Exploring the Potential of Agriculture in the Western Balkans










WORLD BANK GROUP

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A Regional Report

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WORLD BANK GROUP

Acronyms

AKIS	Agricultural Knowledge and Information Innovation System
ARDP	Agriculture and Rural Development Project
BiH	Bosnia and Herzegovina
CAP	Common Agricultural Policy
CEFTA	Central European Free Trade Area1
CIS	Commonwealth of Independent States
EBRD	European Bank for Reconstruction and Development
EU	European Union
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
GDP	Gross domestic product
GFCF	Gross fixed capital formation
IPARD	Instrument for Pre-Accession Assistance for Rural Development
IRAOI	Investment Ratio Agricultural Orientation Index
KfW	Kreditanstalt Für Wiederaufbau (German Development Bank)
MFI	Microfinance Institution
NMS	New Member States
SME	Small and medium enterprise
TFP	Total factor productivity
USAID	United States Agency for International Development
USD	United States Dollars
WB	Western Balkan (region, country)

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Acknowledgments

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Executive Summary

Agriculture and food systems in the Western Balkans are undergoing a process of structural transformation. Primary agriculture, an important source of income and employment in the past, has diminished its contribution to the diversifying economies of the region. This, however, is consistent with the structural transformation of the sector and its linkages with the rest of the economy, rather than with a perceived decline in the importance of agriculture for the rural economy. On the contrary, the declining share of primary agriculture in GDP and employment signals a process of transformation that provides ample opportunities for developing a modern, dynamic and more competitive agri-food system, able to generate better jobs up and downstream and improve income and livelihoods in the rural space.

Agricultural transformation in the region is accelerating. Despite the uneven pace across countries, labor and land productivity in the region are showing signs of improvement. The sharp increase in rural-urban migration is a factor in the upward trends of labor productivity. Land productivity, measured in terms of cereal yields, is gradually improving, with cereal yields in Serbia exceeding those of the region and the EU-28, and those of Bosnia and Herzegovina (BiH) and Albania converging to the EU-28 average. These improvements in labor and land productivity have contributed towards the expansion of agricultural output. This is important for the transformation of primary agricultural production into an agri-food system. The expansion of agricultural output leads to an increase in the supply of raw materials at lower costs to agri-processors, which in turn supports a much larger scale of operation, promotes horizontal integration, and reduces overall costs, all factors that increase the competitiveness of the whole agri-food system.

However, further improvements in productivity are required for the transformation of the sector. While the improvement of total factor productivity (TFP) growth in the Western Balkans has been significant, the region's TFP growth must outpace that of other European economies if the region is to close the productivity gap. The gap in agricultural labor productivity with the EU-28 is growing. Value added per worker is low in the region, which drives the process of outmigration from rural areas and towards

other European countries where agricultural wages are much higher. This has created important labor shortages in the agricultural sector in the region, rather than improvements in overall labor productivity. Agricultural output (value added) per hectare is generally constant across the region and below that of the EU-28. The multiplier effects of agriculture up and downstream are weak. This hinders the process of transforming the expansion of agricultural output downstream and of unlocking the potential of the agri-food industry in the region. In addition, the analysis suggests that efforts to re-orient public support to agriculture from coupled payments to productivity-enhancing decoupled support could contribute to increase productivity in the WB countries.

For this to happen, targeted investments in key drivers of agricultural transformation are needed. The findings in this report suggest that focusing on agricultural capital investments and on research and development (R&D) is critical for increasing agricultural productivity in the Western Balkans. Capital intensification in agriculture in the region has been slow, with all Western Balkan (WB) countries exhibiting low levels of capital formation compared to the EU-28 average. The findings suggest that closing one quarter of the gap in the stock of agricultural capital per worker relative to EU-28 levels would increase agricultural labor productivity by 76 percent in Albania, 82 percent in BiH, 30 percent in Serbia and 6 percent in Montenegro. There are significant variations in the state of development of the agricultural knowledge and information innovation system (AKIS) across WB countries. In general, the AKIS public services are weak and private participation is limited. Without AKIS, productivity improvements and, hence, the pace of transformation, will be slow. The model estimates indicate that increasing investment in R&D so as to close one quarter of the R&D gap relative to EU-28 levels would increase agricultural productivity by 15 percent in Albania, 25 percent in BiH, 16 percent in the Republic of North Macedonia, 18 percent in Montenegro and 6 percent in Serbia.

In addition to productivity improvements, to complete the transformation process, agricultural competitiveness must improve in the region. The downstream food value chain will benefit from the structural transformation of agriculture only if expansions of output, due to improvements in productivity, can lead to investments upstream in the agri-food industry. This will promote horizontal integration and reduce the costs of doing business. Investments (in capital and knowledge) for modernizing the agri-food industry are therefore also critical. The employment creation capacity of agriculture is comparatively high for both direct and total jobs. The employment creation capacity of the food processing industry could be augmented by leveraging investments to increase the competitiveness of the sector.

For this to happen, the private sector can play a critical role. Private sector investments in capital intensification, knowledge formation, and innovation in agriculture are important drivers in the structural transformation of the sector. For these to increase in type and volume, however, the returns on the investments must be attractive. Large producers in the region are already benefiting. For medium and small producers, the (transactions) costs often exceed the benefits of private sector investments. Access to credit is an important catalyst of private sector investment and financial inclusion is critical for enabling all types of producers to be part of the agricultural transformation. Risk management mechanisms (such as agricultural insurance, associations, etc.) can provide the means for risk sharing that would make investments more attractive. Through private sector investment, the forward and backwards linkages of the sector can also be strengthened, which can be critical for jobs and growth in the region.

Effectively linking producers to markets and identifying comparative advantages in agri-food trade would add value to agriculture and further unleash the potential of the sector in the region. The WB region has an important potential in growing the fresh produce trade, while also developing the agri-processing industry. Export growth from the WB region has been particularly strong for cereals, industrial crops, and fruits and vegetables, with Serbia driving the cereal growth in the region. Export diversification is, however, relatively low in terms of the number of products destined to foreign markets. Fruits are found to be the most competitive group of agricultural products in the region, with vegetables holding an important potential. Livestock production and the meat sector are important but not competitive in general, due to their very small scale of production. The growth and competitiveness of the livestock and meat sector, in particular, and of fresh products, in general, depends on how well the WB countries can meet the sanitary and food safety standards of the EU and other trade partners. This is also related to how well are producers integrated to respond to market signals.

The complexity of the food system in the WB region and the accelerated changes in productivity underlying the process of structural transformation require a new approach. Digital agriculture (DA) can be an important "bro-

ker" in the agricultural transformation in the region. DA can facilitate the process of capital accumulation and knowledge sharing at lower costs. It can also enable the linkages between producers and markets, shortening value chains and reducing transactions costs. This is potentially critical for the Western Balkans, considering the structural characteristics of the countries in the region—small scale of agricultural production, diversity of agro-ecological conditions, weak value chains and high transaction costs to link to market, as well as limited use to financial services in agriculture. The potential gains in productivity associated with new, low-cost, data-intensive on-farm digital technology applications are large. The impacts of DA are potentially even larger on the upstream, midstream, and downstream markets associated with farming, especially in the context of reaching consumers within and beyond the WB region.

The World Bank Group can play an important role in unleashing the potential of the business of agriculture in the Western Balkans. Support to the process of structural transformation can be provided through targeting investments towards the modernization of agriculture on and off farm, stimulating the development of AKIS while recognizing the role that both public and private sector play in it, enabling linkages between producers and markets, while taking advantage of the opportunity that digital technology brings about disrupting the traditional economies of scale and capital intensity pathways that agriculture has followed, while enabling small and medium producers to integrate. Identifying the comparative advantages of the region, while diversifying the productive base and job creating potential of the sector is also a good proposition in the efforts towards EU alignment.

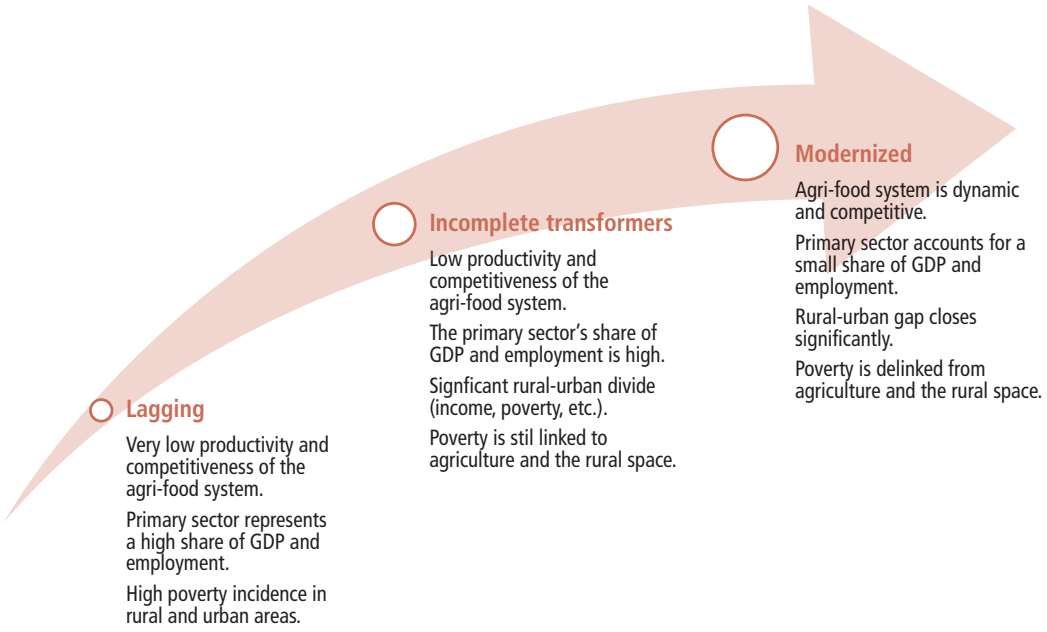
I. Introduction

1. The agri-food industry is a vital part of the WB economy and culture. It has historically been an important contributor to GDP, jobs and a critical source of export revenues. In 2017, exports of primary (predominantly fruits and vegetables) and processed food and beverage products accounted for 11 percent of the region's total exports. Although most of the region's agri-food exports (45 percent) go to the EU-28 countries, nearly a third (32 percent) of the regional trade flows are among the CEFTA partners including Moldova.

2. Yet, despite their potential as agri-food producers, the Western Balkans have become net food importers (except for Serbia), experiencing a trade deficit of USD 1.1 billion in processed food products in 2016. This is due to multiple factors spanning from low productivity of the primary sector to an insufficiently developed food processing sector, including the small scale of production and the use of traditional production practices, poor value chain/market integration and infrastructure, as well as weak food safety systems that greatly limit these countries' export opportunities, particularly of animal products. Moreover, a wide array of other issues pertaining to the regulatory framework and business environment (e.g. quality systems, certification costs and procedures, practices and regulations regarding the use of agro-chemical products, etc.) additionally curb their agri-food export potential. This particularly affects the fruit and vegetables sector, where many WB countries have the advantage of supplying the EU market with early season products.

3. WB economies are undergoing a process of structural transformation that has profound implications for the agri-food system, international trade, and livelihoods in the rural space. The structural transformation is marked by the industrialization and modernization of agriculture, significant increases in labor productivity across sectors, rural-urban migration, and a reduction in the share of agriculture in total employment and in GDP (Kuznets, 1957; Bustos et al., 2016). All WB countries, however, can still be classified as "incomplete transformers" (see Figure 1) because of the relatively low productivity and competitiveness of the agri-food system, high shares of GDP and employ-

FIGURE 1. THE PATH TO STRUCTURAL TRANSFORMATION IN AGRICULTURE



Source: World Bank.

ment that still depend on the primary sector, the rural-urban divide (income, poverty, etc.), and a link between poverty and agriculture. This context, however, offers opportunities to modernize and transform agriculture, create better jobs and incomes, improve livelihoods in the rural space, and increase the overall competitiveness of the agri-food system in the WB countries.

4. This report aligns to the framework of structural transformation[1] to identify opportunities for development in the agriculture sector in the Western Balkans, while also exploring patterns of trade and factors for improving agricultural competitiveness in the region. To build a pathway to modernization and to accelerate the agricultural transformation in the Western Balkans, the linkages between production, access to markets and trade flows need to be better understood. Focused strategies and interventions can improve the competitiveness of the agri-food sector, with wide-ranging impacts on food and nutrition security, export revenues and, ultimately, on domestic jobs and economic growth.

5. The report provides a regional perspective on the challenges and opportunities for the sector. It builds on information from a variety of sources and own analytical work to address these knowledge gaps and support the dialogue on the transformation of agriculture into a modern and competitive sector in the region. To the extent possible, depending on data availability, country-specific inferences are also provided to guide country-specific directions for improving the productivity and competitiveness of the sector.

6. The report explores the structural dynamics of the sector rather than EU pre-accession options. There is a wealth of information on the challenges and opportunities for agriculture in the context of EU pre-accession, both in terms of instruments and measures, as well as in terms of policy and resources. The value added of this report is the focus on structural dynamics, productivity patterns and their drivers, as well as multiplier effects and determinants of agricultural competitiveness in the region. These are explored from the perspective of pathways for change to accelerate the structural transformation of the sector and increase its competitiveness.

1 In general terms, structural transformation is defined as the reallocation of economic activity across three broad sectors (agriculture, manufacturing and services) that accompanies the process of modern economic growth. Within agriculture, structural transformation refers to the process of improvements in total factor productivity (land, labor, capital) that are driven by technological change.

II. Structural Transformation of Agriculture in the Western Balkans

7. The process of structural transformation of agriculture is gradual but necessary. The structural transformation of agriculture follows a path where capital intensification, through mechanization, together with enhanced knowledge on farming practices (e.g. fertilizer, pesticides, tilling, etc.) unleashes significant increases in agricultural output due to higher labor and land productivity. In turn, the mechanization and increased labor productivity tend to displace rural workers who usually migrate to peri-urban areas or cities to find employment in other sectors. The surplus generated by the increases in productivity gets reinvested. Major changes also occur in the rural space including increases in income per capita and reduction in poverty density and poverty rates, which altogether improve livelihoods in rural areas.

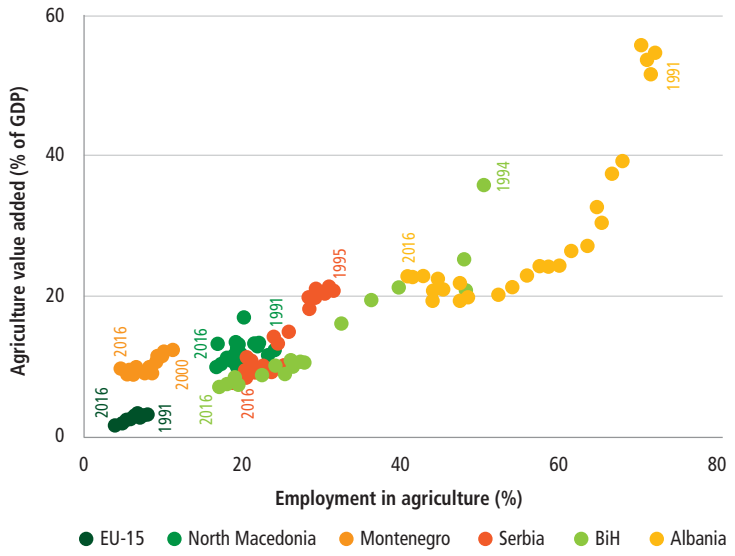
Structural dynamics

8. The process of structural transformation in the Western Balkans is incomplete and uneven. In 2016, primary agriculture accounted for 40.7 percent of employment and 22.9 percent of gross domestic product (GDP) in Albania, numbers that are much lower than the shares observed in the early 1990s in the country, but much higher than the shares in neighboring countries (Figure 2). Employment in the primary sector is between 17 and 19 percent in BiH, Serbia, and North Macedonia and 7.6 percent in Montenegro. The contribution of agriculture to GDP is around 8 to 10 percent in BiH, North Macedonia, Montenegro and Serbia. These figures exceed those of advanced economies. For instance, in the EU-15 area primary agriculture accounts for 3.7 percent of employment and 1.6 percent of GDP. These uneven patterns are associated with the pace of structural transformation in the Western Balkans.

Productivity patterns

9. Yet, the process of agricultural transformation in the region is accelerating. Despite Albania's lagging position, the change has been remarkable. The leap has also been large in BiH, pointing to an acceleration of changes in its rural space. These include an increase in agricultural labor productivity and a sharp increase in rural-urban migration (in the case of Albania), which led to a decline in the share of the rural pop-

FIGURE 2. AGRICULTURAL TRANSFORMATION IN THE WESTERN BALKANS IS ACCELERATING



Source: Based on data from the World Development Indicators.

ulation (see Figure 3). There was also a significant decline in the share of the rural population in Montenegro and Serbia, no significant change in BiH, and a small increase in the size of the rural population in North Macedonia during the last two decades. The growth of agricultural labor productivity has been modest in BiH, North Macedonia and Montenegro.

10. Despite the increasing trends in labor productivity in the region, the gap with the EU-28 is far from closing. From 2006 to 2016, agricultural labor productivity increased at an annual average rate of 2 percent per year in the WB region, compared to an increase of 3.5 percent in the EU-28, which caused the labor productivity gap between these regions to increase further. As of 2016, labor productivity in agriculture in the WB region represented only 38 percent of the average labor productivity in the EU-28. In 2016, average value added per worker was 5,390 USD in Albania, 6,039 USD in BiH, 6,907 USD in Serbia, 7,920 USD in North Macedonia and 24,238 USD in Montenegro, compared to 26,854 USD in the EU-28 (Figure 4).

11. There are significant differences in agricultural land productivity in the WB region. Land productivity, measured in terms of cereal yields, is gradually improving, with cereal yields in Serbia exceeding those of the region and the EU-28, and those of BiH and Albania converging to the EU-28 average (see Figure 5). However, when land productivity is measured in terms of agriculture value added per hectare, a slightly different picture emerges (see Figure 6). While Albania's agriculture is highly labor intensive, with low labor productivity, it outpaces the EU-28 average in land productivity. In 2016, agricultural output per hectare reached 2,093 USD in Albania, compared to 1,405 USD in the EU-28. Montenegro has a relatively high labor and land productivity (it produces 1,571 USD of value added per hectare), also outperforming the EU-28 in terms of land productivity. On the other hand, the value of agricultural output per hectare is significantly low in Serbia (922 USD), North Macedonia (737 USD) and BiH (522 USD).

12. The growth rate of agriculture total factor productivity has increased in the region. Agricultural total factor productivity (TFP) increased 0.1 percent from 1991 to 2000 and 1.5 percent from 2001 to 2014 in the "transition economies" of Europe,[2] compared with an increase of 2.1 percent from 1991 to 2000 and 1.9 percent from 2001 to 2014 across other EU economies (see Figure 7) (Fuglie, 2015).[3] While the improvement of TFP growth in the Western Balkans has been remarkable, if the region is to close the productivity gap, its TFP growth must outpace that of other European economies.

Drivers

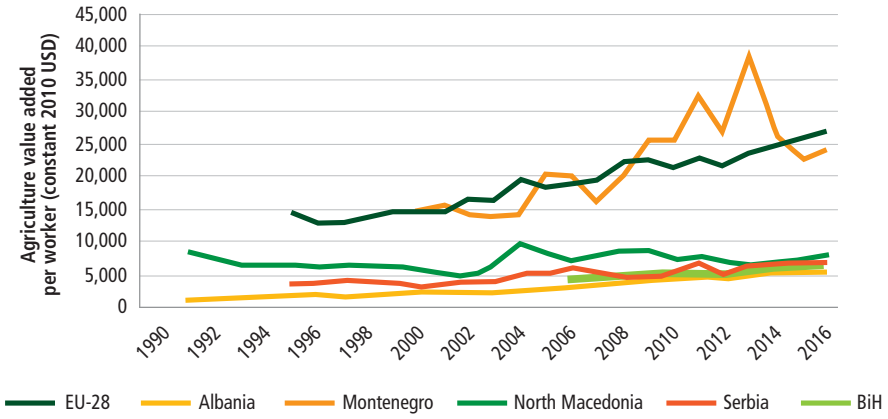
13. To continue the path of structural transformation and productivity enhancement, key investments in the drivers of transformation are required. Capital intensification in agriculture in the region has been slow. The EU-28 uses, on average, 710 tractors per 100 square km of arable land, while Serbia uses 20 and Albania 120. In some countries there are signs of over-investment, with North Macedonia boasting 1,200 tractors per 100 square km of arable land. Given the sector productivity patterns and the vast resources allocated to agriculture through IPARD and national programs, investments in agricultural equipment require careful assessment to ensure their role in enhancing productivity. Otherwise, equipment (or other capital-intensive technologies) alone, without adequate knowledge and a clear investment strategy, would be a sunk cost rather than a driver of transformation.

