



Comparative analysis of the socio-economic developments and competitiveness of the agri-food sector at a sectoral and macro level in the pre-accession countries

Executive Summary



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EXECUTIVE SUMMARY

This study is a part of the project "Comparative analysis of agricultural sectors and rural areas in the pre-accession countries: Agricultural policy developments, situation of the agri-food sector and economic context" financed by the Directorate General for Agriculture and Rural Development of the European Commission and implemented by a consortium comprised of Stichting Wageningen Research (Wageningen Economic Research - WECR) and the Regional Rural Development Standing Working Group in South Eastern Europe (SWG).

The overall aim of the project was to gain more knowledge on the state of development of the agri-food sector in the Western Balkans countries (WB) and Türkiye as well as on the approximation of agriculture and rural development policies with the CAP, in order to be able to better design the instrument for the application of pre-accession assistance for rural development (IPARD) in the pre-accession countries.

The main objective of this particular study was to carry out a comparative analysis of the socio-economic developments and competitiveness of the agri-food sector at a sectoral and macro level in IPARD countries (Albania, Montenegro, North Macedonia, Serbia and Türkiye).

To address the above-mentioned objective, a set of specific sub-objectives has been defined, corresponding to different tasks:

- Collection of relevant data on and comparative analysis of market prices of the main agricultural products including the level of revenues and costs,
- Collection of relevant data on and comparative analysis of output value and yields of the main agricultural products,
- Assessment of rural/urban disparities using several indicators, such as: average age of population, levels of education, employment level, access to internet, road density and quality, etc. to complement conclusions on competitiveness and proximity to EU situation.

To fulfil the objective of this study, a methodology on how to measure competitiveness was developed. The comparative analyses were performed at three levels: 1) country, 2) sector, and 3) the product. The developed competitiveness framework distinguished five groups of indicators of competitiveness at country level. These groups of indicators were: 1. Resource and factor conditions, 2. Demand conditions, 3. Competition and firm dynamics, 4. Innovation and entrepreneurship, 5. Government. For the sector level analysis, one additional group of indicators (6. Related and supporting industries) was added to these 5 groups. For each of the indicator's group, a large number of indicators of competitiveness have been identified and analysed for each IPARD country. Data for the period between 2010-2021 on these indicators has been collected for the IPARD countries, as well as for a selected 5 neighbouring EU MS (Bulgaria, Croatia, Greece, Hungary, Romania). In addition, the EU averages have been collected for benchmarking purposes.

The comparative analysis of the competitiveness according to the framework developed in this study is carried out at two levels, at macro-level (country) and at agricultural sector level. For the subsector level competitiveness, we have studied yields and the revealed comparative advantage (RCA) for 15 selected main products within the various subsectors. Additionally, for the same products, in our study we have compared the producer prices between the IPARD countries and neighbouring EU countries. Regarding the analysis of the unit production costs and revenues, it is limited to 3 main agricultural (farm level) products that can be compared between the countries. Table 1 provides an overview of the tasks and activities performed to fulfil the objective of this study.

Table 1. Overview of the tasks and activities

Task no.	Activities
T.1	Cross-country analysis of main macroeconomic indicators in the IPARD countries Macro/Country level
T.2	Cross-country analysis of main agricultural sector indicators in the IPARD countries Sector level
T.3	Data collection and cross-country analysis of market prices of the main agricultural products and revenues and costs (e.g., input costs, etc.) in the IPARD countries Product level
T.4	Data collection and cross-country analysis on outputs and yields for the main agricultural products in the IPARD countries Product level
T.5	Inventory of data and cross-country analysis of rural/urban disparities in the IPARD countries Macro/Country level
T.6	Comparative cross-country analysis in in the IPARD countries, and with the EU MS (five EU neighbouring MS and EU average)

In this study, the competitiveness at the sector level is defined as “the ability of the sector to compete on international markets and provide return on capital to business owners and wages to employees, in a socially inclusive and sustainable way”. Competitiveness at country level is defined as “an economy with a sustained high rate of productivity growth, sustainable and inclusive, delivering high levels of employment, productivity and social cohesion”.

Below we present a short summary of the main conclusions and recommendations, with a short overview of data gaps.

Conclusions from the macro-economic developments

- IPARD countries are still a long way from the EU average in terms of macro-economic developments. The EU average GDP per capita is four times higher than in Türkiye and six times higher than in Albania. Also, in terms of employment (unemployment rates to total population) and earnings there is a considerable gap between the IPARD countries and the EU average. There are, however, signs of improvement, as the gap between the IPARD countries and the EU has been narrowing in the past 12 years.
- Education, health, logistics, R&D, entrepreneurship, and corruption are other macroeconomic factors that have been studied. IPARD countries generally score worse than the EU average on most of these indicators.
- Social protection, corruption and institutional trust are especially important barriers to strengthening competitiveness in Albania and North Macedonia.

