption among businesses. A regional campaign, conducted through a public-private partnership, would educate businesses on the trade and export opportunities facilitated by compliance with regional and EU standards. This campaign could include distributing toolkits and resources tailored for SMEs, organising industry-specific seminars, and hosting webinars to address challenges in standards implementation.
3. *Create a regional forum for standard-setting bodies* to unify product quality, safety, and environmental standards across WB6, focusing initially on priority sectors like agri-food, automotive or tourism, and metal processing. This forum would promote the implementation of harmonised standards that align with EU norms and could be accompanied by a digital database that provides easy access to updated standards and certification requirements.

4. *Set up a digital collaboration platform for innovation* that connects researchers, businesses, and policymakers across the WB6, promoting cross-border/boundary cooperation in innovation. This platform would feature matchmaking services to pair businesses with research partners and funding opportunities, making it easier to bring innovative ideas to fruition. It would serve as a hub for sharing best practices, reducing duplication of effort, and ensuring alignment with regional industrial priorities.
5. *Strengthen the RCC as a regional coordination body for Smart Specialisation Strategies* with the objective of maximising synergies in the implementation of smart specialisation strategies across WB6 and ensuring alignment with the objectives of the Common Regional Market (CRM) Action Plan(s) and EU integration goals. This would involve monitoring progress, facilitating communication among stakeholders, and identifying opportunities for regional collaboration.

## 4.3. LEVERAGING THE EU AND EU ACCESSION PROCESS

Deepening of intra-regional economic ties achieved through the CRM is also conceived to be a stepping stone towards the WB6's integration into EU markets. As mentioned above, the EU's own strategies and its different partnership programmes with the region have been shaping industrial policy within the Western Balkans Six. This alignment and the partnership with the EU itself offer potential to additionally boost industrial development in the region. In the following, a few areas where further orientation and convergence towards EU frameworks could act as pull factors for the WB6's industrial development will be presented and discussed.

### 4.3.1. Linking up to EU initiatives on Critical Raw Materials

Critical raw materials (CRMs) are essential to the production of advanced technologies such as renewable energy systems, batteries, and electronic devices, making them central to the green and digital transitions as well as to industrial modernisation. The EU has therefore identified CRMs as a cornerstone of its strategic autonomy and sustainability goals. By incorporating EU priorities on CRMs in its industrial strategy, the WB6 region can position itself as a close-by partner in fostering sustainable resource management while leveraging opportunities for economic growth. Linking up to CRMs-related value chains can, thus, provide a new competitive edge for the WB6 economies.

As explained in chapter 2, in its latest industrial policy the EU emphasizes the importance of achieving strategic autonomy, defined as preserving an open economy while reducing external dependencies in strategic areas, including when it comes to access to critical raw materials. Its *Critical Raw Materials Act* (CRMA 2023) and the *Action Plan on Critical Raw Materials* provide the legal and policy frameworks and set out the goal of developing and promoting sustainable and resilient CRMs supply chains. The EU aims to diversify its

sources of these critical raw materials and reduce dependency on non-EU economies. By 2030, the EU aspires to achieve the target of having no third country providing more than 65 % of the EU's annual consumption of each the 16 Strategic Raw Materials defined in the CRMA. This implies strengthening partnerships with non-EU economies to diversify sourcing. The European Commission has therefore launched the *European Raw Materials Alliance* which, for instance, works on diversifying supply and achieving open strategic autonomy in the rare earths and magnets value chain.

The WB6 have deposits of various of these CRMs, including bauxite, copper, lithium, nickel and hafnium. The EU therefore encourages collaboration with the WB6 to secure raw material supplies and align regulatory frameworks. In line with this, the New Growth Plan for the Western Balkans envisions as a Priority Action, development of strategic partnerships that will be based on: identification and implementation of joint sustainable raw materials and battery projects covering all stages of the respective value chains (i.e. exploration, extraction, processing/manufacturing and recycling), and supporting WB6 enterprises and organisations to join the *EU Raw Materials Alliance* and the *EU Battery Alliance*.

The key challenge for the WB6 will be to move beyond the supply of unprocessed resources (which dominates for now) and to ensure value capture related to CRMs. Only then will the region succeed in leveraging its raw material potential and the opportunities of integration into EU value chains into a win-win scenario where regional industrial development is boosted too. Two of the priority sub-sectors of the CRM Action Plan will be at the centre of this, namely the automotive (and here especially the electric vehicles) and metal processing industries. To make the most of its resource endowments and the promised partnerships with the EU, the WB6 could consider the following strategies:

1. *Formulate a clear CRMs strategy to ensure regional value capture.* Having an explicit and regionally endorsed strategy on how to fully leverage the region's natural resource potential will help to become a significant supplier of CRMs to the EU and to integrate at various nodes of the respective value chains whereby adherence to sustainable and environmentally friendly standards can attract EU investment.
2. *Generate intelligence on CRMs value chains:* The Regional Economic Observatory (see above) could undertake or support research on CRMs-related value chains, including on existing and required processing capacities, and on strategies on how to deepen local value capture.
3. *Develop innovation hubs* to promote innovation in CRMs recycling, substitution technologies and sustainable material solutions whereby collaboration with EU research initiatives (e.g., *Horizon Europe*) can provide funding and technical expertise.
4. *Strengthen regional collaboration* through strategic dialogue among the WB6 to foster regional supply chains by enhancing processing capacities for extracted minerals and promoting regional processing alliances while minimising imports and exports of unprocessed raw materials.