2 The "transition economies" in Europe include Albania, all countries that belonged to the former Yugoslavia, Bulgaria, Hungary, Poland and Romania.
3 'Europe' refers to the aggregate TFP growth in 26 countries for which data are available.

FIGURE 3. PRODUCTIVITY AND OUTPUT ARE INCREASING IN THE WESTERN BALKANS, IN REAL TERMS

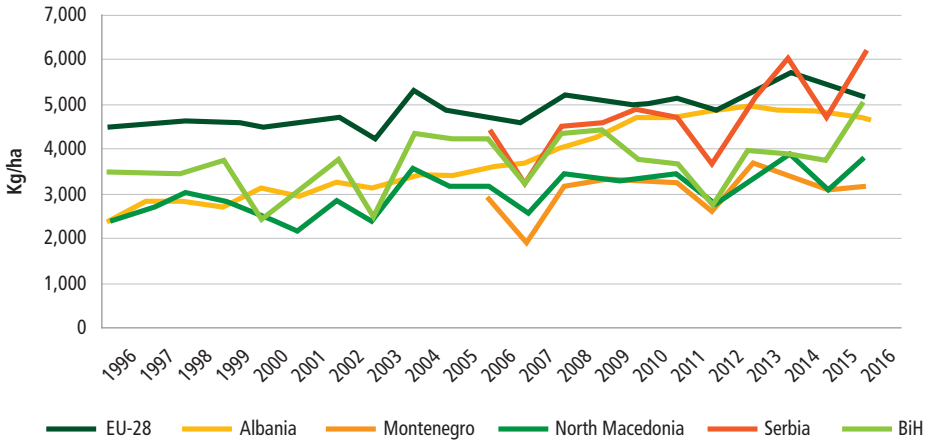
Source: Based on data from the World Development Indicators.
Note: Real GDP, agriculture value added and agriculture labor productivity are adjusted for inflation.

FIGURE 4. THE GAP IN AGRICULTURAL LABOR PRODUCTIVITY WITH THE EU-28 IS GROWING



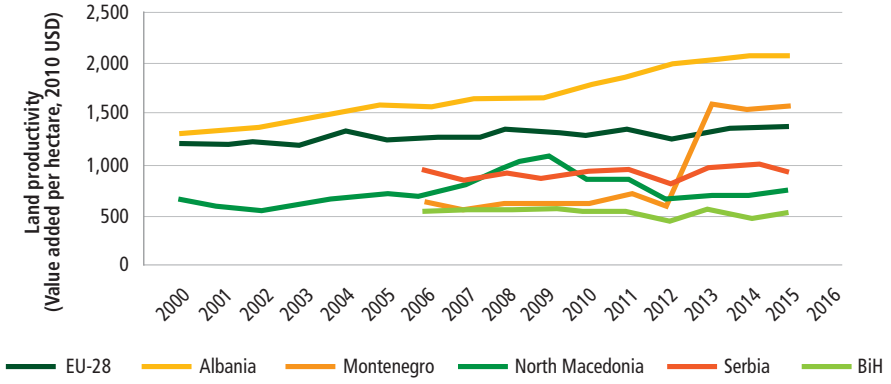
Source: Based on data from the World Development Indicators.

FIGURE 5. CEREAL YIELDS (KG/HA) IN THE REGION ARE IMPROVING



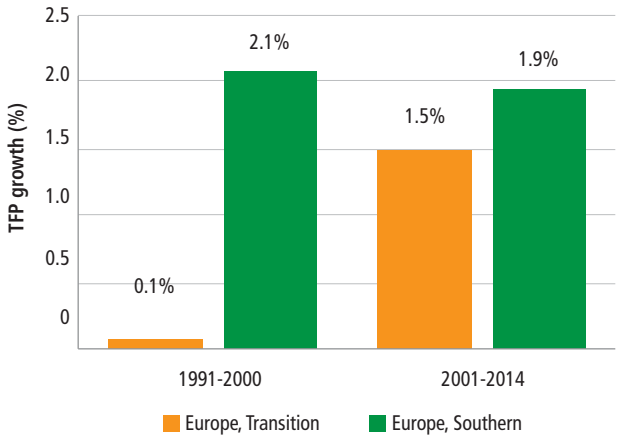
Source: Based on data from the World Development Indicators.

FIGURE 6. AGRICULTURAL OUTPUT PER HECTARE IS GENERALLY CONSTANT AND BELOW THE EU-28



Source: Based on data from the World Development Indicators.

FIGURE 7. GROWTH IN AGRICULTURAL TOTAL FACTOR PRODUCTIVITY



Source: World Bank staff using data from Fuglie (2015).

14. Low capital intensity hinders growth and slows down the agricultural transformation in the Western Balkans. While capital formation per worker in Montenegro is relatively high compared to other WB economies, all WB countries exhibit low levels of capital formation compared to the EU-28 average. In 2015, capital formation per worker was 465 USD in Albania, 608 USD in North Macedonia, 776 USD in Serbia and 4,691 USD in Montenegro, compared to 11,091 USD in the EU-28 area (Figure 8a). These low levels of capital formation are correlated with a low (private) investment ratio agricultural orientation index (IRAOI),[4] which is below one for all WB countries (Figure 8b). An IRAOI less than one reflects a lower orientation towards the agriculture sector, which receives a lower share of private investment relative to its contribution to economic value-added.

15. There are significant variations in the state of development of an agricultural knowledge and information innovation system (AKIS) across WB countries. An AKIS is essential to support agribusiness by providing training, technical advice and critical information for production and cross-compliance related to environment preservation, public and animal health, and animal welfare. Research and educational institutions are also an important element of any AKIS as they not only create knowledge, but very often also provide advisory services. Food companies, including agricultural inputs sellers and private advisors, should also be part of an AKIS because they usually offer with their products, certain kind of advisory services or production cooperation. The private sector can also play an important role, especially in farm advisory and veterinary services. For that to happen effectively, not only resources and incentives are required, but also the integration of producers into agri-food value chains.

16. The institutional capacity in the Western Balkans for the provision of AKIS is generally weak and underfunded. All AKIS public services in Albania, BiH and Kosovo are unde-

FIGURES 8A AND 8B. WESTERN BALKAN ECONOMIES HAVE LOW CAPITAL INTENSITY IN AGRICULTURE

Figure 8a. Gross capital formation per worker in agriculture, 2015

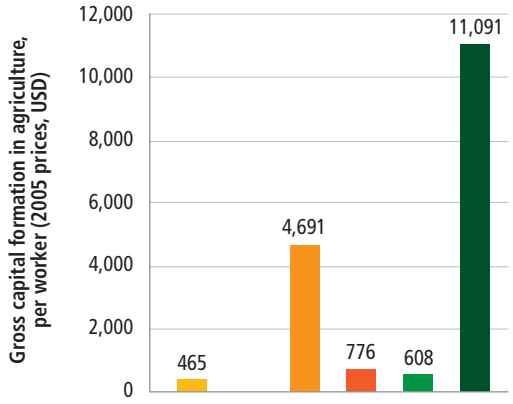
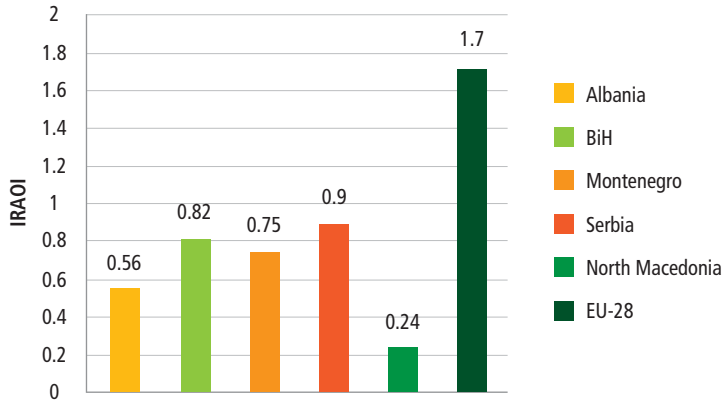


Figure 8b. Investment Ratio Agricultural Orientation Index (IRAOI), 2014



Source: World Bank staff using data from FAO and the World Development Indicators.

4 IRAOI is calculated as the share of gross fixed (private) capital formation (GFCF) in agriculture per unit of value added in agriculture over the share of GFCF in other sectors per unit of value added in those sectors.

veloped and face increasing difficulties to deliver the required veterinary, phytosanitary, food safety and educational services to farmers and agribusiness (see Table 1). Montenegro has made progress in several AKIS areas, but still has an underdeveloped agricultural R&D infrastructure and agricultural education. Overall, in these countries there is no clear role and strategy for extension services, which are usually overloaded with administrative tasks to support other government functions (e.g. collect data, manage subsidy applications, etc.). There is also a strong orientation towards the public provision of extension services, which limits the engagement and investment by private extension service providers. On the private side, knowledge services are input-related and provided by input suppliers, making their scope limited.

17. Serbia and North Macedonia have made significant progress in strengthening their AKIS institutions. However, in Serbia, the recent deterioration of the system and professional staff leaving both the veterinary and phytosanitary directorates poses a risk to maintaining the quality of services. Moreover, both Serbia and North Macedonia rely mostly on public institutions to deliver extension services for the growing requirements to meet international phytosanitary and food safety standards. The lack of strong private extension services requires new investments in the public AKIS to meet these increasing needs of the sector.

18. Digital agriculture can be an important driver of AKIS. With the need to produce more food using fewer inputs, the agri-food sector is seeking new products, practices and technologies to reinvent itself and accelerate a structural transformation that leads to increased productivity and efficiency. On a global scale, this structural transformation has been shaped by emerging digital agriculture (DA) technologies. DA is an umbrella term that encompasses a variety of cross-cutting technologies ranging from mobile phone applications to highly automated farm machinery equipped with a vast array of sensors coupled with satellite and drone imaging (see Box 1). The successful development of a DA market in the WB region requires creating an integrated environment that builds on synergies among innovators and agri-businesses. Innovators must have direct access to farmers, universities, research centers and innovation hubs as well as market incentives to invest in product development that introduce DA either as their mainstream product or as a complementary service to their existing portfolio.

Regression analysis on drivers of agricultural productivity

19. Capital stock, fertilizer use and R&D are key determinants of agricultural labor productivity in the Western Balkans. The regression analysis carried out for this report shows that there is a positive and statistically significant relationship between agricultural labor productivity and agricultural capital accumulation, R&D spending and fertilizer use in the region (see Table 2).

20. The low capital formation in the Western Balkans, on the one hand, and the large gap compared to the EU average, on the other, reduce productivity and slow down the modernization of the sector. These factors affect the sector's overall competitiveness in regional and global markets and, thus, put farmers in a disadvantaged position. The coefficient estimates imply that closing one quarter of the gap in the stock of agricultural capital per worker relative to EU-28 levels would increase agricultural labor productivity by 76 percent in Albania, 82 percent in BiH, 30 percent in Serbia and 6 percent in Montenegro. Because of the low levels of capital per worker in North Macedonia, increases in agricultural capital accumulation are expected to produce sizable

TABLE 1. PUBLIC SERVICES FOR AKIS IN THE WESTERN BALKANS

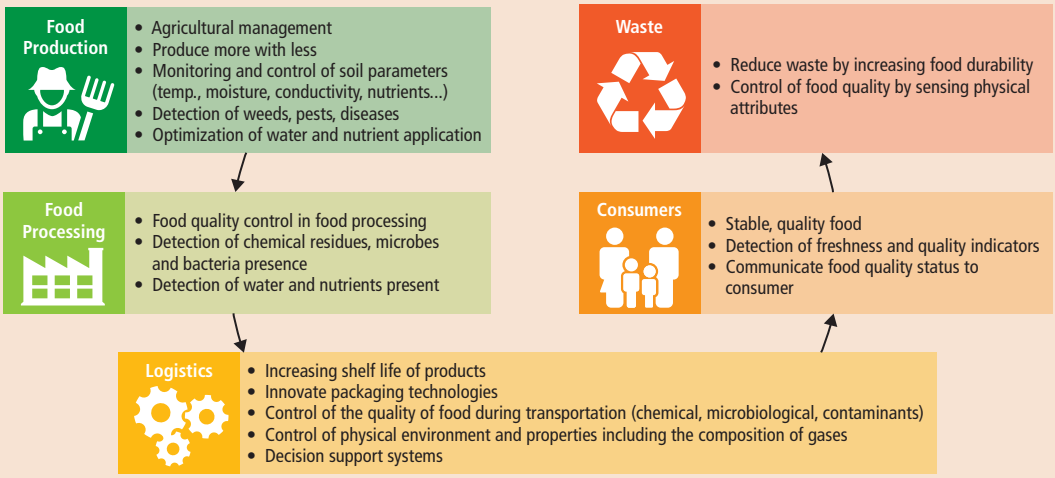
Public service	Albania	BiH	Kosovo	North Macedonia	Montenegro	Serbia
National payment scheme for agriculture (SPS)	🟡	🟡	🟡	🟢	🟡	🟢
Veterinary services	🔴	🔴	🟡	🟡	🟡	🟢
Farm advisory service	🔴	🔴	🔴	🟡	🟡	🟡
Research and development	🔴	🔴	🔴	🟡	🔴	🟡
Agricultural education	🔴	🔴	🔴	🟢	🔴	🟢
Phytosanitary services	🔴	🔴	🔴	🟢	🟡	🟡
Food safety services	🔴	🔴	🔴	🟡	🟡	🟡

🔴 = Underdeveloped 🟡 = Moderately developed (set of specific measures exists) 🟢 = Developed

BOX 1. DIGITAL AGRICULTURE

Digital agriculture (DA) is a game-changer for the agri-food system, capable of drastically improving productivity, efficiency, competitiveness and promoting a sustainable use of natural resources. DA is a powerful driver that has already started to transform the entire farming and food domain into smart webs of connected objects that are context-sensitive and can be identified, sensed and controlled remotely. It will also have significant impacts on a broad range of stakeholders across the agri-food system including farmers, food processors, logistic services, waste management and consumers.

DA is affecting the entire agri-food system



DA technologies can improve management of resources and the efficiency of agri-food production processes. Agriculture accounts for approximately ten percent of total greenhouse gas emissions and waste in Europe. DA technologies focused on managing land and waste production may lead to changes that impact agriculture and the environment in profound ways, from productivity growth, to improved rural livelihoods, to reducing environmental impacts and strengthening resilience to climate change. Overall, DA has the potential to contribute to meet Sustainable Development Goals (SDGs), thus investments in DA can be part of a broader approach to confront social, economic and environmental problems in rural areas in the WB region.

The WB region can benefit from opportunities created by a dynamic and evolving DA market by establishing a legal and regulatory framework that supports the development of new services and products, resolves potential conflicts regarding the ownership of data and intellectual property related to DA, and fosters the demand for DA products and services. This can be accomplished by leveraging push and pull development instruments to address weaknesses in the agricultural innovation system and build on strengths to create and expand digital agricultural activities and markets in the region.

impacts on agricultural labor productivity in this country. Overall, the estimates suggest that public and private capital investments in agriculture are critical to improve the overall performance and competitiveness of the sector.

21. The low rates of R&D spending reduce knowledge creation and dissemination (e.g. through the AKIS) and negatively impact agricultural productivity in the Western Balkans. Significant improvements in productivity could be achieved by fostering R&D, particularly in primary agriculture and food-processing. The model estimates indicate that increasing R&D investment so as to close one quarter of the R&D gap relative to EU-28 levels would increase agricultural productivity by 15 percent in Albania, 25 percent in BiH, 16 percent in North Macedonia, 18 percent in Montenegro and 6 percent in Serbia (see Table 3).

22. Small productivity gains are expected in the WB region by fostering additional use of fertilizer. Average fertilizer use in Serbia and Montenegro between 2011 and 2015 was higher than the EU-28 average, thus additional use would not generate meaningful impacts on productivity. In addition, increase in fertilizer use is also estimated to produce very small changes in agricultural productivity in Albania, North Macedonia and BiH.

23. The type of public support to agriculture matters. The model estimates suggest that rural development support

TABLE 2. DETERMINANTS OF AGRICULTURAL PRODUCTIVITY IN THE WESTERN BALKANS

	Model 1	Model 2	Model 3	Model 4
Ln Fertilizer (kg/ha)	0.0641* [0.0354]	0.0779** [0.0301]	0.0748** [0.0322]	0.0638* [0.0353]
Ln Capital per worker	0.253** [0.1050]	0.211** [0.1029]	0.203* [0.1146]	0.254** [0.1035]
R&D Expenditure as % of GDP	0.180** [0.0762]	0.156** [0.0758]	0.151** [0.0706]	0.180** [0.0769]
Ln Pillar 1- Coupled support per hectare		-0.0176* [0.0094]		
Ln Pillar 1- Decoupled support per hectare			0.0117* [0.0064]	
Ln Rural development support				0.00922 [0.0161]
Constant	6.547*** [1.0423]	7.043*** [1.0446]	7.066*** [1.1486]	6.425*** [0.9776]
Observations	380	380	380	378
Overall	0.747	0.728	0.739	0.746
Within	0.281	0.295	0.293	0.281
Between	0.755	0.738	0.744	0.754

Source: World Bank staff.

Note: Standard errors in brackets, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Dependent variable: natural log of agriculture value added per worker (constant 2010 USD). Coefficient estimates are from fixed effects models using 2000-2015 data from 27 EU member states and five WB countries (Kosovo is not included due to lack of data). The variables were taken from the World Development Indicators (WDI), FAOSTAT, Eurostat and country statistical offices. All covariates are in constant 2010 units.

TABLE 3. THE WB COUNTRIES PERFORM POORLY IN KEY DRIVERS OF AGRICULTURAL PRODUCTIVITY

Variable	EU-28	Albania	BiH	North Macedonia	Montenegro	Serbia
Panel A: Averages from 2011 to 2015						
Fertilizer consumption (kg per ha of arable land)	165.56	91.08	114.63	65.81	177.87	181.35
R&D expenditure as % of GDP	2.00	0.42	0.27	0.39	0.36	0.80
Net capital stock per worker (constant 2010 USD)	111,733	7,258	6,731	984	53,847	17,009
Panel B*: Effect on agricultural labor productivity if a country would close a quarter of the gap in...						
Fertilizer consumption (kg per ha of arable land)		1.6%	0.9%	3.0%	-0.1%	-0.2%
R&D expenditure as % of GDP		14.6%	25.4%	16.1%	17.9%	5.9%
Net capital stock per worker (constant 2010 USD)		75.9%	82.3%	593.7%	5.7%	29.4%

Source: World Bank staff.

* Estimates are obtained utilizing coefficients from column 2 of Table 2 and figures from Panel A, which were used to calculate the relative change (%) required for each covariate to close a quarter of the gap compared to EU-28 levels.

does not seem to have a statistically significant effect on agricultural productivity and that support coupled to the production of specific crops reduces agricultural productivity. Decoupled support appears to have a positive and significant effect on agricultural productivity. These findings are consistent with other reports and studies (World Bank, 2018; Latruffe et al., 2009; Zhu and Lansink, 2010; Zhu et al., 2012). Thus, efforts to re-orient public support to agriculture from coupled payments to productivity-enhancing decoupled support could contribute to increasing productivity in the WB countries.

Output growth and multiplier effects

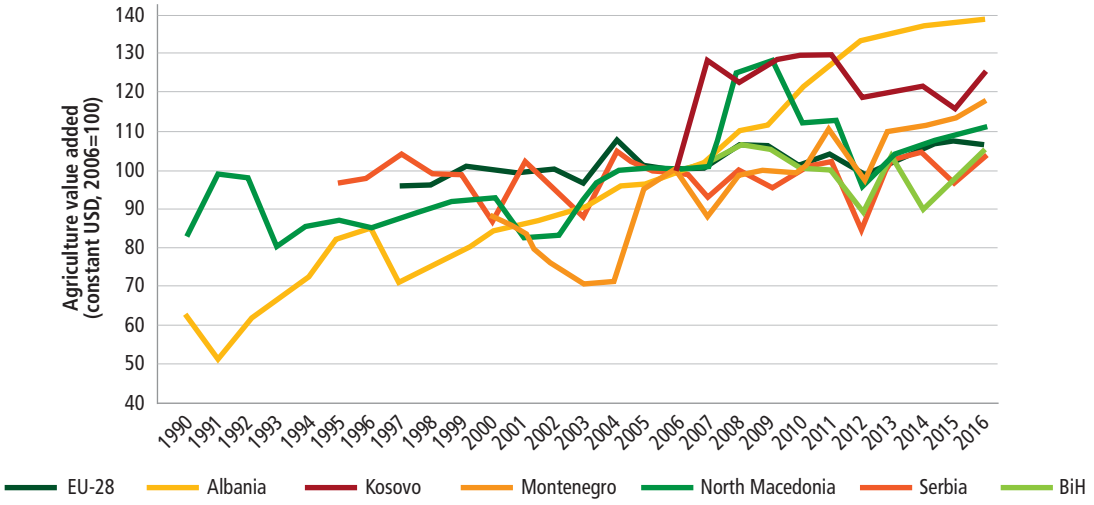
24. Agricultural output has been expanding, but growth is uneven across WB economies. From 2006 to 2016, the total value added of agriculture increased 39 percent in Albania, 25 percent in Kosovo, 18 percent in Montenegro, 12

percent in North Macedonia, 6 percent in BiH and 4 percent in Serbia, compared to growth of 6 percent in the EU-28 area (see Figure 9). The performance of the agricultural sector in the WB region is linked to the transformation process and fundamental forces driving the overall growth of the sector including labor and land productivity.