- The COVID-19 pandemic has had a large effect on economic activities of IPARD countries. It had a negative impact on the GDP growth in 2020, especially in Montenegro. But also, other IPARD countries have seen negative growth rates in terms of current local currencies, with the exception of Türkiye, which is going through a special sort of economic crisis, with inflation rates at staggering highs. Furthermore, in almost all countries a reduction of exports has been seen because of disruptions in agri-food supply chains. Besides, unemployment has increased in 2020, although in 2021 a slight decrease has been noticed.

Conclusions from the country-level competitiveness

- In terms of group of indicators of Resources and Factor conditions, all IPARD countries underperform, compared to the five neighbouring EU MS included in the analysis, while for the other indicator groups, the situation is more varied.
- Overall, Albania and North Macedonia have the lowest scores on indicators' groups Competition and Firm dynamics, Innovation and Entrepreneurship, and Government. The best performing IPARD countries on these indicators are Türkiye and Montenegro. Demand conditions are less favourable in Türkiye and Montenegro. Serbia is in the middle of the IPARD countries, except for Resources and Factor conditions, which are somewhat more favourable than in the other IPARD countries.
- Related to group of indicators Government, Albania and Türkiye have a smaller share of government expenditures in GDP. A positive factor in Türkiye is a relatively high score on institutional trust. At the same time, corruption is relatively high in Albania and North Macedonia, and to a lesser degree also in Serbia and Montenegro. When compared with the EU MS, the IPARD countries are below the EU average, but the same can be said of some of the EU MS included in the comparison, such as Croatia and Romania.

Conclusions from agricultural sector developments

- The agricultural sector is very important to the economy of all IPARD countries and can offer a potential for competitive advantage to all IPARD countries.
- The small farm size is one of the weaknesses of the agricultural sector in IPARD countries as small farms are usually characterised by a low level of technology and equipment, low quality of buildings and storage facilities, low marketing bargaining power and high production costs, which in their turn lead to inefficiencies in production.
- Agricultural trade performance is increasing:
 - Serbia is leading among IPARD countries and is a net exporter of agricultural products;
 - Türkiye had a positive agricultural trade balance in 2021;
 - Albania has set the biggest steps in export, while North Macedonia and Montenegro are showing a steady export increase, but at a slower pace;
 - Export directions have changed: Exports have decreased from Albania to the EU and increased to the IPARD countries and the rest of the world, while exports from Serbia and North Macedonia to the EU remained stable and decreased towards other IPARD countries.

Conclusions from agricultural sector level competitiveness

- In terms of agricultural value added per worker, Resources and Factor Conditions and Competition and Firm dynamics, Montenegro has the best performance, followed by Türkiye. Albania has the lowest performance on agricultural value added per worker and is lagging behind on all other groups of indicators.
- From comparison of sector level and country-level competitiveness it can be concluded:

- The general government final consumption expenditure, and health expenditure, are more positively correlated with agricultural productivity than with overall productivity, indicating the importance of health care and government support in rural areas for the development of agricultural productivity.
- A higher R&D expenditure in % of GDP is more positively related to agricultural productivity than to the overall productivity, indicating that the agricultural sector would benefit more from R&D expenditure compared to other sectors.
- Higher rankings on both overall citation indicators and specific agricultural citation scores of Scimago are more positively related with agricultural productivity, pointing to the importance of science for agricultural productivity and development.
- Openness to trade (trade in % of GDP) is less strongly correlated with agricultural productivity than with overall GDP. This is probably because agriculture is just a relatively small part of GDP in many of the EU countries.

Conclusions from agricultural sub-sector developments

- Cow milk yields are particularly low in all IPARD countries. Despite the obvious increase in the productivity of cow milk in recent years in all IPARD countries, yields are only half of the EU-27 average, leaving much room for improvements in IPARD countries.
- Compared to the EU MS averages, goat and sheep meat yields are rather high in Serbia, North Macedonia, and Montenegro and can offer a competitive advantage for these countries. Similarly, the yields for goat milk per animal are high in Serbia, outweighing the EU averages, while North Macedonia is relatively close to the EU averages.
- High fruit and vegetables yields in most of IPARD countries are also promising for enhancing the competitiveness of the agricultural sector. Hereby, Albania has a leading position among IPARD countries, where for all fruits and cabbages and other brassicas, it has higher productivity compared to all IPARD countries (except for Türkiye for citruses and apples) as well as to the EU-27.
- In terms of yields for cereals, Albania and Serbia have the highest productivity, equal to or higher than the EU average, while North Macedonia and Türkiye have a somewhat lower productivity. For potatoes, in all IPARD countries, except for Türkiye, the yield is twice as low as in the EU-27, thus there is a room for further improvement.

