VALUE CHAIN ANALYSIS FOR MEAT AND MEAT PRODUCTS

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Abstract

Value chain of food products, presents a chain of activities through which a product goes from raw material to product that is suitable for consumer and during each of these activities in the chain the product is getting additional value. Value chain analysis technique that conceptually links steps from production, processing, distribution to sale, enables us to analyze each step in relation to the previous one and in relation to the next step in the chain, to sale of food products.

The goal of this paper was to, through analysis of business operations of different subjects in the value chain for meat and meat products in the area of northwest Bosnia and Herzegovina identify competitive pressures, key constraints and market opportunities, as well as requirements for food safety. Approach to survey data for analysis of the value chain for meat products is based on a combination of qualitative (Porters five forces and Porters diamond) and quantitative research methods based on official statistical data.

Key findings for value chains for meat and meat products as well as key recommendations for improvement of competitiveness of enterprises and for ensuring food safety in observed value chains were identified during the work. Each of analyzed value chains for poultry, pork and beef meat shows certain level of specificity, value chain for beef and value chain for pork meat show high level of similarity in regard to the stakeholders and value chain structure. Enterprises from value chain for poultry meat processing and production of chicken meat products show the highest level of competitiveness out of the three observed chains.

Key recommendations on company level is to work on improvement infrastructure conditions to meet food safety standard and joint action in area of marketing and promotion of products.

Key words: Value chain, Meat, Competitiveness, Food safety.

1. Introduction

Food industry is of great importance within the economy of each country. Meat is one of the essential foodstuffs, and plays a significant role in the human diet because of its nutritional properties. Industrial production and processing of meat in Bosnia and Herzegovina suffered a significant change after 1996, as compared to the period before 1992. A recovering of the food industry during the period after 1996 is to be noticed, but significant limitations which are preventing faster progress still exist.

One of the main characteristics of the value chain for meat and meat products are underdeveloped animal production and trend of a decreasing number of livestock. It is evident that the number of cattle in 2014 is less than in 2005 by about 3.5% whereby the quantity of pigs decreased by approximately 18.5%. On the other hand, the production of poultry is increasing with a slight decline in 2014, but a 137.8% increase of the number of poultry between 2005 and 2013 is noticeable [1].

Livestock farms in Bosnia and Herzegovina can be divided into three sectors [2]:

- Farms in households - (bovine: 1 cow; pigs: one sow, 1 - 3 pigs for fattening; poultry: 1 - 20 hens, broilers 1 - 50).
- Small farms - all other farms, for example, those that mainly produce for sale, but are still below the size that is commonly considered to be economically sustainable for a full time farm in Western Europe.
- Commercial farms - (cattle: over 20; pigs: more than 20 sows, about 200 fattening pigs per cycle; poultry: over 500 laying hens, broiler chickens for fattening in 1000 per cycle).

Because of its poor livestock fund Bosnia and Herzegovina imports live animals, so the total import in 2012 amounted to just over 50 million euros with an decrease in 2014 by 34.0% [3]. Main reason for this is the Croatian entrance into European Union and leaving...
CEFTA agreement, and now who? is obligate to pay taxes on import from Croatia. The bulk of import of live animals originates from Serbia (51.0% in 2014). On the other hand, the total export of live animals from Bosnia and Herzegovina is a little more than 2 million euros for 2014.

The number of slaughtered cattle and pigs in Bosnia and Herzegovina has trend of continual decreasing. One of the reasons for the reduced number of slaughtered cattle is the continued growth of import of meat and edible parts of animals, increasing by more than 107.8% from 2010 to 2014 [4]. The largest amount of meat is imported from Netherlands, Poland, Germany, and Austria.

On the other hand, export of meat and edible parts of animals also had an upward trend until 2013, when there was a fall of about 24%, primarily due to the inability for export to Croatia, which became a member of the European Union. The data in 2014 there is decreasing export by 42.0% mainly because Turkey opens their market for Bosnian product [5]. The biggest export poultry meat was in Serbia and beef meat in Turkey. By comparison, the export-import ratio is very low at around 8.6%, if we look at the year 2014.

Looking at trade, in compliance with customs tariff numbers, according to data for 2014, it is evident that the greatest value of imports with over euro 58 million accounts for products from meat of bovine animals [6]. As far as the import of live animals is concerned, the main part refers to the import of cattle. In the chapter that is dealing with food products from meat, it is evident that most of the import refers to sausages and canned products. In relation to export during the observed period, the highest export value was recorded for canned products, poultry meat and edible meat offal of poultry, sausages and live poultry.

By use of a qualitative analysis of the food industry sector in the municipalities of northwest Bosnia and Herzegovina, the value chain for meat and meat products has been identified as a sub-sector with significant growth potential [9].