25. Transforming agriculture is beneficial downstream. The expansion of agricultural output leads to an increase in the supply of raw materials at lower costs to agri-processors, which in turn supports a much larger scale of operation, promotes horizontal integration and reduces overall costs, all factors that increase the competitiveness of the whole agri-food system. However, for this to materialize, the existence of the right incentives and enabling conditions for private sector participation is critical. The relative weak performance of agri-processors and the large trade deficit in processed food and beverage products in the Western Balkans suggest that structural problems from the farm gate to agri-processor doors and to consumers must be addressed to improve the overall performance of the sector, up and downstream.

26. The multiplier effects of agriculture up and downstream are still weak. In Albania and North Macedonia, integration within the agri-food sector and between agri-food and the rest of the economy is relatively low (see Table 4). Backward and forward economic linkages have been declining for both primary agriculture and agri-food processing. Agriculture, however, has very strong and increasing direct links with household consumption and rather weak inter-sectoral linkages. The declining backward and forward economic links seem to be associated with the economic structural transformation and lack of investments to modernize the agri-processing industry. The employment creation capacity of agriculture is comparatively high for both direct and total jobs. The employment creation capacity of the food processing industry could be augmented by leveraging investments to increase the competitiveness of the sector. The direct employment effects of food processing are comparatively low, but the size of total employment effects is much larger and comparable to that of other sectors including manufacturing. Indirect employment effects are very high mainly due to the links of the agri-processing industry to primary agriculture. Agriculture outperforms food processing in the case of forward effects, while the opposite holds in the case of backward ones. This finding indicates a weak integration of food processing with the rest of the economy.

FIGURE 9. AGRICULTURAL OUTPUT IS GROWING IN THE WESTERN BALKANS



Source: Based on data from the World Development Indicators.

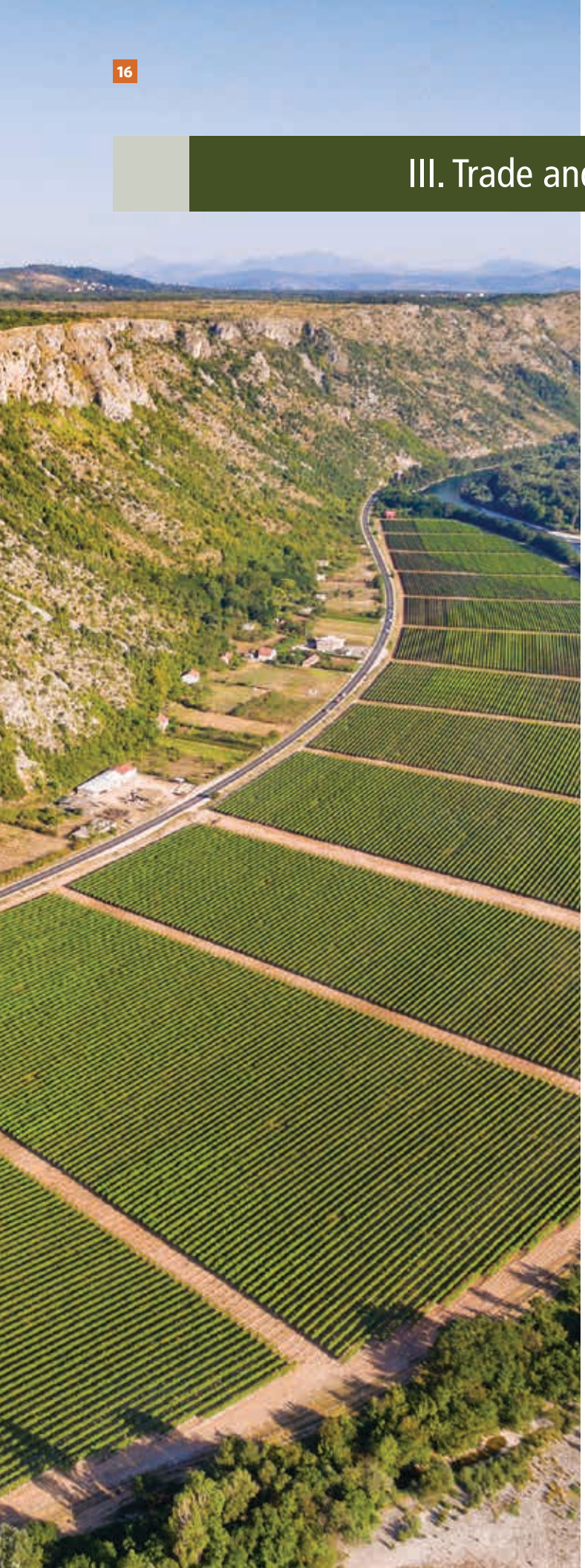
TABLE 4. MULTIPLIER ESTIMATES: AGRICULTURE AND FOOD PROCESSING

	Albania				North Macedonia			
	2000		2013		2005		2013	
	Multiplier	Rank	Multiplier	Rank	Multiplier	Rank	Multiplier	Rank
TYPE I Output Multipliers - Backward								
Agriculture	1.61	3	1.34	12	1.56	17	1.44	35
Food Processing	1.57	6	1.64	3	1.84	6	1.85	3
TYPE II Output Multipliers - Backward								
Agriculture	8.31	11	6.84	7	9.13	16	10.29	17
Food Processing	4.81	15	5.41	16	8.45	26	9.50	32
Output Multipliers - Forward								
Agriculture	1.76	7	1.33	9	1.38	19	1.68	27
Food Processing	1.41	11	1.16	10	1.25	40	1.12	48
Direct & Indirect Value-Added Coefficients								
Agriculture	0.80	11	0.78	5	2.39	17	2.08	36
Food Processing	0.39	15	0.54	12	3.14	7	3.13	5
Direct & Indirect Employment Coefficients								
Agriculture	4.50	3	1.28	1	4.11	4	2.59	6
Food Processing	1.48	6	0.58	6	2.12	19	1.52	20
Value Added Multipliers								
Agriculture	1.52	5	1.30	12	4.66	32	3.77	45
Food Processing	3.42	1	2.18	1	10.90	5	12.67	10
Employment Multipliers								
Agriculture	1.33	11	1.24	11	1.37	30	1.29	48
Food Processing	6.24	2	2.75	2	4.46	6	3.73	4

Source: World Bank staff calculations.

Note: The rank identifies the position of the sector multiplier vis-à-vis the other sectors of the economy. The number of sectors in the analysis is – for Albania: 15 in 2000 and 16 in 2013; for North Macedonia: 59 in 2005 and 64 in 2013.

III. Trade and Competitiveness of Agriculture



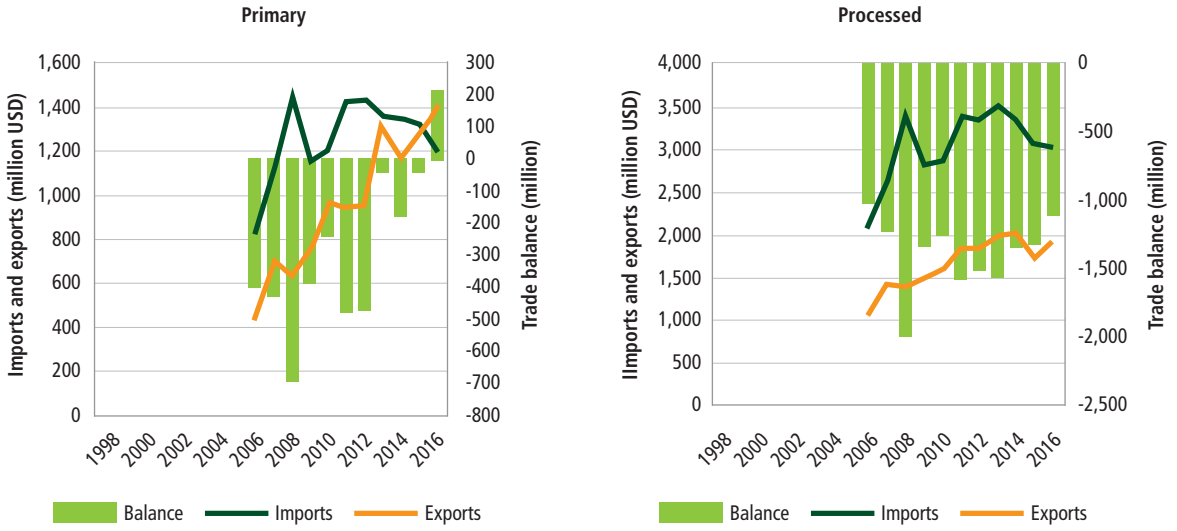
Agricultural trade

27. The WB region has an important potential in growing its fresh produce trade, while also developing its agri-processing industry. Exports of primary food products have increased faster than imports leading to a trade surplus in 2016; on the other hand, growing demand for processed food products has caused a trade deficit of 1.1 billion USD in such products (see Figure 10). This indicates an improvement in the competitiveness of exports of primary products, but it also highlights that challenges persist in developing a competitive agri-processing industry in the WB region. Serbia is the only country in the region that has experienced increasing trade surpluses in both primary and processed food products since the mid-2000s (see Annex A).

28. In the Western Balkans agricultural exports are relatively concentrated in a few products. The Gini index for exports ranges from 0.61 in BiH to 0.82 in Montenegro (see Figure 11). Fruit and vegetables, cereals and industrial crops, and beverages account for the majority of exports in most WB countries. For instance, in 2016 fruit and vegetables accounted for approximately 45 percent of Albania's and North Macedonia's exports, 33 percent of Serbia's, 23 percent of BiH's and 15 percent of Montenegro's exports. Fish accounts for 40 percent of Albania's exports, and beverages for 43 percent of Montenegro's exports. While low export diversification might indicate a comparative advantage on specific commodities, it also exposes the country to significant financial and economic risks in the case that these commodities are subject to either domestic (e.g. bad climatic condition affecting that crop) or international shocks (e.g. price drop or decrease in demand).

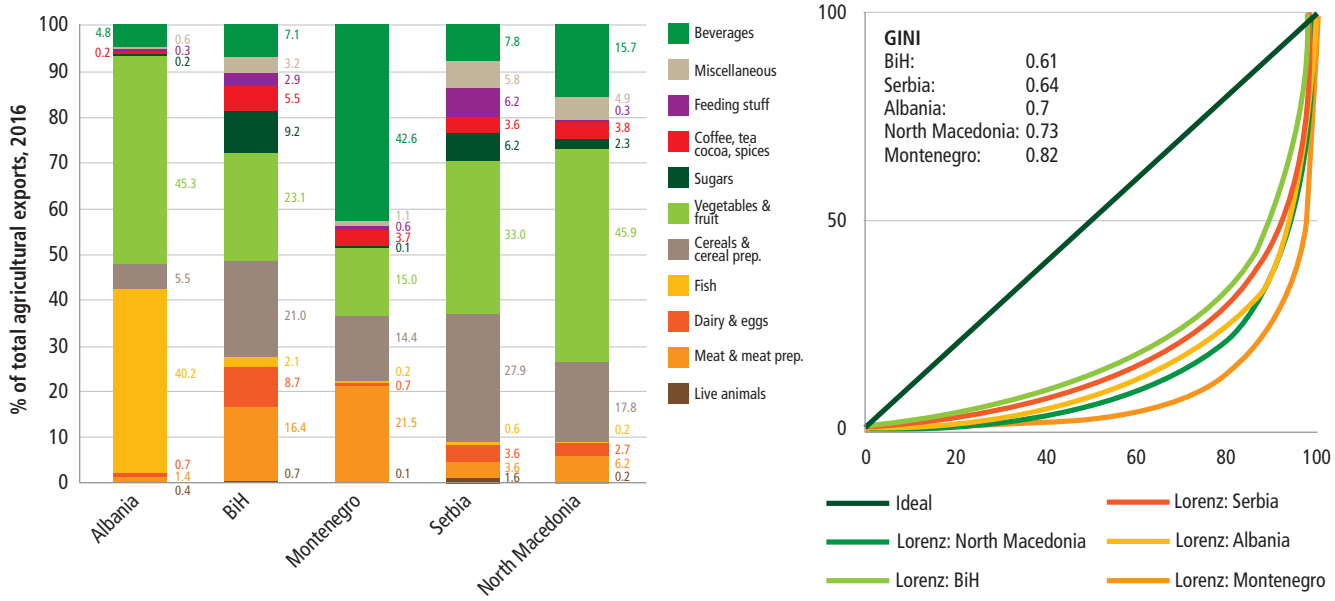
29. Export growth from the WB region has been particularly strong for cereals, industrial crops, and fruits and vegetables. Competitive cereal production in some areas of the region (Vojvodina and parts of Central Serbia and BiH) has contributed to increased production and export growth. From 2011 to 2016, exports of wheat increased 52 percent, barley - 40 percent, sugar beet - 57 percent and sunflower - 22 percent. Exports of soybean, however, decreased 10 percent (see Figure 12).

FIGURE 10. TRADE OF PRIMARY AND PROCESSED FOOD PRODUCTS IN THE WESTERN BALKANS



Source: World Bank staff using data from Comtrade.

FIGURE 11. TYPE AND CONCENTRATION OF AGRICULTURAL EXPORTS IN THE WESTERN BALKANS

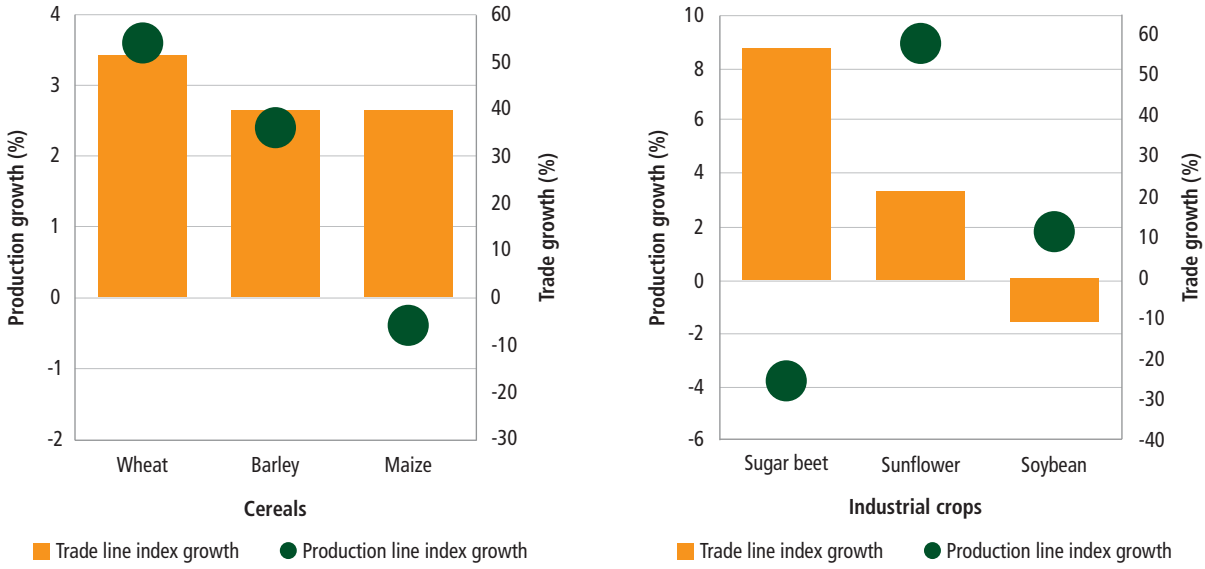


Source: Based on Comtrade data.

30. Serbia has been the driver of cereal production growth in the region. Export growth of cereals and industrial crops from the WB region has been driven mostly by significant increases of production and competitiveness in Serbia, which accounts for approximately two thirds of the WB region's production and exports of these commodities. Serbia has successfully used the opportunity created by higher world cereal prices to increase its exports and the profitability of growers, also improving the structure of farms and its logistics capacities. This allowed Serbia to become a highly competitive cereal producer in Europe. Prior to 2008, Serbia had low yields, poor infrastructure and exported no more than half a million tons of grains annually. The sharp increase of cereal prices in 2008 gave way to dramatic changes in Serbian production and competitiveness, leading Vojvodina to record an average yield of approximately 5 tons/ha of wheat and 6.7 tons/ha of corn. Serbia exports reached 2.4 million tons of cereal in 2016.

31. Fruit is the most competitive group of agriculture products in the Western Balkans. Fruit production has been

FIGURE 12. PRODUCTION AND TRADE GROWTH IN THE WB REGION FOR CEREALS AND INDUSTRIAL CROPS, AVERAGE 2011-2016

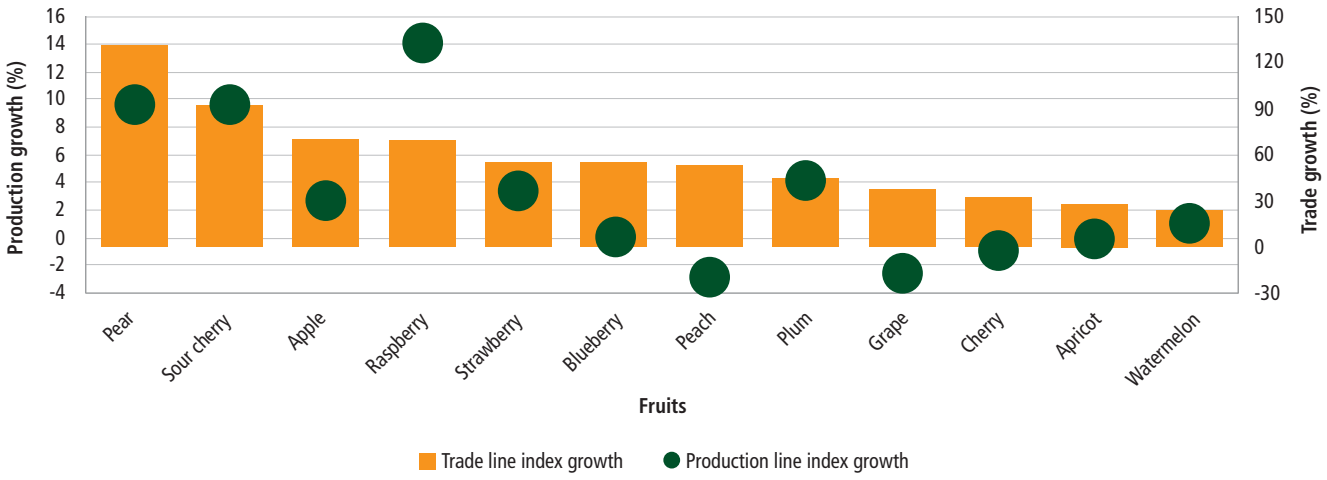


Source: SEEDEV..

modernizing in recent years, stimulated by the potential to export fresh fruit to Russian markets and frozen fruit to the European markets. From 2011 to 2016, the WB region had a significant share of the production in the combined Western Balkans and EU area, accounting for 58 percent of the production of plums, 39 percent of sour cherries, 32 percent of raspberries and 22 percent of watermelons (see Figure 13 and Box 2). At the world level, the WB region produced 14 percent of raspberries, 12 percent of cherries and 7 percent of plums. The region also controls a significant share of the exports to the EU fruit market, holding 28 percent of raspberry exports, 18 percent of sour cherry and 10 percent of plum exports. From 2011 to 2016, export growth has been strong for pears (120 percent), sour cherries (93 percent), apples (70 percent), raspberries (70 percent), strawberries (55 percent) and blueberries (55 percent). Serbia is the largest producer and exporter of fruit in the region.

32. The WB region holds a significant share of the production of vegetables compared to the EU, but produc-

FIGURE 13. PRODUCTION AND TRADE GROWTH IN THE WB REGION FOR FRUIT, AVERAGE 2011-2016



Source: SEEDEV..