5. *Promote regulatory alignment* by adopting EU-compliant standards for the extraction, processing, and recycling of CRMs which, in turn, will facilitate integration into EU supply chains.

Some activities have already taken place. For example, the “West Balkan Mineral registers of primary and secondary raw materials” have been established with the support of EU-funded RESEERVE project. Serbia signed a Memorandum of Understanding (MoU) with the EU in July 2024, launching a Strategic Partnership on sustainable raw materials, battery value chains and electric vehicles. Albania, on the other hand, has identified raw materials as one of the priority sectors under its Smart Specialisation Strategy and in 2024 opened a *Regional Innovation Centre*. The Centre is to act as a hub to catalyse innovation, education and business creation with the aim of modernising the extractive and processing industries, including by introducing green technologies. The EU has also expressed commitment to support investments in this area through financial instruments like EU budgetary guarantee programmes. These instruments aim to de-risk and mitigate investment risks while ensuring adherence to strict standards to facilitate private sector-led projects. There are further opportunities to mobilise funding for investment projects through Invest EU, the Western Balkans Investment Framework (WBIF) and under the *EU Raw Materials and EU Battery Alliances*.

#### **4.3.2. Deepening integration into EU industrial ecosystems and alliances**

In its updated Industrial Strategy, the EU identified 14 key industrial ecosystems, including sectors such as agri-food, textiles, energy-intensive industries, mobility/automotive, renewable energy, digital industries, tourism and creative industries (see Figure 4 above). The ecosystems approach aims to capture the interlinkages and interdependencies between different economic actors, including all producers (from start-up to large companies), regulators, research agents, and suppliers as well as service providers. Industrial ecosystems, hence, represent interconnected networks of industries, firms, and institutions that create synergies through collaboration, resource sharing, and innovation.

The EU has emphasized the development of select industrial ecosystems to progress on the European Green Deal, digital transformation, and regional cohesion and to enhance competitiveness, resilience, and sustainability in its member states and neighbouring regions. As a concrete initiative, the EU launched industrial alliances to bring together stakeholders from across industrial value chains to tackle shared challenges, foster innovation, and strengthen competitiveness. They often benefit from EU programmes like *Horizon Europe*, *InvestEU*, and the *European Regional Development Fund*. Previous industrial alliances on batteries, plastics and microelectronics are seen as successful templates. New industrial alliances on Clean Hydrogen, Low-Carbon Industries, Industrial Cloud and Platform, and Critical Raw Materials have emerged over recent years.

Aligning the WB6’s industrial policy with these ecosystems is a strategic pathway for deeper integration into European markets and value chains, fostering economic growth and technological advancement. At the moment, WB6 are not deeply integrated in most of these European industrial ecosystems. Research will be needed to determine the

most suitable options for each economy's ecosystem integration. To ensure successful integration, regional industrial policy should prioritise ecosystems where (at least one, ideally several of) WB6 economies have competitive potential and where EU initiatives are most active. Partly in line with the current sector priorities, the focus could be on:

- ◆ *Agri-Food Ecosystem*: The region's rich agricultural resources and growing agri-food exports provide a strong foundation for integration into the EU's agri-food ecosystem. To exploit this further, strategic interventions could focus on harmonising food safety and quality standards with EU regulations and on promoting organic farming and sustainable practices to align with the *EU Farm to Fork strategy*.
- ◆ *Textile and Apparel Ecosystem*: For some WB6 economies, notably Albania, Bosnia and Herzegovina and North Macedonia, the textile and apparel industry is a key pillar of the manufacturing sector, often already serving European markets. It is therefore a candidate for deeper integration. By upgrading production standards and embracing sustainable practices, the WB6 economies can align with EU initiatives on sustainable textiles, increase competitiveness through automation and digitisation of production processes, or expand exports under preferential trade arrangements with the EU.
- ◆ *Automotive Ecosystem*: For some WB6 economies there is a potential to integrate into EV supply chains; see above on the CRMs and Battery Alliances.
- ◆ *Digital Ecosystem*: Digital transformation is a core priority for the EU and an area where the WB6 region can accelerate its integration. With growing ICT capabilities and a youthful, tech-savvy workforce, WB6 economies could strive to leverage EU funding for digitalisation initiatives (e.g. *Horizon Europe*), develop digital infrastructure and skills through partnerships with EU firms, and actively participate in the Western Balkans Digital Agenda to boost regional digital integration.

Regional industrial policy can play an important role in supporting the WB6's integration into European industrial ecosystems. Concrete measures to be considered include:

1. *Adopting EU-aligned technical standards*, quality certifications, and environmental regulations to ensure seamless integration into EU value chains;
2. *Leveraging EU funding and technical assistance* to develop industrial clusters, enhance infrastructure, and support innovation;
3. *Promoting public-private partnerships* (PPPs) to foster collaboration between WB6 firms, EU companies, and local governments to facilitate knowledge transfer, investment, and development of ecosystem linkages;
4. *Strengthening workforce development* and aligning educational and vocational training programmes with EU priorities to ensure a skilled workforce capable of meeting the demands of integrated industrial ecosystems.