Revealed Comparative Advantage (RCA) was calculated for several selected agricultural products as a main measure of agricultural trade performance. The results show that the IPARD countries have some specific specialisations that give rise to trade opportunities:

- in Albania: the largest RCA is in vegetables, such as cucumbers, tomatoes and chillies and peppers, and in eggs;
- in Montenegro: largest RCA is in meat, followed by products, such as grapes, milk, and cereals;
- in North Macedonia: the largest RCA is in vegetables, then in fruits, such as apples and cherries and grapes, and sheep meat;
- in Serbia: Fruits, such as apples and sour cherries, honey, milk, and cereals are competitive;
- in Türkiye: RCA is most positive for eggs, but also quite large for fruit and vegetables and cereals.

Despite the increasing yields and high volumes of agricultural outputs contributing to the growing exports of agricultural products, some further improvements are needed. The main problems with exports reported by NEs are related to product quality and not complying with the quality standards.

Conclusions from rural-urban disparities

Analysis of urban rural disparities revealed that:

- Education shows a large disparity between rural and urban areas. Although there are some differences between the assessed countries, findings show that access to primary education in the rural areas compared to urban areas is more difficult or education is even inaccessible. Reasons mentioned are the lack of services, distance to school, lack of transport and high poverty. Also, in distant rural areas due to the decreasing number of schoolchildren in primary schools, schools are closing. Hence, those families that stay face challenges of how to provide primary education for their children – that is the main reason why the young generation migrates.
- Gender (equality) analysis show that, with some minor differences between the countries, overall women have disadvantages in many areas, including land ownership, labour market participation, position in employment, low access to capital and weak access to the societal and economic environment that surrounds the farm and so on.
- Migration and brain drain are main drivers for the continuing rural depopulation. Many family farm members are migrating due to the reduced economic opportunities, limited social services, education opportunities, and social welfare. In the WB countries, migration takes place also outside the country, while in Türkiye the migration is high, but only from rural to urban areas within the country. This might be due to low education and qualification, lack of foreign language competency and cost of mobility.
- A poorly developed infrastructure and long travel time negatively impact the competitiveness of IPARD countries. Infrastructure is less developed in border areas as well as between much of the WB countries. The same applies to the Eastern part of Türkiye bordering Georgia, Armenia, and Iran. Serbia has better infrastructure than the other WB countries. Partly this is caused by the less mountainous terrain. Especially Albania has undeveloped rural infrastructure, in particular in the mountain areas, which is unfavourable for local rural development.

Recommendations

- Invest in quality of trade and transport infrastructure:
 - Points that need to be addressed include both soft infrastructure, such as the legal environment, implementation of the EU standards and the capacity of food inspection services, and hard infrastructure, such as roads and waterways and the post-harvest losses related to the lack of cold chains (e.g., cold storage capacity, sorting and transportation). These can be done by increasing the budget for all types of infrastructure. Additionally, financial support for cooperatives and investment in advisory services are seen as major route to further improvements. Hereby, IPARD III (2021-2027) measures (in particular, Measure 6) are of special importance to the beneficiary countries and can support further improvements in this area. Furthermore, private investment (e.g., in cold storage facilities) could be stimulated by attractive loans provided by agricultural banks, e.g., backed by government guarantees and/or credit subsidies.
- Unemployment - create incentives for youth in rural areas:
 - Keeping young people in rural areas is a major challenge if wages are low and unemployment is high. Limited employment opportunities and low wages are also the reasons causing migration and brain drain, particularly in the case of young people that might be able to find better paid jobs in other EU MS. Creating opportunities for young people in rural areas is therefore seen as a major point of attention. Hereby, stimulating youth entrepreneurship by creating some financial incentives for start-ups, such as concessionary loans or zero-interest loans, or providing entrepreneurship education and training on how to start business in rural areas, is recommended.