BOX 2. REGIONAL MARKET FOR RASPBERRY AND SOUR CHERRY

Raspberry and sour cherry produced in the WB region are competitive as frozen products in the EU market. Plums and blackberries are also part of the same value chain because aggregators with cold storage capacity are purchasing and marketing several fruits. Fruit from the region is becoming increasingly competitive because:

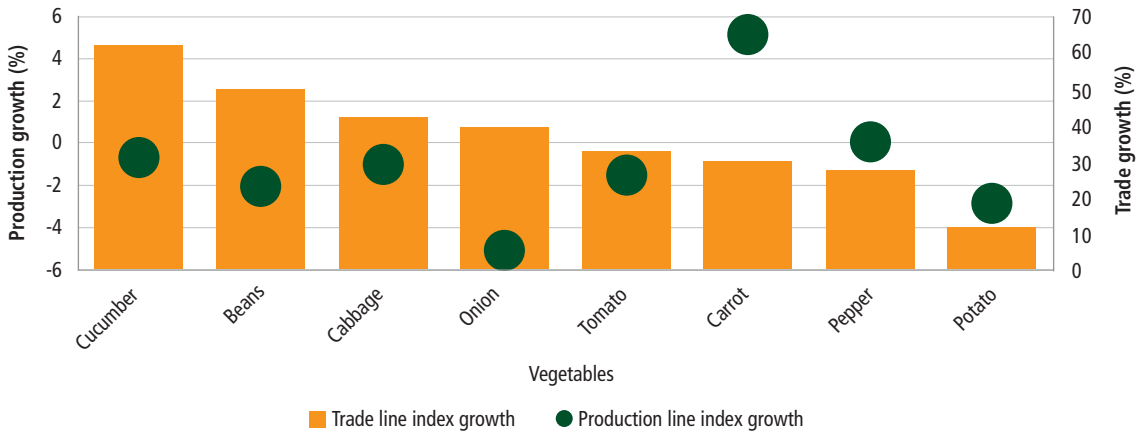
- EU producers are giving up production of frozen fruit due to the intensive labor requirement for harvesting and the lower profits per ha compared to the fresh market or other fruit species;
- The competition among processors (cold storages with freezing capacities), which are the central point of small and stone fruit value chains for the frozen fruit market in the region. They operate as collection points, organizers of production, and also market the product. The majority of fruit exports from the WB region is exported via EU intermediary import companies, which supply to EU processors or retail. The other export path is direct marketing from the company owning the cold storage facilities to the EU retail and processors. Cold storage capacities with freezing regime are about 310,000 tons in Serbia, 30,000 tons in BiH and 8,000 tons in Kosovo. In BiH and Kosovo there are ongoing investments and expanding of cold storages, while in Serbia the process of concertation is ongoing.
- Fruit production is operated by smallholders, where family members actively participate during the harvest, and thus keeping labor costs relatively low compared to those in the EU area.

tion is not large enough to drive global markets. The region accounts for a substantial share of the production of paprika (27 percent), beans (30 percent), cucumber (13 percent) and cabbage (12 percent) at the EU level (see Figure 14). However, the export market for vegetables produced in the WB region is relatively diversified meaning that the WB exports to the EU represent a small share its trade of vegetables, except for cabbage for which the region accounts for 7 percent of the EU trade (SEEDEV, 2018). The growth of vegetable exports from 2011 to 2016 in the WB region has been quite strong, particularly for cucumber and gherkin (62 percent/year), beans (49 percent/year), cabbage (42 percent/year), onion (39 percent/year), tomato (33 percent/year), carrot (30 percent/year) and paprika (27 percent/year).

Agricultural competitiveness

33. Competitiveness index. This report utilizes a multidimensional measure of competitiveness for agricultural commodities, which uses data from 27 indicators including production, trade, area harvested, yield, and unit value for each

FIGURE 14. PRODUCTION AND TRADE GROWTH IN THE WB REGION FOR VEGETABLES, AVERAGE 2011-2016



Source: SEEDEV..

product/group of products. The competitiveness index[5] is calculated in comparison to countries in the EU, CEFTA and the Commonwealth of Independent States (CIS),[6] which are the traditional competitors and markets for WB exports.

34. Serbia is the only country in the WB region that is competitive in cereals and industrial crops (see Table 5). For instance, Serbia accounts for over 80 percent of the production and 95 percent of maize exports in the region. From 2011 to 2016, maize production in Serbia increased on average of 12 percent per year, compared to an average of 8 percent globally. Serbia also accounts for 76 percent of wheat production and 91 percent of wheat exports. Approximately two thirds of the wheat and maize trade is transported by water, along the Danube river, to the Constanta port in Romania. It is marketed by large traders that purchase cereals at FOB market in Serbia. Other Serbian traders focus on redirecting cereals sales to the EU and the CEFTA markets given that producers in BiH, North Macedonia, Montenegro, Albania and Kosovo are less competitive.

35. Maize continues to be an important crop for smallholders in the WB region. Smallholders engage in maize production because investments are relatively feasible, service costs are low (there is usually a large number of available machines in each village), storage costs are small with the use of natural drying techniques, and the production can be sold all year round. While maize is a crop option for many smallholders in the region, structural changes are expected to affect this model, and investments in alternative crops may be required to keep smallholder production viable in the Western Balkans.

36. Despite similarities in agro-ecological conditions, competitiveness in vegetable production differs across the WB countries. Albania, Montenegro and North Macedonia are classified as competitive or highly competitive in most vegetable sub-groups including pepper, cucumber, tomato, cabbage, tomato, bean and onion. BiH is competitive in potato, pepper, cucumber and cabbage (see Table 6). North Macedonia accounts for 60 percent of the regional paprika (pepper) trade (annual average of 14 million USD), followed by Serbia with 27 percent. Albania, which accounts for 5 percent of the regional market, has experienced the fastest growth in paprika production in the region. North Macedonia is also the origin of 78 percent of all cabbage exports from the region (21 million EUR). The high quality of North Macedonian cabbage has secured its leadership position in the region and a significant share of the EU market (6 percent). Serbia is competitive in carrot, cabbage and pepper, but is relatively uncompetitive in other vegetables. Serbia accounts for 80 percent of the regional carrot trade. The production of cucumber and gherkin is characterized by growth in most countries in the region. The leading export-

TABLE 5. COMPETITIVENESS INDEX[7] FOR CEREALS AND INDUSTRIAL CROPS, 2018

Crop	Albania	BiH	North Macedonia	Montenegro	Serbia
Maize	0.43	0.51	0.37	0.39	0.67
Wheat	0.32	0.46	0.41	0.38	0.51
Barley	0.32	0.38	0.51	0.46	0.42
Sugar beet	0.45	0.46	0.23	0.53	0.67
Sunflower	0.36	0.48	0.43	0.27	0.58
Soybean	0.39	0.52	0.25	0.37	0.60

● = High competitiveness ● = Competitive ● = Low competitiveness ● = Not competitive The color of each cell represents the competitiveness of the crop compared to other crops within the same country. The number in each cell represents the competitiveness of the crop in one country compared to that of the same crop in other countries.

5 The country's competitiveness index is the weighted sum calculated as follows:

$$m_i = \frac{\left\lfloor \frac{x_i}{n+1} 5 \right\rfloor + 1}{\sum_{j=1}^{n} \left(\left\lfloor \frac{x_i^j}{n+1} 5 \right\rfloor + 1 \right)},$$

where m_i is the score for the product i; x_i – rank of the product i for the specific criteria; x_i^j rank of the product i for the criteria j ; n – total number of products in the analysis. Products are scored 1-10 so the formula determines the tenth of all products in which the products' rank is in for the specific criteria and assigns a corresponding score. The product competitiveness index ranges from zero to one, with higher values indicating higher competitiveness.

6 The CIS comprise 12 States—Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.

7 The cells of the competitiveness index table are colored based on a country's relative position in a commodity within a group of comparators that includes EU-28, CIS and CEFTA countries. The cells are coded as follows: top quartile: green (highly competitive); second quartile: blue (competitive); third quartile: yellow (low competitiveness); and bottom quartile: orange (not competitive).

TABLE 6. COMPETITIVENESS INDEX FOR VEGETABLES, 2018

Vegetable	Albania	BiH	North Macedonia	Montenegro	Serbia
Potato	0.56	0.50	0.41	0.58	0.39
Carrot	0.53	0.38	0.39		0.52
Pepper	0.74	0.62	0.78	0.71	0.65
Cucumber	0.72	0.63	0.64	0.53	0.46
Onion	0.66	0.41	0.57	0.50	0.42
Tomato	0.74	0.44	0.62	0.63	0.41
Cabbage	0.65	0.63	0.75	0.74	0.52
Bean	0.62	0.45	0.51	0.75	0.43

● = High competitiveness ● = Competitive ● = Low competitiveness ● = Not competitive The color of each cell represents the competitiveness of the crop compared to other crops within the same country. The number in each cell represents the competitiveness of the crop in one country compared to that of the same crop in other countries.

ers of salad cucumber in the region are North Macedonia and Albania, while Serbia and BiH are the largest exporters of gherkins. North Macedonia accounts for 48 percent of exports of cucumber and gherkin, followed by BiH (25 percent), Albania (11 percent) and Serbia (11 percent). Exports of onion and tomato represent approximately 1 percent of the EU market. Onion trade in the region is dominated by North Macedonia (42 percent) and Serbia (39 percent), while North Macedonia (53 percent) and Albania (25 percent) are the leading tomato exporters in the region.

37. WB countries are competitive in several fruit crops. For instance, among the EU, CIS and CEFTA countries, Serbia and BiH are among the top ten most competitive producers of raspberry (see Table 7). In 2012 Serbia produced 91 percent of the region's raspberries, but in 2016 BiH already accounted for 25 percent of WB production and Kosovo also became an important producer. The production in the region increased from 74,000 tons in 2014 to 88,000 tons in 2016. BiH almost doubled its production to a total of 22,000 tons in 2016. Kosovo's production increased from 105 tons in 2013 to 6,250 in 2016. In the region, North Macedonia is the country with the most favorable conditions for out-of-season raspberry production, but production is currently limited. The production of plum in the region is in transition from being extensive to becoming more intensive, further increasing the fruit's competitiveness potential. While Serbia is the largest producer and exporter of sour cherry, plum, peach and strawberry in the region, the other WB countries are also benefiting from increased competitiveness in this group of agricultural products. Geo-political changes, however, have affected

TABLE 7. COMPETITIVENESS INDEX FOR FRUIT, 2018

Fruit	Albania	BiH	North Macedonia	Montenegro	Serbia
Apple	0.66	0.58	0.64	0.48	0.56
Plum	0.68	0.72	0.63	0.73	0.62
Cherry	0.77	0.58	0.60	0.64	0.59
Raspberry	0.57	0.78	0.53	0.67	0.73
Grape	0.63	0.48	0.76	0.71	0.40
Peach	0.68	0.57	0.63	0.70	0.65
Sour cherry	0.56	0.68	0.72		0.80
Strawberry	0.64	0.59	0.50	0.55	0.58
Hazelnut		0.29	0.36		0.23
Blueberry	0.38	0.58	0.58	0.76	0.53
Apricot	0.55	0.29	0.72	0.32	0.64
Pear	0.65	0.70	0.50	0.56	0.63
Watermelon	0.76	0.48	0.74	0.79	0.55

● = High competitiveness ● = Competitive ● = Low competitiveness ● = Not competitive The color of each cell represents the competitiveness of the crop compared to other crops within the same country. The number in each cell represents the competitiveness of the crop in one country compared to that of the same crop in other countries.

the fruit market since 2014, as producers from Poland and Hungary lost access to the Russian market and influenced competition in the EU market. This caused trade flows and price changes leading, for instance, to an increase of exports of fresh fruit to Russia and of frozen fruit to the EU—predominantly to Germany. The trade of frozen fruit (plum, raspberry and sour cherry) requires adequate cold storage infrastructure as part of the consolidation of the long value chains for these agricultural products. Overall, the trends are positive and justify investments in processing and storing capacities in the region.

38. Apples are a competitive product for most WB countries and have become one of the most attractive agricultural products. In 2016, Serbia accounted for about 50 percent of apple production in the WB region, followed by North Macedonia and Albania with 17 percent each, and BiH with 11 percent. While apple production is more competitive than a decade ago, 84 percent of the region's exports are destined to the Russian market under preferential conditions and with no major competition due to Russia-imposed sanctions to the EU. Therefore, the market for apples is highly concentrated and poses significant risks for producers should preferential conditions change. It would be important to identify new markets for apples produced in the WB region.

39. Livestock production and the meat sector are important for the region but not competitive. This is due to the large number of households involved in production as well as its relevance for personal consumption and food security. WB countries are not self-sufficient in meat or dairy production. Only BiH is self-sufficient in poultry and Serbia in sheep. The number of slaughtered animal heads for meat production decreased approximately 20 percent from 2001 to 2016. There was, however, a slight increase in total meat and milk output, which is associated to more efficient production systems. It is worth noticing that while Serbia's meat production accounts for a large share of the region's output, the sector is not competitive when compared to other producers in the EU and CIS regions. Montenegro is competitive in pig, poultry and sheep meat, as well as in milk production (see Table 8). Meat production in Montenegro, however, is relatively small and accounts for a small share of the regional production, although livestock is a key agricultural activity in the country and represents approximately 45 percent of total agricultural production. Montenegro has built its processing industry on the basis of the quality of traditional products "going mainstream" or entering industry facilities. Tourism and the hospitality industry as well as exports of high-quality fresh meat (pork mostly) to countries such as Spain, Denmark and Germany for processing are also key channels for marketing meat produced in Montenegro.

40. Meat and milk production in the WB region is based in small farms. For instance, in Serbia, over half of all registered farms keep up to 5 Live Stock Units and an estimated 35 percent of all animals in Serbia.[8] Much of this production is for own consumption, and characterized by a large share of small producers, meat processing at the household level, short value chains (direct sale to the final consumer), relatively low prices, and lack of

TABLE 8. COMPETITIVENESS INDEX FOR LIVESTOCK, 2018

Product	Albania	BiH	North Macedonia	Montenegro	Serbia
Cattle meat	0.52	0.50	0.24	0.44	0.31
Pig meat	0.36	0.39	0.45	0.57	0.45
Poultry meat	0.41	0.55	0.33	0.53	0.30
Milk	0.46	0.65	0.41	0.67	0.41
Sheep meat	0.68	0.47	0.58	0.61	0.41
Cattle	0.42	0.51	0.58	0.69	0.38
Pigs	0.49	0.41	0.39	0.50	0.44
Poultry birds	0.42	0.68	0.36	0.64	0.30
Sheep	0.75	0.50	0.62	0.66	0.52
Wine	0.45	0.40	0.74	0.76	0.55

● = Competitive ● = Low competitiveness ● = Not competitive

8 Agricultural Census 2012.

control of safety and phytosanitary conditions. There is a strong gastronomic identity linked to meat products in the region. A consumer survey conducted by the EBRD-FAO project indicates that small food businesses have an important role in the food sector and that quality is often linked to small-scale, artisanal, less processed products. Milk production across the WB countries is highly fragmented and dependent on small dairy farmers that lack the scale to negotiate with and supply dairy processors that are coming under mounting pressures from retailers for consolidation.

41. Demand for poultry is growing in the region. Poultry production is largely industrialized, with a short production cycle that does not require large areas compared to other types of livestock. BiH is experiencing growth in poultry meat production and may soon obtain authorization to export to EU countries, which will provide a further boost to its poultry sector.

42. The growth and competitiveness of the livestock and meat sector depends on how well the WB countries can meet the sanitary and food safety standards of the EU and other trade partners. Poor safety conditions led the EU to impose a ban on pork imports from the WB region due to the lack of vaccination against African Swine Fever, which affected domestic and regional meat production and trade with the EU. Resolving this and similar barriers is a long and costly process that requires intense engagement with institutions that can ensure the necessary compliance with animal and food safety regulations. This remains the biggest challenge for the livestock, meat and dairy sectors in the WB.

Geographical, political and regional competitive advantages

43. The "historic memory" of a single market, as well as inherited ties and relationships, matter in the Western Balkans. The former Yugoslav market, excluding Albania, has approximately 17.5 million consumers and, up until 1992, constituted a fully integrated market. The ex-Yugoslav republics together with Albania comprise a market of more than 20 million consumers. In this context, the historical memory and consumers' preference for certain brands are still present, as well as connections between producers and processing industries in different countries. Past ties represent a potential for the expansion of certain products from one country to another, either through retail chains, or using regionally produced raw materials.

44. The diasporas are potential investors and consumers. The majority of the regional diaspora lives in developed countries (Germany, Austria, France, Switzerland and Great Britain), where income is higher. This creates demand for the region's products because diasporas tend to prefer the products they used to consume in their country of origin. The diasporas, thus, can serve as a direct consumer or as a platform for the intensification of exports of processed goods from the region. In addition, expatriates' savings may be redirected back to their country of origin as remittances or investments.

45. Highly favorable trade agreements are one of the biggest competitive advantages of the region. The CEFTA agreement, which was signed on December 2006, includes Albania, BiH, Croatia, North Macedonia, Moldova, Serbia and Montenegro. The agreement enables a market expansion for all products, as well as trade under identical conditions for all producers, opening up a wider market for trade and investments. The agreement fosters the liberalization of public procurement, attracting alternative investments and increasing the chances to enter European markets under preferential conditions.

46. Preferential status to access the Turkish market. All countries in the region have signed trade agreements with Turkey. These agreements do not imply full access to the Turkish market, but rather preferential treatment for sensitive products. BiH, for instance, has preferential status to export sunflower oil, wheat flour, beef and beef products to Turkey. Serbia is negotiating agreements with Turkey for the same products, yet within quotas, just like Kosovo (see Box 3).

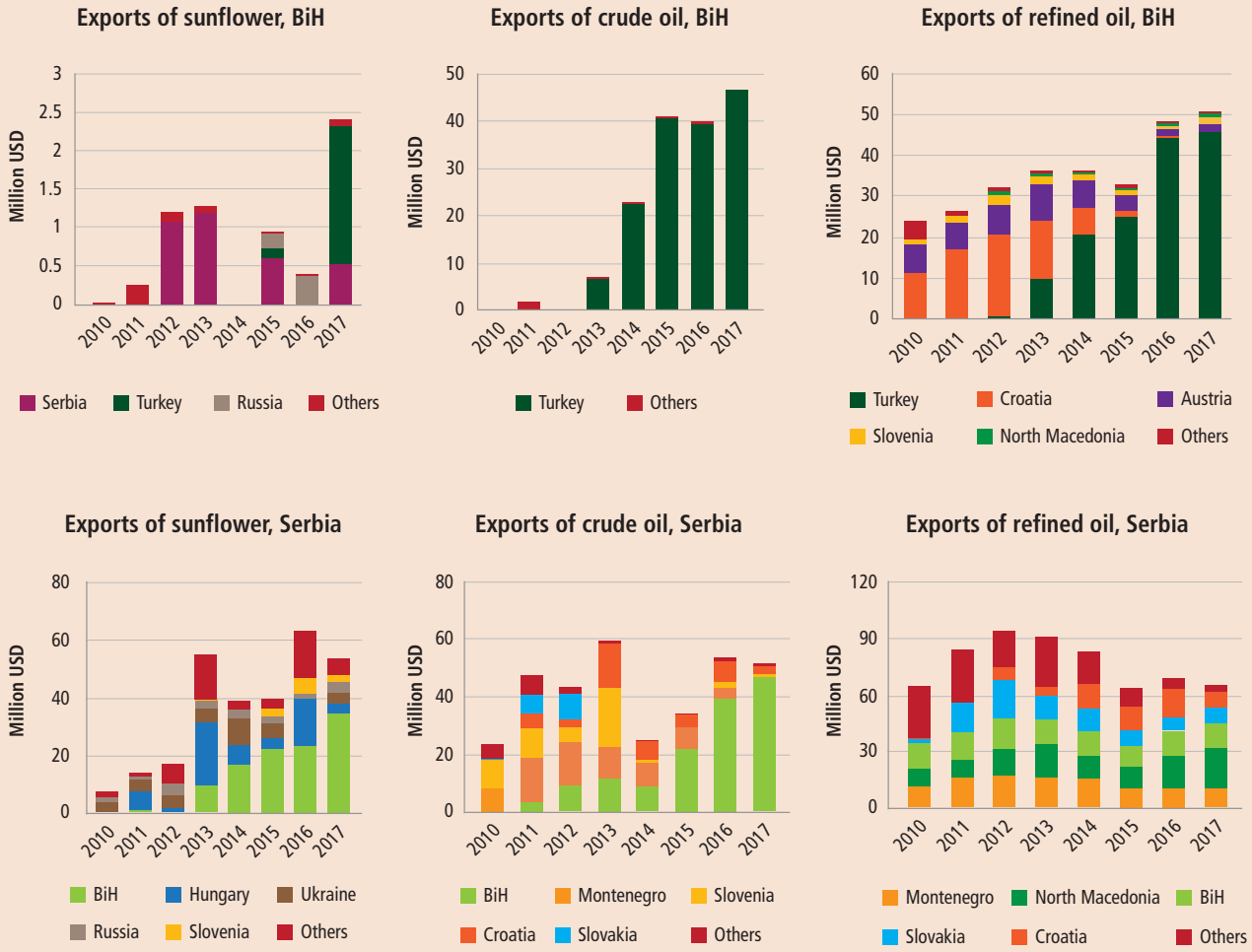
47. Duty-free access to the EU market is a major motivator for the agribusiness sector to make investments and adjustments to conform to EU standards and increase their competitiveness. The WB countries have the status of candidates or potential candidates for EU membership. Albania (2014), Montenegro (2010), North Macedonia (2005) and Serbia (2012) are EU candidates. BiH and Kosovo have initiated negotiations and have a clear prospect of becoming EU candidates in the near future. Accession to the EU means access to a rich market of 500 million people and significant investments by the private sector. The EU Common Agricultural Policy (CAP) budget provides for numerous development incentives and financial support for agriculture. The European market also ensures more predictability in terms of demand and prices, which mitigates domestic fluctuations and, in turn, attracts foreign investors.