Through measures like these, policymakers can improve the framework conditions and further increase the attractiveness for European multinational corporations (MNCs)



seeking to near-shore part of their production. Indeed, since the COVID-19 pandemic has brought to light how fragile and vulnerable many global supply chains are, there has been a certain trend of near-shoring whereby MNCs, having realised the risks of concentrating production in far-away, low-cost locations, have begun relocating some operations closer to home to have shorter supply chains. This has already led to increased investment in the Western Balkans Six, where MNCs appreciate the proximity to the EU market as well as its skilled labour force and relatively low production costs.<sup>28</sup>

### 4.3.3. Alignment with the EU's decarbonisation agenda

The EU has set itself ambitious targets to achieve net-zero greenhouse gas (GHG) emissions by 2050. These aspirations are outlined in the European Green Deal, which also defines an intermediate target of a 55% emissions reduction by 2030. Key elements of the EU's effort include the Fit for 55 package, *EU Emissions Trading System* (ETS), and *Carbon Border Adjustment Mechanism* (CBAM), all of which seek to create a low-carbon economy across Europe. At the same time, the EU aims to raise the share of renewables in total energy consumption to ultimately reach 45%, which basically implies a doubling from existing levels.

The *Green Agenda for the Western Balkans* is designed to support the WB6 in achieving sustainability goals aligned with EU standards. Besides calling for regional efforts towards clean energy, circular economy, and pollution reduction, it also seeks to promote decarbonisation of industry while emphasizing the role of innovation in green transition. Improving energy efficiency will also have to be a key component. Regional industrial policy can align with these EU initiatives to maintain and enhance competitiveness while helping WB6 economies to exploit the opportunities related to green products and markets that these regulatory developments in the EU definitely also bring alongside the above-mentioned challenges. For example, investors are increasingly interested in projects around decarbonisation and renewable energies. Different EU partnerships and mechanisms can be tapped for support in terms of project preparation and implementation as well as de-risking of investments.

To effectively integrate decarbonisation goals into industrial policy, the WB6 could pursue the following strategies:

1. *Implement Standards and Regulations Compatible with EU emissions goals:* Efforts should be made to harmonise the regulatory frameworks of the WB6 with EU emissions standards. This includes establishing emissions caps, energy efficiency requirements, and environmental protection standards for industries. Adopting the EU's *Industrial Emissions Directive* (IED) could enhance regulatory alignment, ensuring that industries are prepared for cross-border/boundary trade compliance with EU environmental standards.
2. *Incentivising Low-Carbon Technologies and Innovation:* Aligning with EU decarbonisation goals, the WB6 economies can devise incentives to foster research and development in low-carbon technologies, circular economy models, and energy-effi-

<sup>28</sup> See Jovanović et al. (2024) and Zavorská et al. (2024)

cient manufacturing processes. Support through, for instance, the Innovation Fund for knowledge transfer from EU industries, as well as access to technical expertise, can enable WB6 businesses to adopt the latest technologies and processes that reduce carbon footprints.

3. *Developing Green Infrastructure and Renewable Energy Investments*: While WB6 economies depart from different starting points, they can prioritise green infrastructure development to support decarbonisation in their industrial sectors. By expanding investments in renewable energy sources, especially hydropower, the WB6 economies can not only meet the energy demands of a growing industrial sector but also reduce carbon emissions. Additionally, investments in solar and wind energy can diversify the energy mix and provide resilience against hydrological variability.
4. *Intensifying preparations for the EU's CBAM* which will place carbon tariffs on certain imports from economies with lower environmental standards, affecting industries such as cement, iron, steel, and aluminum. By supporting businesses within these industries to transition to cleaner production processes to reduce emissions, the WB6 economies can avoid these tariffs, making their exports to the EU more competitive.
5. *Promoting Green Skills Development*: Decarbonisation requires skilled labour with expertise in renewable energy, resource efficiency, sustainable practices, and digital technologies. Regional industrial policy can promote development of green skills by supporting vocational training and education in these areas. Collaborating with EU institutions to modernise training programmes and to align curricula with the EU green skills initiatives can build a workforce prepared for a low-carbon economy, enhancing both productivity and innovation.
6. *Working towards joining the EU's Emissions Trading System (ETS)*: As expressed in the Green Agenda for the Western Balkans, there is the political intention of the EU to integrate the Western Balkans Six into its ETS (which currently covers CO<sub>2</sub> emissions from (i) electricity and heat generation, (ii) energy-intensive industry sectors, (iii) aviation and (iv) maritime transport). Such integration would imply further alignment with the EU regulatory framework and thereby help circumvent potential negative effects from CBAM. It would like also be a milestone towards greening the region's industry. A first step would be to introduce carbon pricing across the region and then potentially harmonise it for industrial sectors.<sup>29</sup> Such a step would involve accelerating and synchronising the introduction of monitoring, reporting and verification (MRV) frameworks in the WB6. It would then create opportunities for mutual learning from the instrument in steering decarbonisation of industry.<sup>30</sup>

29 So far, only Montenegro has introduced carbon pricing for industrial sectors.

30 See Hafner and Santikarn (2023).

#### 4.3.4. Leveraging EU funding and support mechanisms

On a more general note, the region's close partnership can also be leveraged to mobilise additional funding for important initiatives that align with EU priorities. In particular, different pots are available for financing green industrial transformation projects along the lines sketched in the previous section.