- Increase yields by applying technological innovation, schooling and cultivating not used lands, while keeping a good balance between efficiency improvements and sustainability issues by implementing a Smart Specialisation Strategy:
 - This can be done through education and schooling, through state support in technological innovation, R&D incubators and demonstration projects for farmers, by organizing education trips to neighbouring EU MS for transfer of knowledge, by promotion of best practices and knowledge exchange. Advisory services should play a key role in this.
 - This recommendation is however debatable as on one hand increasing yields can contribute to enhancement of competitiveness, whereas, on the other hand, at this moment the adverse trends and policies can be seen in the EU-27, where due to growing challenges of climate change and sustainability, the intensive agriculture with maximized outputs is no longer stimulated. Hereby, a good balance should be sought among improvements in yields and sustainability issues, with production methods that combine sustainable and efficient production principles (e.g., circular agriculture or e.g. applying principles of sustainable farming, using, e.g., seeds that need less chemical inputs and/or water). In this regard, the further development and implementation of the Smart Specialisation Strategy (S3) by WB countries and Türkiye is of essence, as S3 strategy encompasses a broad view of supporting technological and social innovation and will build on the resources available to countries and on their specific socio-economic challenges to identify unique opportunities for development and growth.
- Enhancing the existing export potential by investing in quality and quality standards:
 - In all assessed countries there are one or more agricultural subsectors that can offer a competitive advantage (RCA). Especially fruits and vegetables offer a high potential for exports for most of the IPARD countries. Therefore, investing in product quality (e.g., cold chains, more efficient sanitary checks at the borders) and development and implementation of the quality standards is of high importance, as this will allow to enhance the market share for the exports (e.g., to the EU or worldwide).
- Developing internal markets for the basic products to enhance food security and rural development:
 - Although the products that offer a competitive advantage to the countries (i.e., which have a high RCA) are of high importance for enhancing the competitiveness of the countries, those basic products which do not offer a competitive advantage for trading across borders, such as milk, also need attention and further development, as these basic products are essential for internal/domestic markets and ensure food security and rural development.
- Invest in education, especially in rural areas:
 - Decreasing the disparities between rural and urban areas in education and providing access to basic educational services by improving road infrastructure and other basic infrastructure (e.g., in mountains, where roads cannot be used in some parts of the year, thus restricting access) is of major importance. Furthermore, improvements in education in rural areas can be achieved by not only investing in infrastructure, but also in additional training facilities, and for teacher training provision in vocational schools and training centres. Development of various non-formal education programmes in the field of agriculture and food technologies aiming at increasing the educational level of adult population, with vocational skills in rural areas, can contribute to decreasing unemployment and raising awareness in knowledge-based innovation. Furthermore, harmonization of vocational education and training, with the needs of the labour market is advisable.
- Invest in digital capacity:
 - The future is digital, while farmers in IPARD countries are generally not very well connected to the digital infrastructure. Training in the use of digital

networks and investment in digital capacity can provide good opportunities for increasing competitiveness.

- Improve agricultural data collection through FADN:
 - The competitiveness and the performance of the countries are assessed on the basis of the quality and the availability of the data. Thus, in the absence of data, it is hard to draw clear conclusions about the state of the country. The comparison with the EU MS is also difficult due to differences in definitions of specific indicators. Harmonization of the data and collection through FADN is therefore recommended.
- Invest in R&D:
 - The findings show that the investments in R&D and science have a strong correlation with (labour) productivity in general, and especially with the agricultural value-added per worker in agriculture. Investing in R&D can improve the agricultural productivity, and also the overall and agricultural sector competitiveness.

Data gaps

A large dataset was compiled with information on socio-economic and agricultural indicators. Data was collected from international databases, such as Eurostat, FAO, World Bank and ILO and from national statistics offices.

Because the aim of this research is to perform a comparative analysis of the macro-economic and agricultural developments and to benchmark the competitiveness of the IPARD countries with each other and with the EU, a necessary condition for the data collection is that data are available and comparable for all or at least the majority of IPARD and EU countries.

International datasets are generally lagging behind national sources in terms of time coverage, as it takes time to collect data from national bureaus of statistics. This is particularly true for global datasets, such as most World Bank and FAO data series. But for the sake of consistency and comparability the use of international statistics is recommended. This is because the national definitions may sometimes differ from harmonised international definitions of indicators. From the data collection efforts, several conclusions are drawn:

- With regard to group of indicators at the overall country level, for IPARD countries (and also for part of the EU countries) there is no consistent data on:
 - Total factor productivity;
 - Capital productivity;
 - Innovation (firms that innovate, patents or any comparable measure);
 - Entrepreneurship in agriculture;
 - Mean nominal monthly earnings in agriculture in Albania, Montenegro;
 - Educational indicators, such as educational attainment rates, completion rates and enrolment rates, are very fragmented and mostly incomparable. The Legatum Institute composite measure of the Education level of the adult population is however a satisfactory indicator that can be used to compare the countries.
- For determining competitiveness at sector level, the same information is missing as at country level, but in addition the following are missing:
 - Numbers of firms and size;
 - Investments in agriculture;

- Costs of production. Some comparable data was collected on input prices, but not for all countries;
- Prices of agricultural land: no data was found for IPARD countries.

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