BOX 3. BiH AND TURKEY VEGETABLE OIL TRADE – THE ENTIRE REGION BENEFITS

In recent years, BiH has represented an exit gate (to countries in the WB region) when it comes to the exports of crude and refined vegetable oil from the region, primarily to Turkey. After receiving Turkish preferential status in 2013, BiH has become the biggest exporter to this closed market, being responsible for as much as 95 percent of Turkey's refined vegetable oil imports and 5 to 8 percent of the crude vegetable oil imports in the last five years.

Serbia also has preferential access to the Turkish market, but interstate agreements have not worked to date, thus vegetable oil exports are shipped through BiH. BiH produces approximately 500,000 tons of sunflower a year; and in the last three years it has exported some 30,000 tons of crude and 35,000 tons of refined vegetable oil on average, with a total export value of around 100 million USD. Serbia produces approximately 500,000 tons of sunflower a year, while it exports on average 70,000 tons of refined and 50,000 tons of crude vegetable oil per year.

The preferential status of BiH in the Turkish market has contributed to the expansion of the production (growth rate of 29 percent in the last 5 years) and competitiveness of the Serbian sunflower (the average yield of sunflower in Serbia is 27 percent higher than in EU countries), as well as to the construction of new processing facilities in BiH (three new refineries in the last three years).



48. The EAFRD and IPARD Funds offer significant incentives for agri-businesses. IPARD funds offer up to half of their investments as non-refundable grants to producers, and are intended to stimulate investment in the sector in the region. EU agri-businesses base their investment decisions on the existence of these financial incentives. In the EU, practically everything has been built with the support of such grants. Therefore, the region must leverage the benefits of the IPARD

funds to the maximum, and thus secure the necessary initial investments for agriculture and rural development.

49. Climate in the WB is well-suited for agricultural production. Countries located more southward from the largest EU markets are particularly suitable to produce fruits and vegetables. The Vojvodina region of Serbia and some other areas are located in the so-called corn belt, where weather conditions are ideal for the production of cereals and oilseeds. Snowy winters and rainy springs provide enough moisture to the soil and moderate temperatures during the summer allow for a gradual ripening process of the crops resulting in high-quality produce.

50. Albania, Montenegro and BiH have access to the Adriatic Sea, which facilitates international trade. In Albania, the port of Durrës is responsible for more than 90 percent of sea trade. The port made significant investments in 2012, when new terminals were built, and is currently connected to 63 ports all over the world. It has recorded increases in trade with an annual growth rate of 10-12 percent. The port of Durrës is well connected with the rest of Albania through road and railway infrastructure. The port of Bar in Montenegro operates container, bulk and general transport of goods. The port has a major development capacity and good connections with large regional centers through roads and railway. BiH has access to the sea through an extremely narrow strip of coast that includes the town of Neum, which is oriented to tourism. The sea trade of BiH operates via the port of Ploče and the auxiliary port of Metković (a part of the port of Ploče) in Croatia.

51. Serbia and North Macedonia have no sea access but have agreements that facilitate international trade. Serbia exports the majority of its cereals by water, through the Danube river, the most cost-effective way of transporting goods to the Black Sea port of Constanța in Romania. The port of Bar in Montenegro is also used, albeit to a lesser degree, primarily for exporting to Mediterranean countries. North Macedonia's exports of agricultural produce via sea represent a small share (less than 8 percent) of its total agricultural exports. The ports of Thessaloniki and Piraeus in Greece and Durrës in Albania are used to a lesser degree, usually as alternative routes. The competitive advantages described in this section are summarized in Table 9.

Market accessibility

52. Accessibility to regional markets is critical for farmers in the WB region. The geographical location of cropland vis-à-vis markets is particularly relevant for smallholders who might not have the necessary resources to store and transport their production to consumers and agri-processors. For example, the region of Vlorë in the South of Albania has a vast cropland, but poor access to regional markets, which increases transaction costs for farmers willing to access those markets and contributes to the predominance of short value chains in the region. Most of Montenegro and BiH's croplands are also located in regions with relatively low accessibility to regional markets (see Figure 15).[9] Government support and interventions can mitigate poor accessibility to markets and reduce transaction costs for farmers operating in these poorly connected regions. Digital agriculture can also significantly contribute to improving the linkages between producers and markets. In contrast, Vojvodina and Belgrade in Serbia are large agricultural production

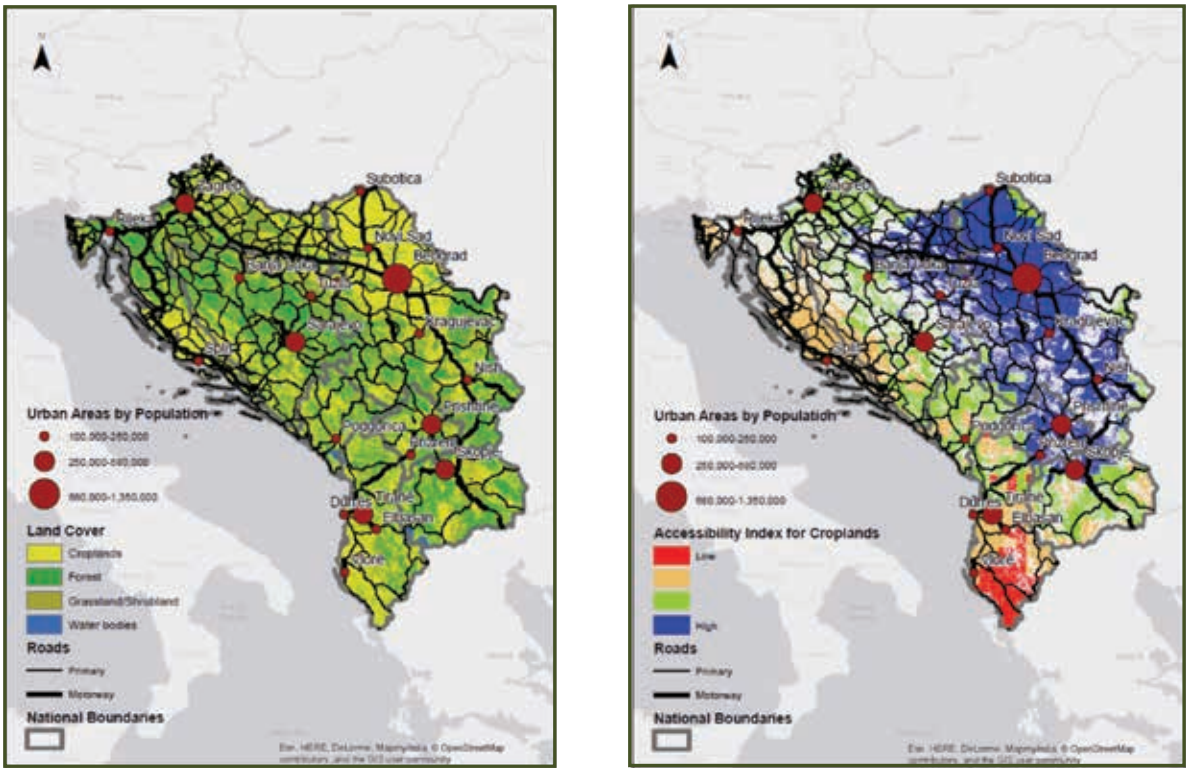
TABLE 9. SUMMARY OF COMPETITIVE ADVANTAGES BY COUNTRY

	Albania	BiH	Kosovo	North Macedonia	Montenegro	Serbia
Diaspora	Low	Medium	Medium	Low	Very low	Low
CEFTA	High	High	High	High	High	High
Access to EU market	Medium	Medium	Medium	Medium	Medium	Medium
Preferential access to Turkish market	Low	High	Low	Low	Low	Medium
EU perspective	Very low	Low	Very low	Low	Low	Low
Access to EU funds	Low	Very low	Very low	Medium	Medium	Medium
Climatic conditions	Medium	Very low	Low	Medium	Low	Very low
Access to sea	High	Medium	Very low	Medium	High	Very low
Access to Danube	Very low	Very low	Very low	Very low	Very low	High

● = High advantage ● = Medium advantage ● = Low advantage ● = Very low advantage

9 The figure presents the market accessibility index calculated for the WB region as an integrated market. Annex B presents the maps with the market accessibility index within each specific country in the WB region.

FIGURE 15. LAND COVER (LEFT) AND MARKET ACCESSIBILITY (RIGHT) IN THE WESTERN BALKANS



Source: World Bank staff.

regions and have relatively good access to markets in the WB region. Agricultural producers in neighboring areas such as Pristina (Kosovo) and Skopje (North Macedonia) are also well connected to regional markets. These regions' transportation infrastructure facilitates the physical access of farmers to markets and is an important element for agricultural competitiveness.

Factor competitiveness

53. The agricultural sector in the region is influenced by many factors that together determine the degree of competitiveness of a country. Table 10 lists the main factors affecting competitiveness and provides a relative assessment for each country compared to some of its main competitors including new member states (NMS) and EU-15 countries. The indicators are organized around the following dimensions: (i) business environment for farming and agribusiness, including rule of law, business security and macroeconomic conditions; (ii) labor: cost, availability and quality of labor; (iii) agricultural budget: size, and quality of programming, implementation and budget predictability; (iv) market development: market openness, accessibility to producers and market organizations; (v) risk management: risk factors that affect agriculture and how a country is equipped to mitigate those risks through irrigation infrastructure and insurance markets among others; (vi) institutions: development of institutions important for agribusiness including those that manage food safety and phytosanitary rules, research and extension; and (vii) access to finance: interest rates, loan availability, maturity and collateralization.

Business environment

54. There are hurdles for creating a dynamic and competitive agribusiness environment in the region. A weak rule of the law is one of the key obstacles for development in all the WB countries and no significant improvements have been observed over the last few years. Business security also varies from country to country, but in general it is becoming worse due to high political influencing and intervention, which undermines credibility and long-term planning. In addition, the region is still healing from past economic crises. The recovery has been slower than expected, but conditions are improving.

55. Albania: The business environment is relatively weak in Albania, but improvements are taking place in key areas.

TABLE 10. FACTOR COMPETITIVENESS LEVEL AND TRENDS

Factor	Albania	BiH	Kosovo	North Macedonia	Montenegro	Serbia	General situation	
							Level*	Trend
Business environment								
Rule of law	↑	×	↑	↑	×	↓	Significantly weak	Slowly improving
Business security	↑	↑	↑	↓	×	↓	No major problems	Improving except Serbia
Macro economy	↑	↑	↑	↑	↑	↑	At risky level	Improving
Labor								
Cost	↓	↓	↓	↓	↓	↓	Good	Worsening
Availability	↓	↓	↓	↓	↓	↓	Starting to be problematic	Fast deterioration
Quality	×	×	×	×	×	×	Weak	Stable
Agrarian budget								
Size	↑	×	↑	×	↑	×	Low to medium	Increasing trend
Quality	×	×	↓	↓	↑	↑	Majority low	Becoming worse
Predictability	×	×	↓	↓	×	×	Very low	No improvement
Implementation	×	↑	↓	↓	×	↓	Highly politicized	No improvement
Market development								
Openness	↑	↑	↑	↑	↑	↑	Quite open	Improving
Access to input	↑	↑	↑	↑	↑	↑	No obstacles	Improving
Market possibility	↑	↑	↑	↑	↑	↑	Exists	Becoming closed
Risk management								
Occurrence	↓	↓	↓	↓	↓	↓	Not too often	Becoming worse
Irrigation	↑	↑	↑	↑	↑	↑	Small	Improvement
Insurance	↑	↑	↑	×	↑	×	Low penetration	Improvement
Institutions								
Ministry and PA	×	×	↑	↓	↑	×	Too centralized	Stagnating
Research and extension	×	×	×	×	↑	↓	Weak	Without progress
Food safety	↑	×	↑	×	↑	↓	Biggest challenge	Slow improvement
Access to capital								
Interest rate	↑	↑	↑	↑	↑	↑	Reasonable	Improving significantly
Loan availability	↑	↑	×	↑	×	↑	Must be better	No major improvement
Maturity	×	×	×	×	×	×	Could be better	No improvement
Collateralization	↑	↑	×	↑	×	×	Improving	Improving

Note: The ranking has been formulated by the task team for this study.

Positive | High | Medium | Lower | Low | Negative

↑ Positive trend ↓ Negative trend × No changes

*Level in comparison with main competitors like NMS and EU-15 countries.

The government has emphasized public administration reform and innovation and these efforts aim to increase overall efficiency and improve transparency in the country. The high public debt has been properly managed and is currently declining due to a prudent fiscal policy. The country has also received high inflows of FDI, which contributed towards meeting internal capital needs.

56. BiH: The reform agenda is advancing in BiH, but the overall business environment for agribusiness is particularly delicate and no significant changes have been observed in terms of improvements in the rule of law in the country. The reforms are expected to increase the overall competitiveness of the economy and of agriculture, leading to a moderate increase in exports. However, a large demand of imports for infrastructure projects and a growing food demand will most likely outpace export growth. In addition, a prudent, efficient and effective fiscal policy that addresses persistent unemployment and continues to safeguard the banking sector will remain central to the BiH reform agenda and the development of a strong agribusiness in the country.

57. Montenegro: The country faces significant challenges to improve its business environment. The high and growing levels of public debt, external trade imbalances and high external vulnerability pose a threat to business investments. Efforts are underway to improve the rule of law and business security, but no clear outcomes are yet visible from government efforts to reform procurement, the labor market, the business environment, transport regulation, and education.

58. North Macedonia: The country has one of the lowest revenue-to-GDP ratio in Europe and the Western Balkans, a growing deficit in the pension system and higher interest payments, which together create risks to fiscal sustainability, thus undermining confidence in the economy and business environment. A credible fiscal reform program directed to making public spending more efficient and broadening the tax base would help stabilize public debt, rebuild fiscal buffers against shocks and increase investors' confidence.

59. Serbia: Macroeconomic conditions are improving, but challenges remain to improve the rule of law and business security in the country. To enhance growth and increase business competitiveness, reforms are needed to reduce the government's intervention in the economy and restructure the energy and transport sectors in the country. Optimism regarding future EU membership together with a relatively good business climate and high FDI are expected to encourage private investment and foster growth. However, vulnerability to risks related to domestic politics and weaker growth in Europe are a threat to growth.

60. The innovation environment is relatively weak in the Western Balkans. Agriculture and food innovation systems are complex and constantly evolving. Innovation is necessary to accelerate the transformation of the sector and foster the growth of agribusiness. The Global Innovation Index 2017, however, shows that the innovation environment in the Western Balkans is far from being able to deliver on sector transformation, particularly in Albania and BiH (see Table 11).

TABLE 11. THE WESTERN BALKANS RANK POORLY IN THE GLOBAL INNOVATION INDEX

	Albania	BiH	North Macedonia	Montenegro	Serbia
Global Innovation Index	93	86	61	48	62
Institutions	62	71	45	48	50
Human capital	91	39	77	49	54
PISA scales in reading, math, & science	57	N/A	68	52	43
Tertiary enrollment, % gross	44	N/A	66	48	43
Gross expenditure on R&D as % GDP	95	88	69	72	40
Infrastructure	66	96	80	54	62
Market sophistication	41	79	59	65	99
Business sophistication	102	90	56	58	79
Knowledge & technology outputs	118	92	83	57	53
New businesses	65	77	32	17	53
Creative outputs	100	98	56	48	70

Note: Rank out of 127 countries.

Labor costs

61. Labor costs are much lower in WB countries than in most EU-15 countries and, despite recent increases, should remain so in the foreseeable future. Labor costs in the region are comparable to costs in the EU's NMS (see Figure 16). Low labor productivity, however, offsets low labor costs, inhibiting this cost advantage from translating into a comparative advantage for the region. However, there are some examples of transfers of production to the region from the EU-15 area due to lower labor costs (cucumber and gherkins production in BiH and Serbia, see Box 4) or the competitiveness of some products (raspberry, sour cherry, plum). In Albania, North Macedonia and Serbia, agricultural wages are lower than the overall average and than the average for manufacturing (see Table 12). However, in Montenegro, average wages in agriculture are higher than the overall average as well as wages in manufacturing. In BiH, wages in agriculture are lower than the overall average, but higher than average wages in manufacturing.

62. Shortages of labor in agriculture are a problem in the region, but labor availability is still better in the WB than in NMS and EU-15 countries. The WB region has a number of worrying demographic and employment trends. Poverty and unemployment have stimulated emigration from WB countries. The long period of economic transition has discouraged many WB citizens of hope for a prosperous future; people are leaving the region attracted by better perspectives and higher wages in the EU and other parts of the world.

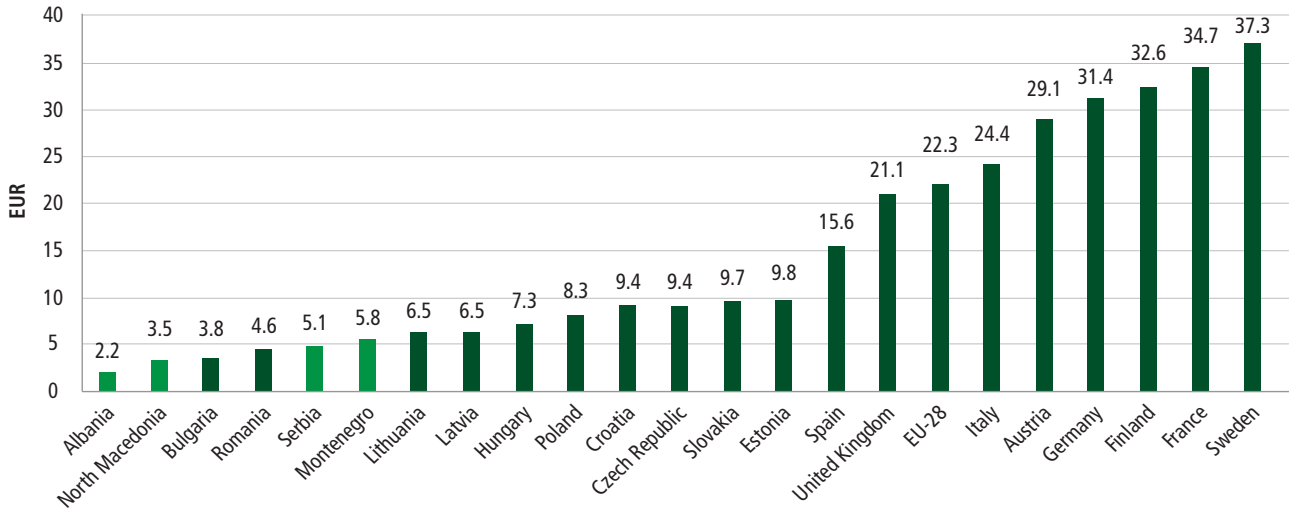
63. For agriculture, permanent and seasonal migration of labor has significant implications. The following paths have been observed in WB countries where agricultural worker wages are lower than average wages in other sectors: (i) migration towards urban areas and to formal employment in other sectors; (ii) seasonal workers moving towards seasonal jobs out of agriculture (for example in tourism in Montenegro and Albania); and (iii) seasonal workers moving towards seasonal jobs in EU countries where seasonal jobs in agriculture receive relatively higher wages (e.g. fruit and vegetable harvest jobs in Italy and Germany).

Agricultural policy

64. The WB agricultural policy is a mix of EU accession obligations and divergence between the needs of the sector strategic objectives and policy implementation. Weak public institutional capacity exposes policy-making to political influences and implementation strategies (budget allocations) that fail to address policy goals and sector needs. In addition, there is lack of results-driven and evidence-based agricultural policy in the region, which limits the ability of the public sector to formulate strategic directions for sector development.

65. Regional problems may need regional solutions, while still aligning to EU policies in the sector. All WB countries are in the process of accession to the EU, which requires them to adapt to CAP policy and institutions. WB countries

FIGURE 16. LABOR COSTS PER HOUR, EUR

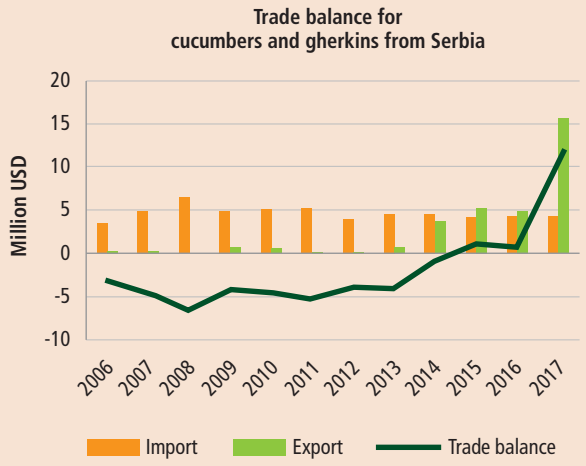


Source: Eurostat.