The most notable EU funding mechanisms currently include the *Instrument for Pre-Accession Assistance* (IPA III) and *Western Balkans Investment Framework* (WBIF) which can be sources of technical and financial support to accelerate the WB6's economic transformation and green transition. IPA III, for example, supports investments in recycling facilities, clean technology, and industry training programmes. These funding mechanisms thereby provide the WB6 economies with critical resources to build infrastructure and enhance capabilities in areas such as industrial competitiveness, clean energy, circular economy, and decarbonisation.

Our quantitative assessments have also shown that technological upgrading has been quite scarce. Bottlenecks in R&D funding and efforts likely play a chief role in this. Making greater use of EU funding and support mechanisms could help address them. The European Innovation Council (EIC), for example, includes the Western Balkan region which can benefit from InnovFin Financial Instruments as part of the Horizon Europe funding envelope. The RCC could encourage joint applications for Horizon Europe funding, strengthening intra-regional and cross-economy collaboration and networking. At the moment, WB6 researchers and institutions more often collaborate with non-WB6 partners under Horizon Europe funding than they do with partners within the region.

Moreover, the EU is providing substantial support through its *Smart Specialisation Platform* which helps the WB6 to develop their smart specialisation strategies (S3). For now, the EU's support is confined to preparing these strategies. The WB6 and the RCC could lobby for an expansion of the technical assistance to also include implementation support for the S3, providing capacity-building and policy advice to define specific measures and ensure effective execution.<sup>31</sup>

As a complementary measure to the above, WB6 could invite the EU to open local offices that have the specific task to help local actors, such as municipalities, apply for EU funds. These offices "would provide the technical support and knowledge that is often lacking in the various layers of the region's public administration, making it easier to access EU funds and improving the take up rate". They would be "funded and equipped by the EU, employing to a large extent local experts with experience in international organisations".<sup>32</sup>

Beyond the existing structure, the WB6 and regional organisations such as RCC could work towards opening new financing mechanisms. They could, for example, advocate with the EU to make extra funding available under the *Reform and Growth Facility* that can exclusively be used for projects of a cross-border/boundary nature, i.e., for projects that at least involve two WB6 economies. At the moment, the Facility provides funding

31 See Jovanovic and Vujanovic (2023).

32 See Jovanovic and Vujanovic (2023).

only to individual economies. However, by offering funds for joint projects (e.g., for a green innovation fund that finances cross-border/boundary initiatives that are aimed at greening industry like the production/transmission of renewable energy, circular economy or industrial symbiosis solutions), the Facility can more directly target regional synergies and integration.

Some have advocated for providing the WB6 full access to the EU budget. This would avail significant additional resources to them, especially for public infrastructure investment that could boost regional interconnectedness and competitiveness. While this would bring huge benefits for the WB6, it is estimated that the impact on the net contributors to the EU budget would be almost imperceptible.<sup>33</sup>

## 4.4. IDEAS ON POLICY INITIATIVES IN KEY AREAS WITH A FOCUS ON PRIORITY SUB-SECTORS

The CRM Action Plan focuses on a couple of priority sub-sectors. The recent performance of three of them was analysed in the previous chapter. It has pointed to notable successes but also highlighted various challenges. Despite these challenges, the region possesses notable complementary strengths across these key sectors that provide a foundation for further development. The agri-food industry, for instance, leverages the region's rich natural resources and agricultural heritage to produce goods with significant potential in organic and specialty food markets. The automotive industry, particularly in North Macedonia and Serbia, has shown promising growth through integration into global supply chains, with emerging capabilities in electric vehicle (EV) components and sub-component manufacturing. The metal processing industry, centred in Bosnia and Herzegovina and Serbia, offers expertise in resource utilisation and potential for advancing circular economy practices.

These shared strengths offer immense opportunities for collaboration. A regional approach to industrial development can unlock synergies and, in turn, also strengthen the WB6's collective bargaining power in global markets. In all this, it will be crucial for WB6 economies to look for promising niches. As active industrial policy interventions are gaining momentum across the globe, there is an augmented risk of overcapacity in sectors targeted by a multiplicity of governments.<sup>34</sup> Regional structures, like the *Regional Economic Observatory* proposed above, can assist by conducting feasibility studies that help identify promising avenues.

In the following, a few ideas on possible policy initiatives will be presented for each sub-sector, focusing on initiatives that have at least a certain regional dimension. In a sense, they therefore reinforce or complement the Regional Actions mentioned in the CRM Action Plan 2021-2024. Again, a prerequisite for the feasibility of the suggested measures

33 See Bertelsmann and wiiw (2020) and Jovanovic (2024).

34 See Zavorská et al. (2023).

is the presence of political will for cross-border/boundary coordination and collaboration. Some should be feasible in the shorter term, others rather represent medium- to longer-term ambitions.

#### 4.4.1. Agri-Food Industry

Agri-food production, with its strong roots in the region's agricultural heritage, offers opportunities for modernisation, product diversification, and increased market access. A regional approach to its development can unlock synergies by integrating production networks, fostering specialisation, and leveraging economies of scale. For example, by coordinating their efforts, WB6 economies could promote agri-food clusters that connect producers in Albania and Kosovo\* with processing and packaging hubs in Serbia and Montenegro to enhance the region's competitiveness. Regional initiatives could include:

1. *Identify promising niches and promote regional branding initiatives:* The Regional Economic Observatory could commission or undertake feasibility studies to identify products and markets with good prospects and/or scoping studies to examine the potential for cross-border/boundary regional value chains. A unified branding campaign under Balkan Fresh would enhance the visibility of WB6 agri-food products in international markets. The campaign would include developing a certification and labelling process to ensure all products meet quality and sustainability benchmarks. Additionally, the region could organise annual international agri-food expos (with rotating host cities) to showcase WB6 products to global buyers, leveraging cultural and geographic proximity to the EU.
2. *Create a regional traceability system:* Establish a digital platform for food safety and traceability that tracks products from farm to table across WB6 economies. This system would enhance consumer confidence, streamline compliance with EU standards, and enable regional producers to access higher-value markets.
3. *Support agri-tourism as a supplementary industry:* Develop agri-tourism as a complementary sector to the agri-food industry, showcasing regional farming traditions, organic products, and culinary heritage.
4. *Establish a Western Balkans Agri-Food Innovation Hub* which would act as a centre for sustainable agricultural practices, technological integration, and value-added production. It would provide research and training to promote eco-friendly/organic farming techniques, precision agriculture, post-harvest technologies and sustainable packaging.

#### 4.4.2. Automotive Industry

The automotive industry, particularly in Serbia and North Macedonia, is emerging as a player in global supply chains, with potential to expand into higher-value segments including in the production of electric vehicles (EVs). Regional initiatives to unlock synergies could include:

1. *Formulate a regional supply chain optimisation strategy:* Map out a regional supply chain for automotive production that pinpoints synergies and identifies opportunities for entry for suppliers across the WB6 region.
2. *Develop a regional EV component manufacturing network:* WB6 economies can build a competitive edge by focusing on the production of EV-related components. Serbia, North Macedonia and Bosnia and Herzegovina could specialise in producing batteries and lightweight materials, while Kosovo\* and Albania could focus on assembling smaller sub-components such as wiring harnesses and electronic modules. This network would require targeted FDI incentives and workforce upskilling in emerging technologies. This initiative could be promoted under the EU's Critical Raw Materials Alliance to support its strategy to diversify its supply base.
3. *Launch a regional automotive training programme* that involves partnerships with technical universities and vocational training centres across the region and that focuses on equipping workers with skills in electric and autonomous vehicle production.

#### 4.4.3. Metal Processing Industry

The metal processing sector, with its established expertise in economies like Bosnia and Herzegovina and Serbia, provides a foundation for innovation and green transition through decarbonisation, recycling and resource-efficient practices. Regional initiatives could focus on accelerating the green transition in this energy-intensive industry:

1. *Develop a regional Circular Economy framework* that provides guidelines and incentives for reusing materials across industries. This is to promote circularity and re-use within the region's metal processing industry, for example by incentivising scrap metal from Montenegro to be processed in Bosnia and Herzegovina and then supplied to automotive component manufacturers in Serbia.
2. *Promote regional recycling initiatives:* Encourage establishment of a regional network of recycling facilities to process scrap metal and industrial by-products. These pilot facilities could be strategically located in easily accessible locations and leverage, where possible, established processing capabilities. A regional recycling market could reduce material waste, cut costs, and support sustainable industrial practices.

#### 4.4.4. Cross-cutting issues

Finally, a few cross-cutting issues can be highlighted. While most of them require strong political commitment and quite some time to come to fruition, tackling them holds the promise of facilitating further regional economic integration and spurring sustainable industrial development in the WB6 region. Again, the focus will be on measures and initiatives that have decidedly a regional scope.

First, **upgrading the transport infrastructure**, increasing its density and improving intra-regional connectivity would help to bring down freight and transaction costs and would

make it easier for businesses across the region to connect. Indeed, the revitalisation of regional rail networks, increased deployment of intelligent transport system solutions, promotion of multimodal transport solutions and modal shifts (including through investments in inland waterways), and improving transport logistics (e.g., by the use of modern software at border/boundary crossing points) are all mentioned as priorities in the EU's Green Agenda for the Western Balkans. A stronger regional approach to infrastructure planning and management and more coordination on this issue would be beneficial<sup>35</sup>.