BOX 4. RELOCATION OF GHERKIN PRODUCTION

In 2014, Germany increased the minimum wage, which negatively influenced the competitiveness of labor-intensive crops such as gherkins. Therefore, major producers of gherkins in Germany relocated their production to the WB region, primarily in BiH and Serbia, but also in Kosovo, North Macedonia and Albania.

In Vojvodina (Serbia), gherkin production involves large vegetable producers using harvest platforms with a minimum surface area of 17 ha, which is the operation capacity of a single platform. Another production model, which is dominant in the rest of the WB region, involves small surface areas which can be harvested by a family. Each model has its specific advantages and both are sustainable. The initial success and the production/export boom, however, can be expanded by using methods to increase the yield and the share of first-class products, by opening more processing factories (the largest of them is located in Vojvodina) and the diversification of exports to other destinations.



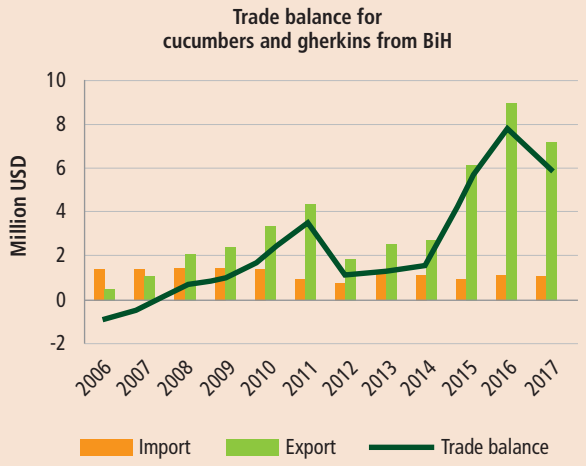


TABLE 12. AVERAGE WAGE BY SECTOR

	Albania (Lekë)		BiH (KM)		North Macedonia (Denari)		Montenegro (Euro)		Serbia (RSD)	
	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017
Average	47,522	48,967	853	862	23,457	23,850	499	510	46,097	47,893
Agriculture	34,062	36,264	785	757	16,909	17,847	539	527	38,595	41,820
Manufacturing	40,334	43,104	626	645	18,832	20,581	431	426	39,212	41,038
Wholesale, retail	33,984	34,627	613	626	21,100	22,225	528	539	36,144	37,810

Source: SEEDEV using data from each country's statistical offices.

are developing formal strategic documents to align with the EU requirements, but the policies are not always addressing the sector needs. A key issue is the wide use of the EU as a justification for the creation of direct payment measures, which are not in line with the CAP. WB countries use many different forms of direct support and they vary greatly from country to country. The number of payment schemes is increasing while changes towards less distorting and more EU-like schemes are rare.

66. Public spending in agriculture displays significant variations and is not correlated with output growth across WB countries. Between 2010 and 2015, total budgetary transfers to agriculture as a proportion of GDP was just 0.26 percent in Albania, 0.49 percent in Montenegro and Kosovo, 0.51 percent in BiH, 0.72 percent in Serbia and 1.14 percent in North Macedonia (see Figure 17). During the same period, growth of agricultural value was 14.8 percent in Albania (lowest relative budget envelope) and 14.4 percent in Montenegro, compared to a decline in agricultural value added of 2.3 percent in North

Macedonia (largest relative budget envelope) and BiH, 5 percent in Serbia and 10.1 percent in Kosovo.

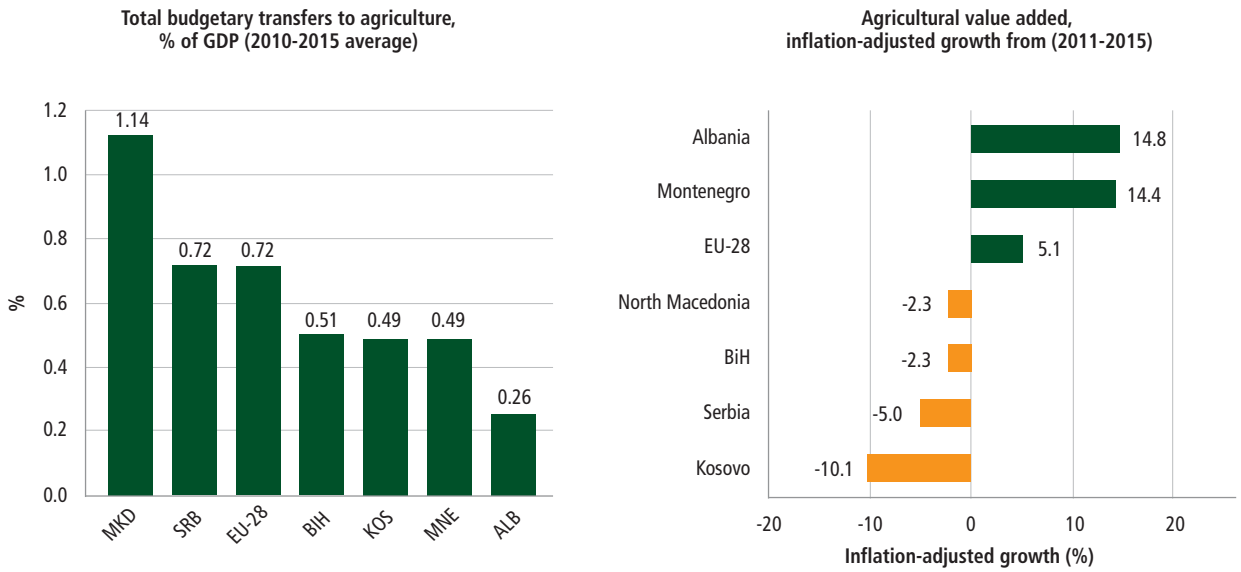
67. Albania: The overall budgetary support for agriculture increased in 2015, with structural and rural development measures receiving 61 percent of the overall financial support, up from 39 percent in 2014. General measures related to agriculture covered about 24 percent, while direct payments accounted for 15 percent of the overall budget. Market support measures have not been implemented in Albania, although the increased budget investments directed to structural measures via investments is a positive development.

68. **BiH:** The agricultural budget covers a large number of different direct payment schemes for both crops and livestock. In 2011, most of the price support payments were replaced by area payments in the Federation. The dairy sector receives more than half of the total direct support (57 percent in 2015), while the rest is divided between other sectors. Republica Srpska increased the budget in 2018 from 60 to 71 million KM, but it still keeps the complicated direct payments (price support) scheme for a large number of commodities. The eligibility criteria (most area- and animal-based payment schemes require the sale of products to the market) indicate that the direct support policy is directed towards market-oriented producers, which are a minority in the country. In January 2018, BiH adopted an agriculture and rural development strategy relevant to the whole country. The document accounts for analyses, objectives, measures and plans that are already in force and have been implemented within the framework of the Entity strategic documents.

69. Kosovo: The budget for supporting agriculture was 57 million EUR in 2017, which is above the average of the WB countries considering the size of Kosovo's agriculture (per hectare and per farmer). The sector has been supported through direct payments (subsidies) and rural development measures (grants). Both measures are equally distributed. In 2016, total support through direct payments was 26.1 million EUR, although the initially planned budget was 23 million EUR. In 2016, the program served 43,000 beneficiary farmers.

70. North Macedonia: From 2010 to 2015, an average of about two thirds of total direct support went to the crops sector, mostly tobacco (about 30 percent), vineyards and field crops (about 13 percent each). Regarding structural support, North Macedonia was eligible for EU funds through the first IPARD program 2007-13 (IPARD 1), which started with a public call in 2009 and finished with payments to end users on December 31, 2017. IPA 2014-2020 will provide 104 million EUR for North Macedonia's agriculture and rural development over seven years, of which 60 million EUR have been programmed under IPARD 2 to support its farmers, its food processing sector and rural small businesses.

FIGURE 17. BUDGETARY TRANSFERS TO AGRICULTURE ARE NOT CORRELATED TO GROWTH OF VALUE ADDED



Source: APM database, OECD and World Development Indicators.

71. Montenegro: Direct support is mostly aimed at the dairy subsector, accounting for 50 percent of total funds. The eligibility criteria for direct payments are mostly set in favor of larger producers (rather high minimum requirements and no upper limits), which are not strongly represented in the Montenegro farm structure. Montenegro is the only country in the region in which the budget and institutional capacities for rural development investments have been increasing year after year.

72. Serbia: There have been significant changes to the schemes used to support agriculture in Serbia since 2010. Direct payment schemes, payment rates and specific eligibility criteria for payments have changed several times since 2010. For instance, until 2011 the vast majority of direct support was granted in the form of input subsidies for crop production (seeds, fuel and fertilizers). The livestock sector was supported only by a dairy premium and some headage payments for high-quality breeding animals. In 2012, a single area payment for crops was introduced, and the number of input subsidies and their payment rates decreased in the following years to the point in which input subsidies were canceled, the area payment decreased to 2000 RSD (less than 20 USD per ha) and the budget was transferred to livestock-related direct support. During the last 3 years, direct support amounted to 71 percent of the budget structure, and payments for rural development measures doubled. The Ministry of Agriculture consolidated institutional capacities and 3 public calls for IPARD were announced in 2018. The IPARD funds assigned to Serbia for the 2014–2020 period total 175 million EUR.

Market development

73. WB countries are well positioned in terms of market openness, access to inputs and overall market potential. In addition, the overall expected trend is that further market integration will take place, particularly within the European Union. This will increase the market size and enable larger-scale production for farmers and agri-processors in WB countries.

74. The WB region has access to major markets including the EU and CEFTA, as well as bilateral agreements with Turkey, but still protects its own markets. Access to other markets has not been reciprocated because the Western Balkans have not entirely opened their own markets to other countries and often introduce custom and non-custom barriers for certain products. Typical examples include: (i) a unilateral breach of the SAA with the EU when Serbia increased customs for meat and milk imports; (ii) the non-custom barriers introduced by Albania and North Macedonia to flour imports from Serbia; (iii) the obstacles from North Macedonia to wine imports from Serbia, etc.

75. There is a small number of agricultural producers operating in modern market chains in the WB region. This is due to largely uncompetitive commercial producers operating through informal channels while the costs of their production's standardization is high. In addition, there is low competition among processing facilities. Low competitiveness in primary production combined with lack of competition in food processing creates a significant problem for the development and expansion of agribusiness markets in the Western Balkans. Failure to attract investments to the food processing sector, the inability to meet EU export standards for a large number of products, the unreliability of policy support, underdeveloped institutions, and high tariff protection significantly affect the competitiveness of agribusiness in the WB region. This results in short market chains for small producers, usually ending on the local green market, in the neighborhood or with a wholesale buyer. However, there are several examples of value chains that are almost exclusively export-orientated: e.g. high-protein soybean products and apples from Serbia (see Box 5), and raspberries from Serbia, Kosovo and BiH.

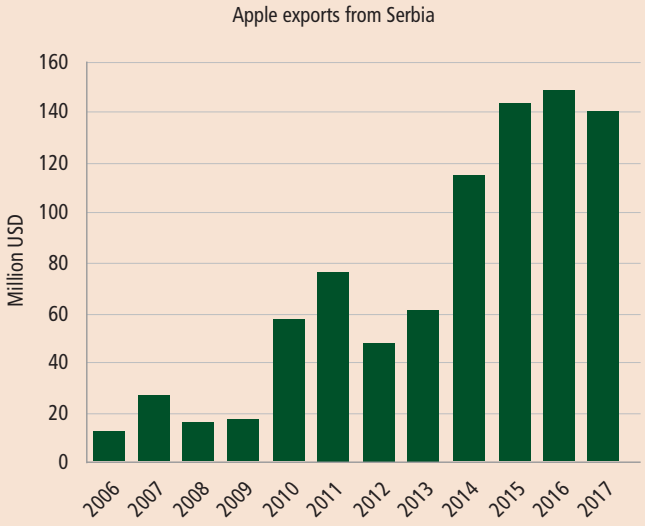
Climate and risk management

76. While climate in the WB region is well-suited for agriculture, droughts combined with high temperatures are a hazard for agricultural production. Droughts in 2000 and in 2012 affected the entire region. The year 2011 had even less rainfall than 2012, but yet average production was better in 2011 because the low precipitation was not accompanied with high temperatures (see Figure 18). Droughts affect spring crops the most, including maize, soybean, sunflower and sugar beet. Wheat, barley and oilseed rape are affected less frequently; variations in the yields of this crops are smaller because their vegetation is more likely to end before the beginning of a drought period. However, this does not mean that wheat is not affected by unfavorable weather during the harvest (lots of moisture, cold weather), not enough moisture collected in the soil during the winter, or by early droughts in May or June. Fruit and vegetables are affected by drought as much as cereals and oilseeds. However, providing that they are mostly grown in zones covered by irrigation or in enclosed spaces, droughts may still affect the yield though to a lesser extent and cost.

77. Floods and hail are quite ordinary but have localized impact on agriculture in the region. Floods are frequent and

BOX 5. APPLES: A SUCCESS STORY OR AN EVER-GROWING RISK FOR SERBIA?

Between 2006 and 2017, the value of apple exports from Serbia to Russia increased from 13 million USD to more than 140 million USD. Serbia became the largest apple exporter to the Russian market. More than 200 Serbian producers and companies export apples to Russia. Is this trade pattern sustainable? This boom occurred primarily due to Russia's political decision to ban fruit imports from the EU, thus another political decision may cause the boom's collapse. Once an if the ban is lifted, cheaper apples produced, for instance in Poland and in other EU countries, would largely push Serbian apples out of the Russian market. A very high concentration of exports to a single market (Russia accounts for 86 percent of Serbian apple exports) represents a major vulnerability and entails a considerable risk for producers.



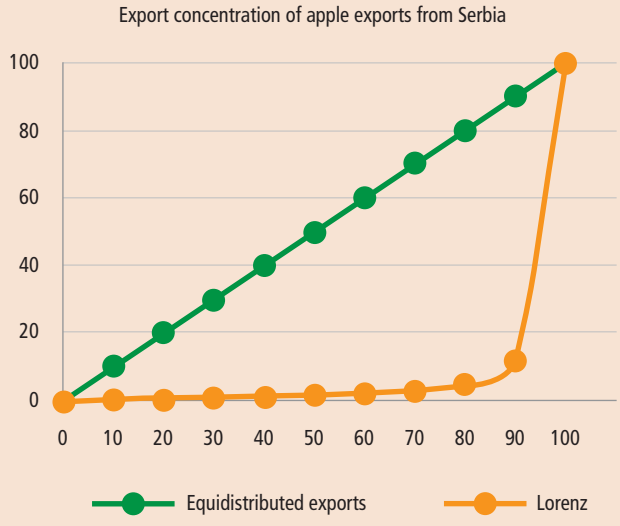
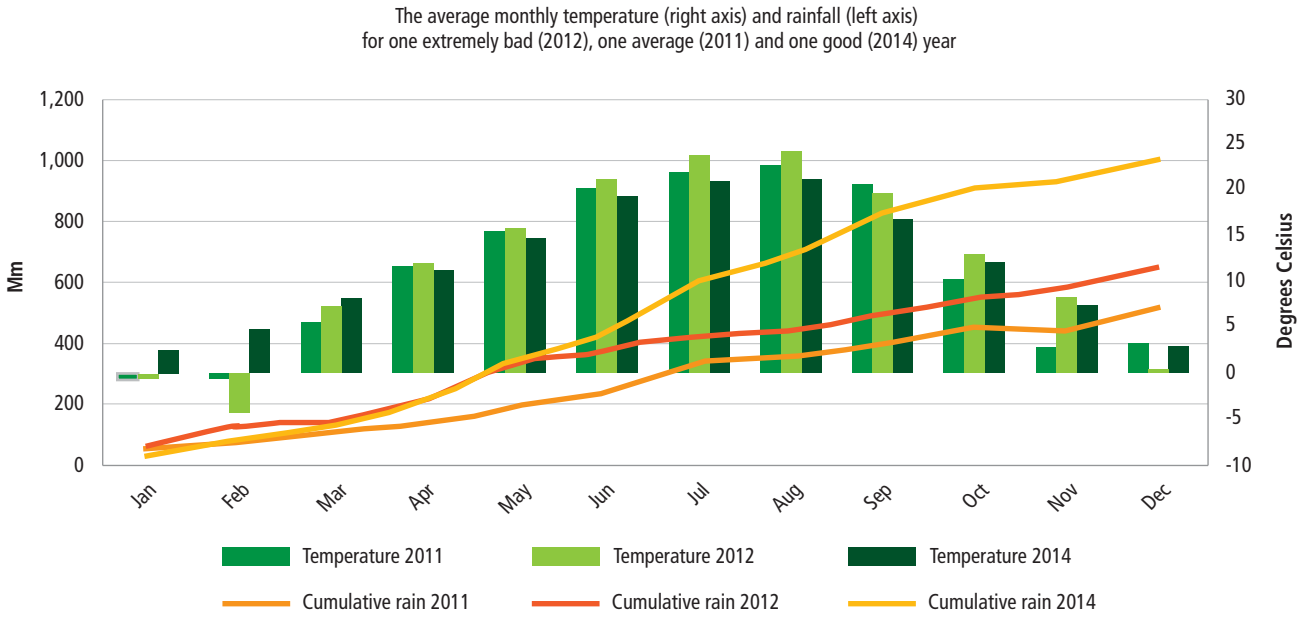


FIGURE 18. AVERAGE TEMPERATURE AND RAINFALL



Source: SEEDEV.

bound to generate the greatest damage in the Serbian plains, but fast mountain rivers can cause damage too. Floods are usually a local problem and rarely affect large territories (except in 2014, when major damages were recorded in Serbia, BiH and Croatia). Hail is frequent during the summer months, which affects crop production. However, these damages are localized, occurring in some villages or parts of municipalities. North Macedonia, Serbia and BiH have organized anti-hail systems based on anti-hail rockets. Producers of highly-valuable fruit productions cover plantations with anti-hail nets. The mounting of this nets is usually partly subsidized through public funds.

78. The irrigated surface area in the region is relatively small. However, the quality of the irrigation data is questionable throughout the region. In Serbia, for example, wells do not need to be legalized if they are up to 50 meters deep, and even if this depth is exceeded, they sometimes remain unreported. Furling irrigation systems (tifon) can be moved from plot to plot and perform irrigation to their maximum capacity. Statistics records their total number but not the total area in which they are used. There are numerous reasons why the total surface covered by irrigation is so hard to identify, but it is quite clear that the available statistics underestimate the scope of irrigation. For example, Serbia officially irrigates 32,600 (2015) ha and BiH 2,300 ha. Yet, intensive fruit and vegetable production is inconceivable without irrigation, and the area dedicated to just these crops in the two countries is a few times larger than what the official data on total irrigated land indicates.

79. Commercial producers usually irrigate fruit and vegetables plantations, but producers of field crops face financial constraints to make the required investments in irrigation. Small non-commercial producers use traditional methods to water their gardens, or they do not water their crops at all. The level of irrigation in the region is primarily influenced by the structure of production and producers, followed by the technical possibilities to easily access water, and the access to investment capital. Regarding open field cultures, the irrigation of wheat is not profitable, soybean and sugar beet almost always require irrigation, while maize would often need it but this usually proves to be unprofitable. Considering that the structure of the production and producers has been changing slowly but steadily, irrigation totals have also been on the rise, but are still lower than in developed agricultural countries, and do not meet the region's needs. In the countries in which water cannot be obtained from shallow wells and the state must provide water, such as Albania, Montenegro, BiH and the regions of Dalmatia and Central Serbia, the growth of irrigation has been slow.

80. The water for irrigation is either free or very cheap, but the cost of irrigation is nevertheless high, due to the consumption of gasoline. Serbia and BiH have so-called solidarity water payments (where everybody pays more or less the same amount—12 EUR/ha in Serbia—whether they irrigate their crops or not). Albania and Kosovo charge for water according to consumption and prices are somewhat high. Overall, the relatively low price of water in the region represents one of its competitive advantages. But, on the other hand, the power network is underdeveloped in the rural areas and this has a major impact on the costs of irrigation.

81. Agricultural insurance is underdeveloped in the region, regardless of efforts to improve the situation. The penetration of agricultural insurance is approximately 10 percent in Serbia, which is the highest in region. Almost always, only one type of indemnity insurance is offered in the WB countries although there have been efforts to introduce index-based insurance products. Serbia, BiH and North Macedonia subsidize the cost of insurance premiums starting from 40 percent of the cost in Serbia to 80 percent in North Macedonia. The main reasons for an underdeveloped agricultural insurance sector include: (i) an unsuitable farm structure, where the owners of bigger, less-tenured and more highly-leveraged farms are more prone to pay crop insurance, but where insurance is too expensive for small farmers; (ii) low value crops' production still dominates the region and low outputs per hectare decrease the need for insurance; (iii) ad hoc compensation by the government. Farmers are aware that they will be compensated by the state or local government and that it is thus more important to lobby the them through media and farmers associations than to have insurance; (iv) the low profitability of agricultural insurance in comparison with other insurance products demotivates insurance companies to prioritize agriculture.