Second, **access to finance** is a major constraint for business growth and supply chain development. Interest rates are quite high when compared to other regions. Moreover, most SMEs in the WB6 economies have very limited access to financing. In practice, their only option is lending from commercial banks. However, many innovative companies, especially those in the digital and ICT sectors, have predominantly intangible assets which they cannot post as significant collateral, keeping them shut out. The relative absence of alternative financial products and non-bank financial intermediaries, such as factoring and leasing companies, further compromises the growth of business operations in the Western Balkans Six. Similarly, private equity firms, which are an important source of capital in particular for innovative SMEs in the US and parts of Western Europe, still have a very limited presence in the region. One of the issues is simply scale, as none of the WB6 economies on its own is big enough to attract much interest of private equity firms. Deeper capital markets integration, up to a capital markets union, could help overcome this constraint related to economic size.<sup>36</sup> Leveraging a regional approach in establishing a common capital market aligned with the EU *acquis*, including environmental and social standards, was a strategy pursued by the Baltic economies. In 2017, the three Baltics signed a memorandum of understanding to harmonise capital market regulations and eliminate investment barriers across the region, aligning with the EU's capital markets union initiative. Their experience can offer useful insights for the Western Balkans Six. The adjustment of the domestic regulatory framework to the EU *acquis*<sup>37</sup> played an important role as it has reduced the barriers faced by investors from the EU, allowing the Baltics to also tap into these capital sources. For now, though, "the WB6 region still has significant ground to cover in aligning domestic financial regulations".<sup>38</sup>

Third, **strengthening traceability** of industrial products can further establish the region as a more coherent unit. The aim of a traceability system is to link the physical flow of goods with the flow of information and to ensure complete documentation of all stages of the supply chain and production. This allows companies to easily and quickly identify when, where, by whom and under which conditions their products were produced, how and which suppliers were involved, and to which customers the products were delivered. Traceability is important not only for product quality and control, operational efficiency and customer's satisfaction but also for compliance with legal requirements. This is

35 See also OECD (2024) and Jovanovic and Vujadinovic (2023).

36 See Bertelsmann and wiiw (2020).

37 The EU *acquis* covers crucial aspects relevant to the development of capital markets, from the management rules of institutional investors to the legal protection of investors.

38 See OECD (2024).

increasingly relevant for economic integration with the EU where traceability requirements are no longer confined to traditional areas (e.g., related to food safety) but are more and more popping up in sustainability regulations (e.g., in the corporate responsibility due diligence and the deforestation directives). At the moment, traceability systems are basically non-existent in the WB6. There is little awareness of the relevance of traceability among businesses and governments, and limited technical capabilities of companies to trace and report. In this context, regional industrial policy measures could support awareness raising about compliance requirements defined in relevant regulations (CBAM, ETS, deforestation directives) and related to the EU's extended producer responsibility policies (from inputs to production to post-use of products). In a next step, regional industrial policy can provide guidance and assistance on the implementation of traceability systems according to EU legislation. One element of this could be piloting of *Digital Product Passports* (DPPs) that include information on the carbon footprint and several sustainability metrics of the respective product. As a result, businesses' familiarity with and competence to deliver sustainability reporting will be enhanced. The EU has identified electronics, textiles, plastics, construction, furniture, and chemicals as priority sectors; they could be considered for piloting in the WB6.

Fourth, developing and adopting a **regional framework for voluntary Green Public Procurement (GPP) criteria** could create new intra-regional demand for locally produced sustainable products. Once developed, clear and standardised green criteria (that follow the European green business practices) would be incorporated in tender documents for public procurement across the region, thereby incentivising the production of goods and services with a reduced environmental impact. In addition, a common platform could be established that publishes all tenders in the region above a certain threshold and that also provides projections of future procurement demand (in terms of quantities, product quality, and green criteria).

To conclude, the ideas and proposals presented here offer some guideposts for a strategic roadmap for the WB6 to transition from a fragmented industrial landscape towards a more unified and competitive economic bloc. The region-wide approach sketched here is not just about addressing immediate challenges but also about building resilience and fostering innovation. Through collaborative initiatives, targeted investments, and policy harmonisation, the WB6 can capitalise on its strengths, reduce disparities, and position itself as a dynamic and integrated economic hub. Central to the success of the proposals brought forward above is the alignment with the EU acquis and the objectives of the Common Regional Market Action Plans (2021-2024, and now 2025-2028). This vision requires commitment and collaboration among public institutions, businesses, and international partners as well as the convening power of regional structures like the RCC, but the rewards—a more prosperous and integrated Western Balkans Six—are well worth the effort.