Agricultural credit

82. Many factors influence agricultural lending and only a comprehensive approach can facilitate access to credit and promote financial inclusion in the WB region. While competition among banks is relatively high in BiH and Serbia, there is little competition for agricultural financial services in Montenegro, Kosovo and Albania. In addition, access to information about farmers' credit worthiness and agricultural conditions is limited in all countries, which increases the costs of banks' operations and loans. There are also significant problems with the collateralization of agricultural land in Kosovo and Albania. It is worth noting that financial institutions are investing in digital technologies

with the objective of providing standardized analyses and reduce transaction costs in the WB region. Country-specific observations are included in Annex C. While there are some significant differences in the agricultural and finance sectors amongst the five WB countries (Albania, BiH, Kosovo, Montenegro and Serbia), their agricultural finance systems share many common elements.

83. Banks (some/several but not all) are interested and have liquidity to lend to agriculture. The banking sector in the WB countries is competitive and banking systems appear quite liquid. Banks are interested in serving the agricultural sector and several that already do, have invested in credit approval systems, loan products and specific training for staff to cater to agricultural clients. Many of the banks that cater to the agriculture sector are of foreign ownership (NLB, Raiffeisen, Credit Agricole, ProCredit, Intesa, etc.), offer financing at competitive rates, and benefit from the know-how of their parent companies. Banks report relatively low NPLs and profitable margins. There are some differences amongst countries, being that banks (and MFIs) in Serbia, BiH and Albania are more interested in agricultural finance, compared to those in Montenegro and Kosovo.

84. Banks tend to focus on larger and less risky clients. Banks focus on larger farmers and medium and large agribusinesses. For these clients, banks offer both shorter-term working capital credit and longer-term loans for equipment, machinery and silos. The lack of collateral and financial records, the lack of awareness on the farmers' part, and informality are some of the reasons why banks do not cater to smallholder farmers and small agribusinesses. Also, the nonexistence of information systems that enable banks to assess risks, needs and agricultural conditions, in order to develop the right financial products, as well as the absence of information about farmers' creditworthiness, are other key reasons to explain why banks prefer to focus on larger clients for which such information is easier to obtain. In some countries with MFIs, such as Albania, BiH and Kosovo, smallholder households have access to financial services but at quite a high cost. Also, credits tend to focus on short-term financing needs and not on longer-term investments needed to raise farmers' productivity, improve the value added of their products and/or connect them to markets. In several countries, off takers and input suppliers provide some financing in terms of inputs to smallholder farmers but such financing is usually to cover short-term needs. Because these providers prefer that banks lend directly to the farmers, they have been reducing their portfolios over the recent years.

85. There is a lack of risk management instruments. Banks choose the lower risk clients for which they can obtain information at low cost due to their (client) size. This relationship-banking approach, and the fact that larger clients do have financial statements and business plans, enables banks to assess credit risks and serve these clients at a very low cost. There are opportunities for countries to set up credit guarantee schemes focusing on riskier clients for which currently such programs do not exist. Unlike more developed countries, guarantees do not have a country "institutional" home and rely on programs by IFIs and donors. EBRD and IFC,for example, do offer risk sharing facilities but the up take is limited since they require "soft" money to take first losses (10-20 percent) and banks are still not willing to take risks for smaller clients even with RSF. There are some European funds, like EIF, that offer highly-subsidized partial credit guarantees but these are, again, utilized by certain banks and mostly for general SME portfolios. Agricultural insurance can be found in some countries (e.g. Serbia and perhaps Albania) but tends to be unsophisticated, covering the "easy" risks (like hail) and relying on copying products from other countries. The lack of reliable and timely agri-climatic and production data limits the development of products and make it a challenge to adapt products from other countries to local conditions. In addition, there is lack of awareness by farmers about insurance which is often linked to the existence of off takers' and input suppliers' agreements which are limited for small farmers unconnected to markets.

86. Lack of aggregation mechanisms. Unlike many countries in Northern Europe (Netherlands, Germany, Austria, France, etc.), where small producer associations and cooperatives have played a critical role in linking smallholder farmers to finance, inputs and output markets, such producer associations and cooperatives are weak or nonexistent in the WB countries, and are often associated with the past regimes and have bad reputations. There are very few such cooperatives and producer organizations that seem to be functional. As such, aggregation mechanisms are missing that could enable smaller farmers access to finance, inputs and output markets. Traders and off takers do provide aggregation services, but the balance of power is clearly tilted towards them with smallholder farmers getting the smaller percentage of value added in their transactions with such entities.

87. Key areas that would enable financial institutions to extend more credit to agriculture, particularly to smaller farmers, based on the analysis of the five WB countries agricultural finance systems (see Annex C) include:

- Market, agro-climatic and production information systems that enable banks to assess the agricultural conditions and needs of smallholder farmers and design and market the right products for them;
- Linkages between smallholder farmers and off takers. Financial products, such as insurance and credit, are much easier to design and distribute to smallholder farmers when they are part of a package of other non-financial products and services, most often associated with linkages between farmers and off takers;
- DA services will generate new data and increase the flow and transparency of information. For example, digitizing payments in agriculture will provide valuable information to banks on the cash flows to these farmers. Digital platforms connecting farmers to markets will reduce market risks. Precision farming with digital technologies will reduce costs, improve yields and reduce climatic risks making smallholder agricultural production less risky. Digital financial services (or DFS) can lead to substantially lower distribution costs to reach smallholder farmers;
- Evolution of new risk management instruments. Credit guarantee schemes with suitable local institutional backing, as well as agricultural insurance, can provide a significant level of comfort and replace traditional collateral for banks' lending to smallholder farmers. Insurance and credit guarantees can benefit substantially from improving information systems for agriculture. Without such information systems it is almost impossible to map risks, price them and design risk management mechanisms to address these risks;
- Raising awareness and promote farmer training. There is a huge scope to raise awareness and train farmers on finance and insurance issues. Awareness raising and training should be accompanied by information systems in financial services and insurance.

88. Refocus government policies. The usual instrument of governments to promote bank lending to agriculture consists of interest rate subsidies (to lower the cost of credit). However, interest rates in many WB countries are already low and banks are liquid, yet lending is limited for smaller farmers. It is not a matter of cost but more of managing risks and creating the conditions for banks to lend to smaller farmers. Reducing transaction costs and promoting risk management instruments could be a better focus for government policies moving forward. Similarly, the governments' response to insurance adoption is to offer premium subsidies which are not enough if farmers do not see the value added of insurance and if information and data preclude the analysis of risks and the design of suitable insurance products to market to these farmers.

IV. The Pathway to Change:

A framework towards improving productivity and increasing competitiveness of agriculture in the Western Balkans

89. The successful transformation of agriculture can unleash on- and off-farm economic growth, create jobs, raise income and improve the livelihoods of people in rural areas throughout the WB region. Identifying the drivers of the structural transformation and designing effective interventions are critical to accelerate the process and produce outcomes that meet both economic and social goals. The macro-drivers of the transformation include: (i) strong institutional capacity, (ii) a well-developed strategy for the sector, and (iii) targeted policy interventions that act as both pull and push mechanisms to incentivize a behavior change in farmers and agri-processors, and support the sector to overcome development hurdles (e.g. low capital investments and R&D spending).[10]

90. To achieve this, WB countries need to improve the productivity and increase the competitiveness of the agricultural sector. The results of the analysis presented here point towards capital investment and the expansion of the knowledge and innovation agenda as the two critical factors to accelerate the structural transformation of the agricultural sector. These can significantly increase the labor and land productivity of agriculture and strengthen the forward and backwards linkages of the sector with the agri-food industry. For example, closing a quarter of the gap in the stock of agricultural capital per worker relative to EU-28 levels would increase agricultural labor productivity by 76 percent in Albania, 82 percent in BiH, 30 percent in Serbia and 6 percent in Montenegro. The effects on jobs and growth can be significant.[11]

91. The public sector can play an important role in driving this process. Improving the institutional capacity of the public sector and aligning financial resources towards productive ends are important factors for improving the productivity of

10 See Boettiger, Denis and Sanghvi (2017) for a detailed discussion of the drivers of the agricultural transformation.

11 The input-output analysis carried out in a World Bank report finds that in Albania the agri-food industry is responsible (directly and indirectly) for almost half of economy-wide jobs, while in North Macedonia (where the economy has already embarked in a diversification process) it creates nearly a third of employment (World Bank, 2017).

the sector. Targeted and business-motivated capital investments (through rural development measures) and strengthening the research and development capacity of the public sector (for knowledge generation and dissemination related to on-farm and off-farm production needs, as well as sanitary and food safety needs) are critical drivers of sector growth. The findings suggest that Pillar 1 decoupled support per hectare has small but significant positive impact on productivity, while coupled support per hectare reduces it significantly. Pillar 2 (rural development) support does not appear to statistically impact productivity, which can be attributed to the very low absorption of this agricultural policy instrument in the region.[12] On the other hand, increasing R&D investment so as to close a quarter of the R&D gap relative to EU-28 levels could increase agricultural productivity by 15 percent in Albania, 25 percent in BiH, 16 percent in North Macedonia, 18 percent in Montenegro and 6 percent in Serbia. Global experience shows that capital investments alone cannot achieve the desired outcomes, without improvements in knowledge and capacity and vice versa.

92. The private sector is a key driver in the process of structural transformation of agriculture. Private sector investments in capital intensification, knowledge formation, and innovation in agriculture are important drivers in the structural transformation of the sector. For these to increase in type and volume, however, the returns on the investments must be attractive. Large producers in the region are already benefiting. For medium and small producers, the (transactions) costs often exceed the benefits of private sector investments. Access to credit is an important catalyst of private sector investment and financial inclusion is critical for enabling all types of producers to be part of the agricultural transformation. Risk management mechanisms (such as agricultural insurance, associations, etc.) can provide the means for risk sharing that would makes investments more attractive. There is a need to implement targeted measures to increase access to agricultural finance, particularly for small and medium-size farmers and agri-businesses that are subject to high-interest rates and conditions that are difficulties to meet given the land structure and high transaction costs to mitigate risks, and asymmetric information. Through private sector investment, the forward and backwards linkages of the sector can also be strengthened, which can be critical for jobs and growth in the region.

12 The economic impacts of direct support to farmers (under Pillar 1 of CAP) are not negligible, but support allocated under rural development program (Pillar 2 of CAP) has double the effect on increases in employment, with farm modernization and food processing being important generators of jobs due to their labor intensity (World Bank, 2017).

93. Getting the incentives right is a challenge. With a long history of agricultural production, favorable agro-ecological conditions, geographical position vis-à-vis major markets and pre-accession financial resources, the Western Balkans have favorable conditions for completing the process of structural transformation. However, identifying the right incentives for improving productivity and enabling private sector participation and competitiveness in the sector has been a learning process. Linking strategic vision with specific sector objectives that are driven by improvements in productivity rather than other factors, has limited the effectiveness of public investments in the sector. Going forward, better understanding of the structural dynamics of the sector within the context of each country and linking those to support systems can yield better results. Targeting measures to typologies of producers and production needs is also important for productive inclusion and overall sector growth. Overall, public spending can be improved and better targeted to produce better outcomes in the region.

94. DA can play an important role in the transformation process. WB economies can accelerate their structural transformation and harvest significant social and economic dividends by taking advantage of opportunities created by emerging digital agriculture technologies to connect farmers to markets, increase productivity and efficiency and place the region on a strong competitive position in international DA and food markets. The adoption of digital agriculture technologies requires government interventions and investments to lower barriers to entry, incentivize the private sector to develop products suitable to the sector and region, and boost demand that could jump-start a domestic and regional DA market. DA can be a driving factor in the improvement of the AKIS agenda in the region.

95. Reaching the potential. The agricultural sector in the Western Balkans has an enormous potential. Improvements in factor productivity (land and labor) will require a more concerted and targeted effort of investing in capital and knowledge together, and across the board, reaching the large and the small producers. Public and private resources and knowledge are needed to transform these productivity improvements in the primary sector forward and backwards across the agri-food industry. For productivity improvements to translate into increases in competitiveness, clear, well-defined investment strategies need to be developed by producers, where production responds to market signals, where scale and uniformity of quality are generated, where credit is easily accessed and used, where risk sharing mechanisms are enabled and functional, and where the public sector provides the right incentives for support.

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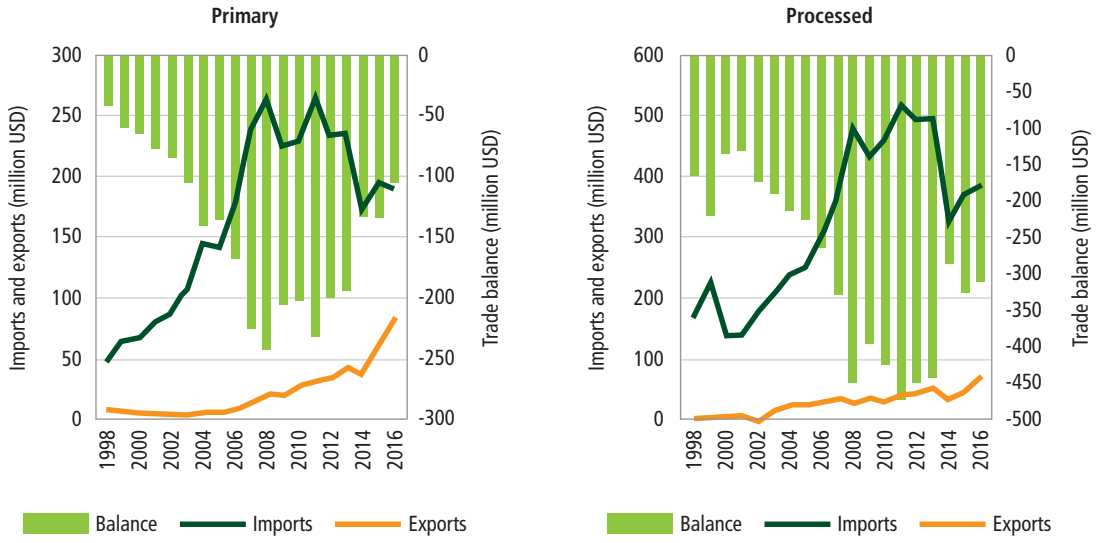
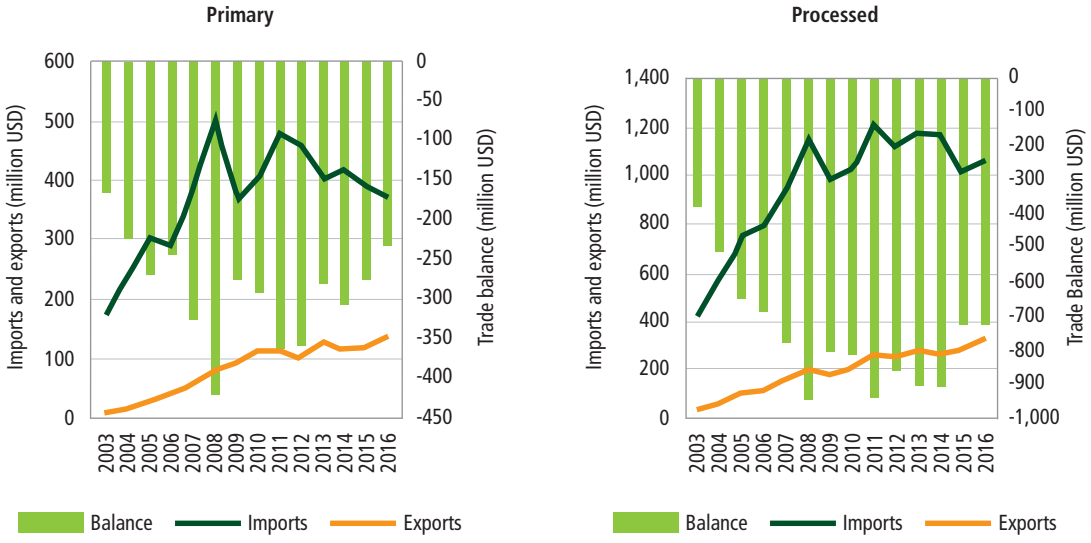
Annex A. Trade Patterns

FIGURE A-1. FOOD AND BEVERAGE TRADE, ALBANIA, 1998-2016, MILLION USD



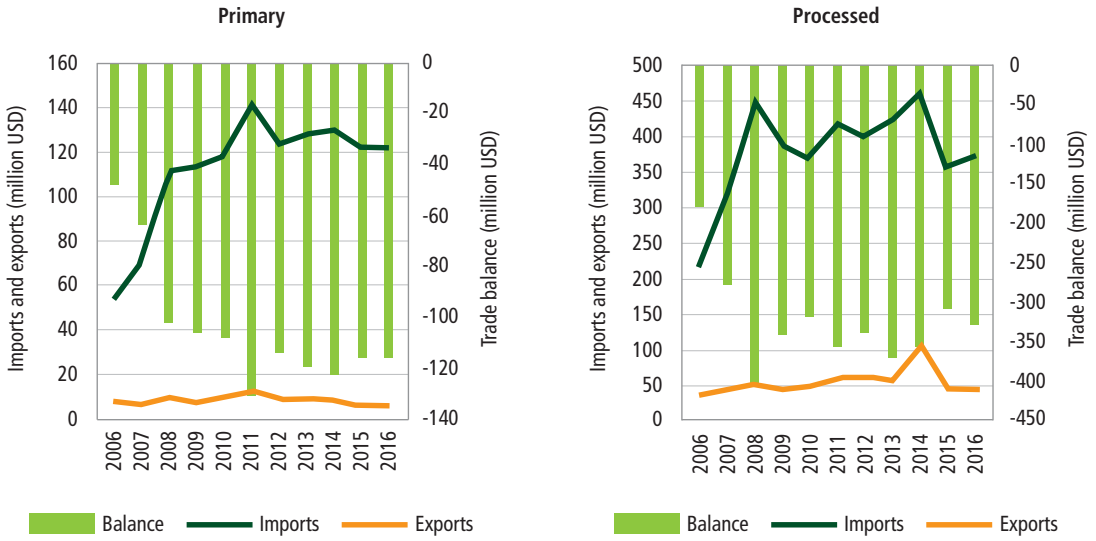
Source: Based on Comtrade data.

FIGURE A-2. FOOD AND BEVERAGE TRADE, BIH, 2003-2016, MILLION USD



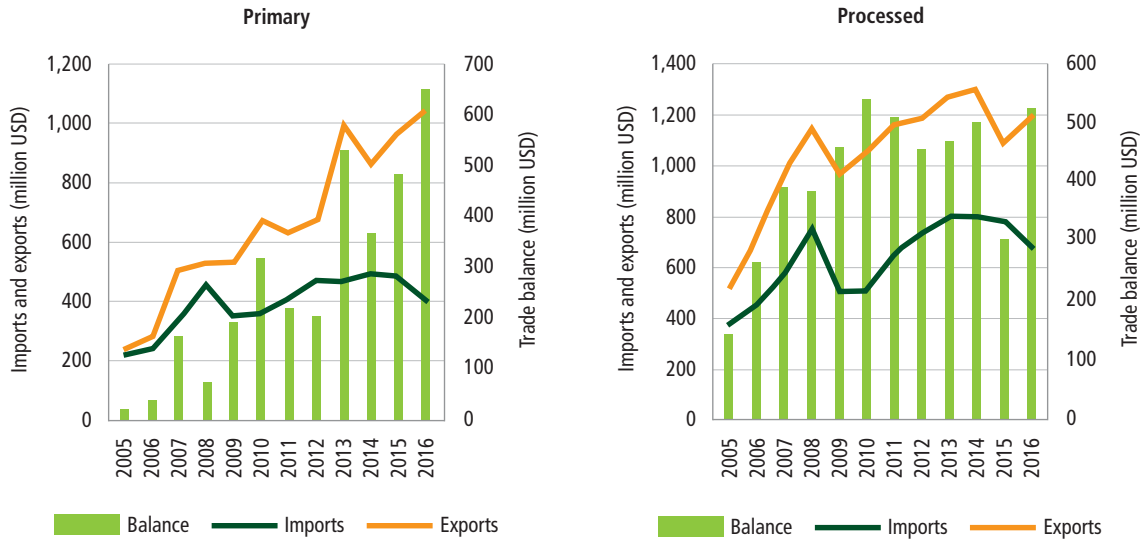
Source: Based on Comtrade data.