# 5. REFERENCES

- Andreoni, A., Anzolin, G., Labrunie, M., & Sartorello Spinola, D. (2023). Unveiling structure and dynamics of global digital production technology. *UNU-MERIT Working Paper No. 44*.
- Bartlett, W., Krasniqi, B. and Ahmetbašić, J. (2019): Attracting FDI to the Western Balkans: Special Economic Zones and Smart Specialisation Strategies. *Croatian Economic Survey*, 21 (2). 5 – 35.
- Bertelsmann Stiftung and wiiw (2020): Pushing on a string? An evaluation of regional economic cooperation in the Western Balkans, Gütersloh: Bertelsmann Stiftung.
- European Commission (2021): Annual Single Market Report 2021. Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on Updating the 2020 New Industrial Strategy: Building a stronger Single Market for Europe's recovery; *Commission Staff Working Document* (COM: SWD(2021) 351 PUBLIC); available from [www.parlament.gv.at/dokument/XXVII/EU/60417/imfname\\_11064796.pdf](http://www.parlament.gv.at/dokument/XXVII/EU/60417/imfname_11064796.pdf)
- Hafner, A. and Santikarn, M. (2023): Challenges and opportunities for carbon pricing in the Western Balkans, *World Bank Blog*, available from: <https://blogs.worldbank.org/en/europeandcentralasia/challenges-and-opportunities-carbon-pricing-western-balkans>
- Jovanović, B. (2024): New Growth Plan for the Western Balkans: solid foundations, shaky extensions; European Policy Institute, available from: [https://epi.org.mk/wp-content/uploads/New-Growth-Plan-for-the-Western-Balkans\\_Solid-Foundations-Shaky-Extensions.pdf](https://epi.org.mk/wp-content/uploads/New-Growth-Plan-for-the-Western-Balkans_Solid-Foundations-Shaky-Extensions.pdf)
- Jovanović, B. and Vujanović, N. (2023): Towards Effective Industrial Policy in the Western Balkans, *WIIW Policy Notes and Reports No. 66*, Vienna: The Vienna Institute for International Economic Studies (WIIW).
- Jovanović, B. et al. (2024): Transforming the Western Balkans through Near-shoring and Decarbonisation, Trieste: WB6 Chamber Investment Forum.
- OECD (2019): Report on a set of Policy Indicators on Trade and Environment, Paris: OECD.
- OECD (2024): Western Balkans Competitiveness Outlook 2024: Regional Profile, Paris: OECD.
- Radosevic, S. and Zoretic, T. (2024): EU smart specialization policy between experimentation and accountability: dynamic policy cycle perspective, *European Planning Studies*, Volume 32/Issue 8.

- RCC (2022): Common Regional Market. Report on Implementation for 2021, Sarajevo: Regional Cooperation Council.
- RCC (2023): Common Regional Market. Report on Implementation for 2022, Sarajevo: Regional Cooperation Council.
- UNIDO (2020): Competitive Industrial Performance Index Report 2020, Vienna: UNIDO.
- UNIDO (2021a): Industrial Diagnostic Study for Guinea, Vienna: UNIDO.
- UNIDO (2021b): Industrial Diagnostic Study for Sudan, Vienna: UNIDO.
- UNIDO (2024a): Industrial Country Diagnostics for Ukraine, Vienna: UNIDO.
- UNIDO (2024b): Industrial Development Report 2024. Turning challenges into sustainable solutions - The New Era of Industrial Policy, Vienna: UNIDO.
- UNIDO and GIZ (2017): Enhancing the Quality of Industrial Policy (EQUIP) toolbox; available from <https://www.equip-project.org/>.
- WBIF (2023): Key Achievements 2022: Economic and Investment Plan for the Western Balkans 2021-2027, Brussels: WBIF Secretariat.
- Zavarská, Z. et al. (2023): Industrial Policy for a New Growth Model: A Toolbox for EU-CEE Countries, *wiiw Research Report 469*, Vienna: wiiw.
- Zavarská, Z. et al. (2024): The new era of industrial policy in Eastern Europe: from SDG assessment to policy solutions, *UNIDO Policy Brief No. 13*, Vienna: UNIDO.
- Zeković, S. and Perić, A. (2024): Regional Industrial Policy in the Western Balkans: Neither Specialization nor Spatialization?, *Eastern European Economics*, 62:4, 479-504,

# 6. ANNEX

## 6.1. INDICATORS USED FOR THE MACRO-LEVEL ASSESSMENT (OF THE MANUFACTURING SECTOR)

Economic dimension of industrial performance			
No.	Concept	Indicator	Data source
1	Structural change ( <i>production side</i> )	Share of Manufacturing Value Added (MVA) in GDP (in %)	World Development Indicators/ WDI (or UNIDO Competitive Industrial Performance/CIP database)
2	Productive capacity	Quarterly Index of Industrial Production (IIP)*	UNIDO IIP database
3	Productive capacity	MVA per capita (and its growth rate)*	WDI (or UNIDO CIP database)
4	Industrial upgrading	Share of medium- and high-tech industries in total MVA	UNIDO CIP database (or WDI or UNIDO INDSTAT)
5	Productive diversification	Hirschman-Herfindahl Index (HHI)	UNIDO INDSTAT
6	Structural change ( <i>export side</i> )	Share of manufactured exports in total merchandise exports (in %)	UNIDO CIP database, or World Integrated Trade Solutions (WITS)
7	Export capacity	Manufactured exports per capita (and their growth rate)*	UNIDO CIP database, or World Integrated Trade Solutions (WITS)
8	Export competitiveness	World export market share in manufactures*	UNIDO CIP database, or World Integrated Trade Solutions (WITS)
9	Industrial export upgrading	Share of medium- and high-tech industries in total manufactured exports	UNIDO CIP database, or World Integrated Trade Solutions (WITS)
10	Export product diversification	Hirschman-Herfindahl Index (HHI) for export products or sub-sectors	WITS
11	Export market diversification	Hirschman-Herfindahl Index (HHI) for export markets	WITS
12	Regional economic integration	Share of intra-regional trade in total manufactured exports*	WITS
13	Regional economic integration	Share of intra-regional trade in total manufactured imports*	WITS
14	Self-sufficiency	Manufactured trade balance	WITS
15	Digital transition	Imports of Industry 4.0 goods per capita*	WITS and WDI

Social dimension of industrial performance			
	Concept	Indicator	Data source
16	Structural change ( <i>employment side</i> )	Share of manufacturing sector in total employment (in %)	ILOSTAT
17	Job creation	Growth rate of manufacturing employment*	ILOSTAT or UNIDO INDSTAT
18	Wage dynamics	Growth rate of average wages paid in the manufacturing sector	ILOSTAT or UNIDO INDSTAT
19	Labour productivity	MVA per manufacturing worker*	UNIDO INDSTAT
20	Employment elasticity of growth	Ratio of manufacturing employment growth to MVA growth	UNIDO INDSTAT
21	Gender disparities	Female share in manufacturing employment (in %)	ILOSTAT or UNIDO INDSTAT
Environmental dimension of industrial performance			
	Concept	Indicator	Data source
22	Energy efficiency	MVA created per MJ of manufacturing sector's energy consumption (US\$ per MJ)	WDI and International Energy Agency (IEA) Statistics
23	Material resource efficiency	MVA created per kg of manufacturing raw material consumption (US\$ per kg)	UNEP Global Material Flows Database
24	Industrial water use efficiency	Industrial Value-Added (IVA) created per m3 of industrial freshwater withdrawal (US\$ per m3)	FAO AQUASTAT
25	Pollution	CO <sub>2</sub> emissions per US\$ of MVA*	WDI and IEA
26	Decoupling	Trend of MVA vs. trends in CO <sub>2</sub> emissions, energy consumption, and materials use	WDI, UNEP and IEA
27	Export capacity for green products	Exports of environmental goods per capita	WITS
28	Greening economy efforts	Imports of environmental goods per capita	WITS

\* Note: Indicators marked with an asterisk (\*) replicate or at least are very similar (in the sense of measuring a similar concept) to the key performance indicators that the European Commission (EC) proposes for monitoring the implementation of industrial policy in Annex 4 of its Annual Single Market Report 2021<sup>39</sup>. One main difference is that the unit of analysis for most of the EC's indicators is the economy as a whole whereas the indicators deployed here focus on industry or the manufacturing sector more narrowly.

39 See EC (2021), available from [www.parlament.gv.at/dokument/XXVII/EU/60417/imfname\\_11064796.pdf](http://www.parlament.gv.at/dokument/XXVII/EU/60417/imfname_11064796.pdf)

## 6.2. INDICATORS USED FOR THE SUB-SECTOR ASSESSMENT

Economic dimension of sub-sector performance			
No.	Concept	Indicator	Data source
1	Productive capacity	Sub-sectoral value-added per capita (and its growth rate)	UNIDO INDSTAT, UN Statistics Division and WDI
2	Productive capacity	Quarterly Index of Industrial Production (IIP)	UNIDO IIP database
3	Export capacity	Sub-sectoral exports per capita (and their growth rate)	WITS and WDI
4	Export competitiveness	World export market share in sub-sector	WITS
5	Export product diversification	HHI for export products	WITS
6	Export market diversification	HHI for export markets	WITS
7	Regional economic integration	Share of intra-regional trade in sub-sectoral exports	WITS
8	Regional economic integration	Share of intra-regional trade in sub-sectoral imports	WITS
9	Self-sufficiency	Sub-sectoral trade balance	WITS
Social dimension of sub-sector performance			
	Concept	Indicator	Data source
10	Job creation	Growth rate of sub-sectoral employment	UNIDO INDSTAT or ILOSTAT
11	Wage dynamics	Growth rate of average wages paid in the sub-sector	UNIDO INDSTAT or ILOSTAT
12	Labour productivity	Value-added per worker	UNIDO INDSTAT
13	Employment elasticity of growth	Ratio of sub-sectoral employment growth to sub-sectoral value-added growth	UNIDO INDSTAT
14	Gender disparities	Female share in employment (in %)	UNIDO INDSTAT
Environmental dimension of sub-sector performance			
	Concept	Indicator	Data source
15	Energy efficiency	Value-added created per MJ of the sub-sector's energy consumption (US\$ per MJ)	UNIDO INDSTAT and International Energy Agency (IEA) Statistics
16	Material resource efficiency	Value-added created per kg of raw material consumption (US\$ per kg)	UNEP Global Material Flows Database and UNIDO INDSTAT
17	Pollution	CO <sub>2</sub> emissions per US\$ of MVA	UNIDO INDSTAT and IEA
18	Decoupling	Trend of MVA vs. trends in CO <sub>2</sub> emissions, energy consumption, and materials use	UNIDO INDSTAT, UNEP and IEA



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