FIGURE A-3. FOOD AND BEVERAGE TRADE, MONTENEGRO, 2006-2016, MILLION USD



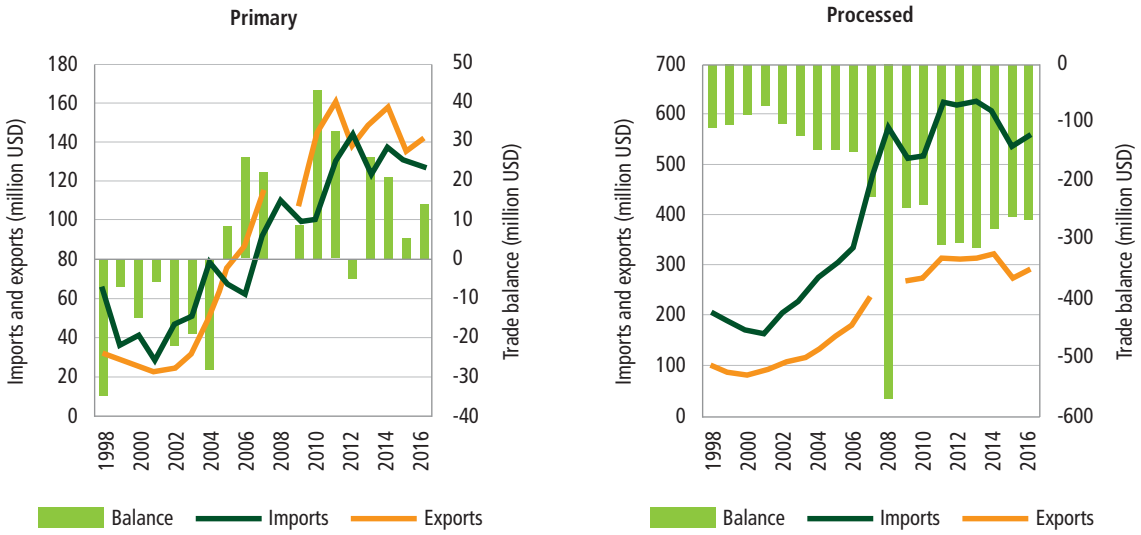
Source: Based on Comtrade data.

FIGURE A-4. FOOD AND BEVERAGE TRADE, SERBIA, 2005-2016, MILLION USD



Source: Based on Comtrade data.

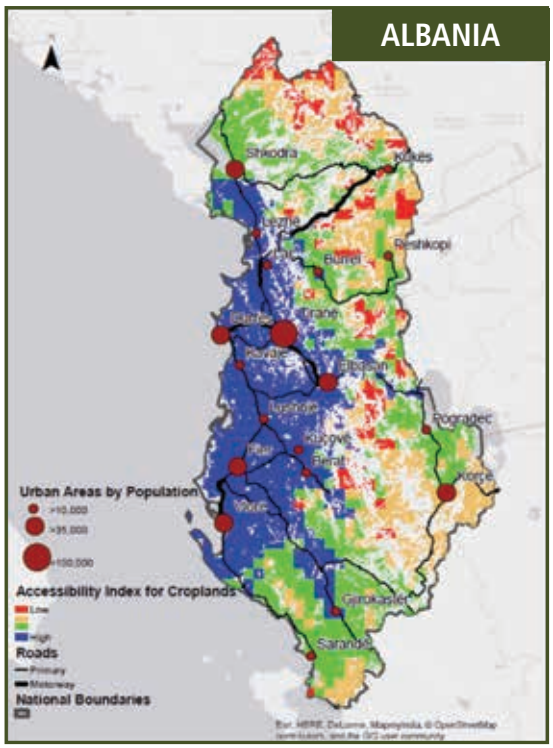
FIGURE A-5. FOOD AND BEVERAGE TRADE, NORTH MACEDONIA, 1998-2016, MILLION USD



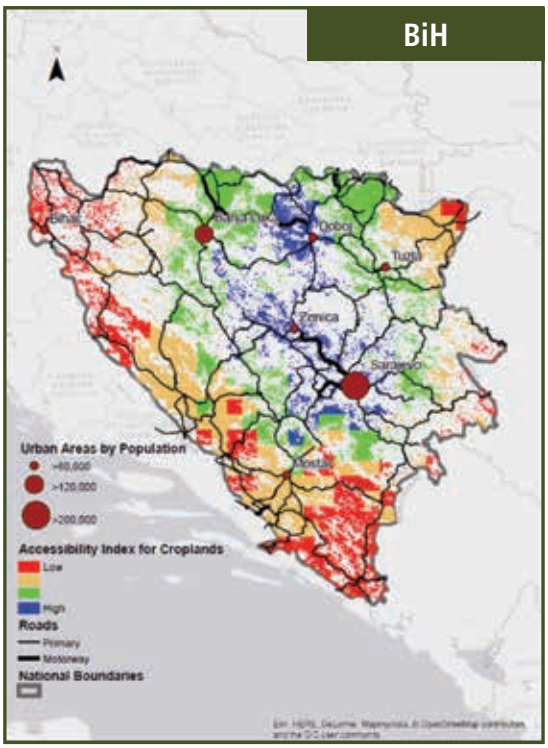
Source: Based on Comtrade data.

Annex B. Market Accesibility Index

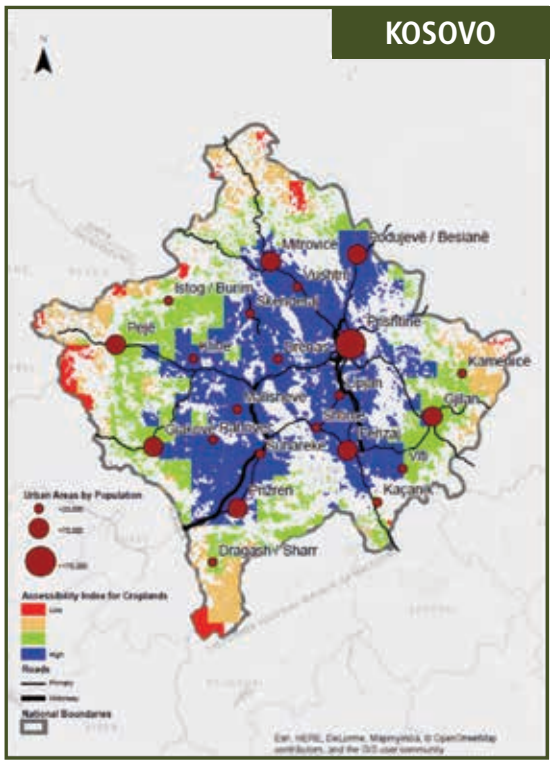
ALBANIA



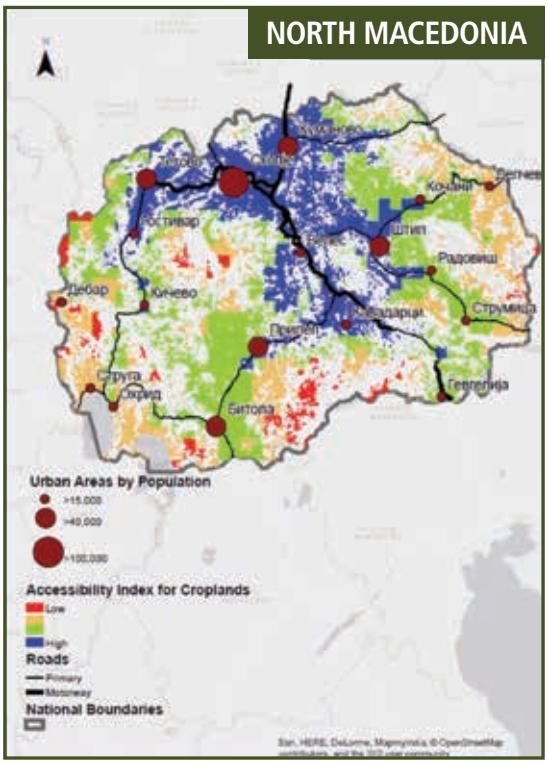
BiH

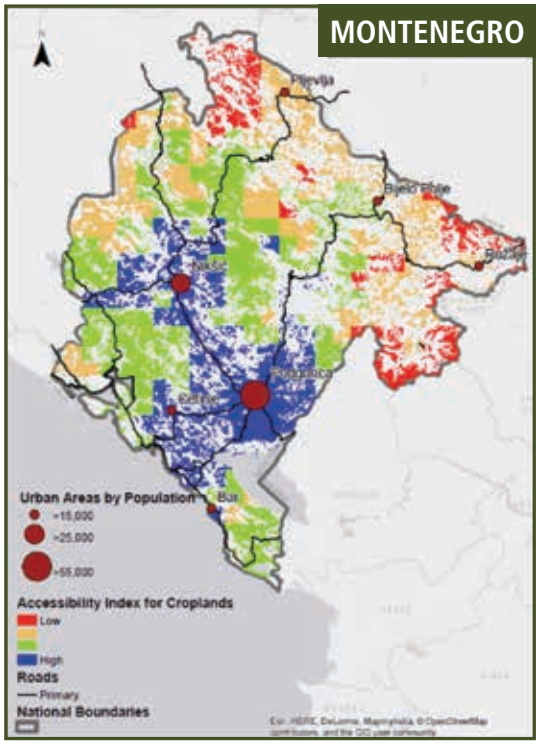


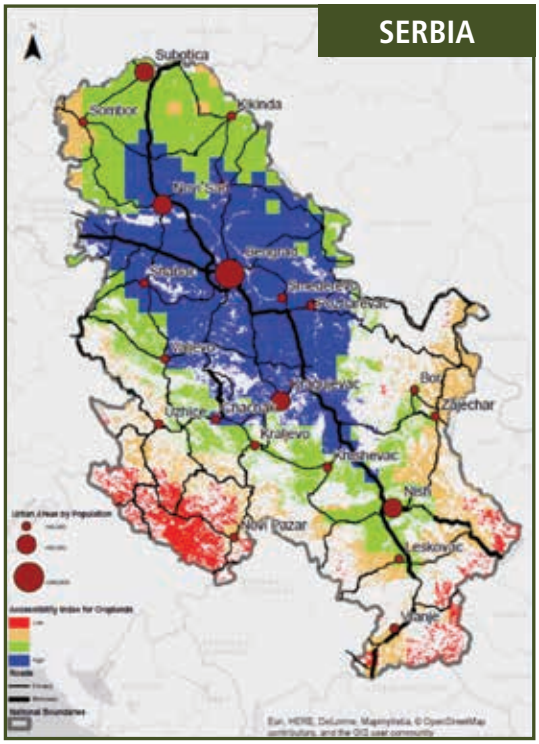
KOSOVO



NORTH MACEDONIA




MONTENEGRO
Urban Areas by Population
>15,000
>25,000
>55,000
Accessibility Index for Croplands
Low
High
Roads
Primary
National Boundaries


SERBIA
Subotica
Sombor
Kikinda
Zajecar
Nisa
Leskovac

Annex C. Agri-finance in the Western Balkan Countries

Agricultural credit in Albania

In Albania, 350,000 farmers, representing 50 percent of the population in rural areas, contribute more than 20 percent of GDP, but their financial inclusion or the presence of agriculture financing is low. Agriculture comprises less than 3-4 percent of all lending in Albania. Although financial institutions' CEOs have stated that agriculture requires millions of Euro of investment, the lack of financing to the agriculture sector is due, among others, by the challenges to develop capacity for agricultural lending in rural areas, the absence of cash flow-based lending, a lack of property titles for securitized lending, and no/very limited agriculture insurance to mitigate weather risks. Albania is prone to weather related risks such as flooding, spring frosts on horticulture, and hail. Agriculture insurance is not available to provide stability to farmers businesses in case of such weather related events making lending to agriculture a risky proposition. Farmers diversify their risks by planting multiple crops. There is some semblance of agriculture insurance, with the odd company copying agriculture insurance products from other countries, but with no adaptation to local data/conditions, resulting in excessive payouts and failure.

In conjunction with EBRD, the government (which contributes 30 percent) is part of a risk sharing program to underwrite 100 million EUR of agriculture credit. However, even though the program is in its third year, so far it has only lent 20 million EUR, with on-lending provided by Society General, ProCredit (9 million EUR with a minimum loan size of 30,000 EUR), Intesa and 2 MFIs: NOA (with 30 percent of its portfolio in agriculture and an average loan size of 3,000 EUR, credits up to 15,000 EUR without collateral for good clients, a few loans up to 100,000 EUR and NPL at 4 percent); and Fondi BESA (with 16 percent of their portfolio in agriculture, plans to expand to 25 percent in 2-3 years, and 5 million EUR of risk sharing with EBRD, of which 3 million EUR are committed with EBRD TA inclusive of new product development). Within the EBRD risk sharing program, if the client reaches certain ratios, collateral requirements are lowered by 20 percent. Banks lend to value added processors and MFIs lend to farmers in general. There is a new idea to pre-approve credit for farmers to speed decision making and disbursement in critical seasons and to time their payment post-harvest after the crop has been sold. Savings and credit unions do well as they have been lending to agriculture for a long time. FED Invest has 26 years of experience in social finance with a 3.4 billion lek portfolio in lending and savings covering 1,500 villages with 51,000 members. It started activities with 20,000 USD from the World Bank in 1992, and since 2015 is conformed by 70 savings and credit unions focusing on agriculture knowledge capacity building and lending. Fifty percent of its portfolio is in agriculture, providing financing to 70 percent of rural members.

Banks lend at interest rates ranging from 4.6-4.8 percent whereas MFIs lend at interest rates of around 20 percent. In general, banks finance agriculture value added processing, distribution or retail and, as of January 1, 2018, they can only finance entities with audited/public financial statements. This means that only MFIs will/can finance small primary production. The above-mentioned risk sharing program requires financial institutions to pay 1.5 percent of their exposed portfolio. Most debt is short or medium term. The share of NPL in the country as a whole is approximately 13.4 percent. Some MFIs, like NOA, have a basic understanding of the costs of production.

Though banks and other financial intermediaries are increasingly interested in the agriculture sector, they charge high interest rates, are not deeply knowledgeable on agriculture practices/costs/risks, and do not have the training and tools necessary to support sustainable agriculture financing. Financial institutions that provide credit, typically do so with high collateral requirements on a sector that is small in structure and, thereby, lacks collateral for current financing practices. These financial institutions do not perform appropriate client and business credit risk assessments, rarely mitigate the risks that are common and inherent to agriculture (i.e. with agriculture insurance), and do not have the appropriate agriculture lending products such as pre-season finance, cash flow-based lending, forward contracts and other financial products available in other countries. Because these types of products require a knowledge of agriculture that these institutions lack in order to reduce their collateral requirements, they view agriculture as risky and tend to "cherry-pick" agriculture lending opportunities, thereby limiting access to finance to select enterprises versus supporting good managers with good cash flow opportunities.

Farmers are ill prepared to understand agriculture finance, their responsibilities to provide the information and evidence of ownership (land lease, title, registration) that can formalize their application for collateralized debt. A lack of record-keeping and good accounting reflects badly on the farmers' possible solvency, revenue generation and stability, and the lack of standardization can lower loan assessment/loan transaction costs. Farmers need to learn how to prepare their property documents, basic financial statements, and articulate their plans for the use and repayment of credit. There is a suggestion to create an agriculture financing platform to link EPARD applications with bank lending and non-financial services (training to prepare financial documents, business plans, EPARD applications) in order to facilitate agriculture lending and foster productivity in agriculture.

All types of agriculture data are fragmented or unavailable in Albania. To build agriculture insurance, weather and production data is required. To provide financing services to agriculture, the costs of inputs and production, pricing and market information, as well as land registries are required among others. To maximize the uptake of EPARD, farmer registries would be useful. In addition, the need for statistics on agriculture production, diseases, new crop introduction, sourcing of supply, financing, etc., has been highlighted by FAO, the government and other stakeholder agencies. These informational systems are a prerequisite for full EU accession.

Agricultural credit in BiH

BiH has a highly competitive market of agricultural loans. This is the result of considerable competition among banks, generally owned by the agricultural lending leaders in the region (ProCredit, Intesa, UniCredit, NLB, Raiffeisen) combined with the relatively small size of the market. Besides, BiH does not have any other particular sector (like tourism in Croatia and Montenegro, or commerce in Kosovo) that could generate a sufficient number of clients to lure banks away from building up their agricultural portfolio. However, BiH has limited agricultural resources—a small number of good, large-scale clients and a large number of small-scale farmers operating in a gray area.

Small family farms are responsible for most of the agricultural production, and mostly obtain financial services from MFIs that charge high interest rates. This is the reason why over 35 percent of the MFIs' portfolio consists of credits to agriculture, even though the share of agricultural lending in to SMEs as a whole is just 3.8 percent. Banks are focused on large clients, so small commercial farms, too large for MFIs and yet too risky and expensive for the banks, remain uncovered by financial services. After 2014, which saw a historically high NPL rate of 14 percent, banks have become increasingly conservative and the agricultural portfolio has stopped growing despite the opportunities created by the country's newly acquired preferential status to access the Turkish market (for the export of flour, beef and sunflower seed oil) and a significant growth of labor intensive crops such as cucumber and raspberry.

Agriculture in BiH, together with agricultural lending, mainly depend on the trends in Serbia and, to a certain degree, Croatia. Due to the full openness and mutual connections with those markets, prices in BiH are identical to those in Serbia, and the majority of input suppliers and processors perceive these countries as a single market. Furthermore, in order to understand the trends in Bosnia, one must be acquainted with the trends in Serbia. Banks operating locally that understand this use a regional approach for agricultural crediting, with common methodologies, practices, technological maps, and even credit officers.

Agricultural credit in Kosovo

The agricultural portfolio is modest and has significant potential for growth. Many obstacles on both sides—demand and supply—are causing the agriculture portfolio to be serviced at a significantly lower level than what the sector's importance demands. Banks and MFIs are not able or ready to satisfy this demand because they either do not understand or are unable to manage the required regulations and market risks posed by agricultural producers. Lack of information and documentation in the agricultural sector and clearer/better opportunities to service other sectors result in a conservative approach to the evaluation of collateral and business plans in the rural areas.

Overall, the outstanding agricultural loan portfolio is stagnant at 70 million EUR/year. Among banks, agriculture is not a popular sector for lending. Bank loans contribute 80 percent of the overall portfolio, the lowest share since data started being recorded. The share of agricultural loans in overall bank financing was only 3.6 percent in December 2017 and decreasing. On the other hand, the agricultural loan amounts provided by MFIs significantly exceed the importance of agriculture in the overall economy, amounting to 26.7 percent of their portfolio and being persistently above 25 percent in last six years. NPL are reasonably low, at 5 percent for all sectors, and have never exceeded 8.7 percent, not even during the global financial crises or in 2012 when severe drought affected the whole region.

Collateral is one of the issues preventing farmers from applying for larger loans. Banks are more focused on covering their risks, concentrating less on the business opportunities and more on the collateral. They usually value land at 30–50 percent of its market value since it has become more difficult to sell land in the market in the event of loan failure and to recover losses through the liquidation of assets. An even more specific problem is the formalization of mortgages, since it is difficult to transfer land ownership even after the completion of court proceedings. This is an ongoing and seemingly intractable problem.

Agricultural credit in Montenegro

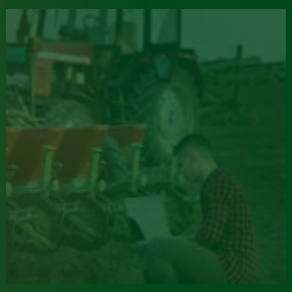
Agricultural loans in Montenegro are granted by banks and MFIs that are connected to a range of agricultural funds such as the IPARD, the IFAD fond, credits from the Arabian Fund, etc. Agriculture is not a priority sector for traditional banks and the number of clients is too small for banks to develop resources geared toward the sector. Additionally, a substantial number of banks operate exclusively in Montenegro and are thus unable to transfer lending practices and methodologies for credit worthiness assessment from other countries. Agricultural loans in Montenegro, when available, are subject to less favorable conditions for farmers than what is typically available to agricultural producers in other parts of the region.

Agricultural credit in Serbia

A number of banks are engaged with the agriculture sector and have developed capacity to target the sector. These institutions have well developed risk evaluation methods and focus on efficiency. The majority see agriculture as a sector in which they should, however, be selective and only deal with the best clients or opportunities (e.g. subsidized government loans with high margins). Because of constant increases in the minimal credit line, small farmers (with credit requirements below 5,000 EUR) are nor served by these banks.

The agricultural portfolio is growing, reaching 467 million EUR in December 2017. The number of credit clients is also increasing—from 37,383 in December 2016 to 43,024 in December 2017. NPL are still high (10.2 percent in December 2017). The main reasons for portfolio growth include: (i) continued low prices of cereals reduce farmer's profits and their possibility to finance crop planting with their own resources; (ii) growth in vegetable and fruit production requires additional investment; (iii) IPARD is increasing demand for investment credits (175 million EUR + 20 percent state contribution + around 50 percent beneficiary contribution); (iv) aggregators have had two consecutive bad years, where prices have remained stagnant from harvest to the time of sale, reducing one of their main sources of profit; (v) the need for loans for land purchases resulting from restitution, which amounts to some 100,000 hectares (experience shows that 70 percent of the land is offered to be sold and 20 percent to be rented); (vi) continuation of farmland consolidation will require banks support through credit lines; and (vii)integration with the EU will requires further investments to modernize farms across the country.











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