A value chain is a chain of activities where products pass through all activities of the chain in sequence, and at each activity the product gains some value. The chain of activities gives the products more added value than the sum of added values of all activities [11].

Value chain analysis (VCA) provides government policy makers and company management included in value chain, with a systematic tool which allows them to understand the processes in the industry/company and especially know the costs related to the various steps in the chain [11].

Value chain diagnoses typically focus on a particular product or market and in this application, a value chain must also look at supporting institutions and their role in reducing costs, addressing market failure and spreading information and knowledge [10].

The value chain is a chain of activities which a product is passing through, and during each of these activities, within the supply chain, the product gains added value. One of the most important aspects related to the application of the value chain approach is based on the fact that measures that have been taken within one part of the value chain have an impact on all of the following steps in the value chain [10]. Some of the measures are irreversible (e.g. subsequently to their slaughtering, cattle cannot be sold as livestock anymore).

Main goal of this paper was to, through analysis of business operations of different subjects in the value chain for meat and meat products in the area of northwest Bosnia and Herzegovina identify competitive pressures, key constraints and market opportunities, as well as requirements for food safety.

2. Materials and Methods

During this study, we used the technique of Value-Chain-Analysis (VCA), which conceptually interconnects the steps: production, processing, distribution and sales and allows us to analyses each step in relation to the preceding as well as to the subsequent step within the value chain.

We are conducting research on region north-western Bosnia and Herzegovina which cover 36 municipalities (Figure 1).
First step was creating map of generic value chain for meat and meat products, as shown in Figure 2, and after that creating specific map for different meat: pork, beef and poultry. During mapping of all this value chains we were identifying all actors in the value chain which were subject qualitative analysis.

The data survey approach within the scope of the value chain analysis for meat products was based on a combination of qualitative and quantitative research methods. For quantitative research we used official data given by authorities in Bosnia and Herzegovina and information available on internet. For qualitative research methods we made interviews with participants in value chain for meat and meat products. We are developing specific questionnaire guidelines as it shown in Table 1 based on Porter's five forces (Figure 3) for interview with companies including in value chain for meat and meat products.

Table 1. Questionnaire guidelines for interview with companies included in value chains of meat and meat products

<table>
<thead>
<tr>
<th>Rivalry (find out how they compete with each other, and how do they cooperate as competitors)</th>
<th>Do you, as business-owner know about your competitors and your competitors’ strengths and weaknesses?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bargaining power of suppliers (how do their relationship with their suppliers affect their company competitiveness and strategy)</td>
<td>Do you cooperate with any of your competitors on issues of common interest?</td>
</tr>
<tr>
<td>Bargaining power of buyers (how do their relationship with customers affect their competitiveness and strategy)</td>
<td>What is your advantage and disadvantages over your competitors as?</td>
</tr>
<tr>
<td>Threat of new entrants (what are they coming from?)</td>
<td>Who are your main suppliers?</td>
</tr>
<tr>
<td>Threat of substitutes (products that can replace your)</td>
<td>Does your relationship with your suppliers give you a competitive edge over your competitors? What is your contractual relationship with these suppliers?</td>
</tr>
<tr>
<td>Bargaining power of buyers (how do their relationship with customers affect their competitiveness and strategy)</td>
<td>What is your bargaining power and advantages or disadvantages when negotiating prices for supplied products?</td>
</tr>
<tr>
<td>Bargaining power of buyers (how do their relationship with customers affect their competitiveness and strategy)</td>
<td>Do you receive valuable support and technical advice from your suppliers?</td>
</tr>
<tr>
<td>Bargaining power of buyers (how do their relationship with customers affect their competitiveness and strategy)</td>
<td>What is your strategy for improving your bargaining power with your suppliers?</td>
</tr>
<tr>
<td>Threat of new entrants (what are they coming from?)</td>
<td>Who are your main buyers?</td>
</tr>
<tr>
<td>Threat of new entrants (what are they coming from?)</td>
<td>Who are your most demanding (sophisticated) customers, and how do they stretch you to improve your performance? Can you meet their demands?</td>
</tr>
<tr>
<td>Threat of new entrants (what are they coming from?)</td>
<td>What is your contract relationship with these buyers?</td>
</tr>
<tr>
<td>Threat of new entrants (what are they coming from?)</td>
<td>What is your bargaining power and advantage or disadvantage when negotiating prices with your buyers?</td>
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<tr>
<td>Threat of new entrants (what are they coming from?)</td>
<td>What is your strategy for improving your bargaining power with your buyers?</td>
</tr>
<tr>
<td>Threat of substitutes (products that can replace your)</td>
<td>Are there new businesses entering your market or field of business?</td>
</tr>
<tr>
<td>Threat of substitutes (products that can replace your)</td>
<td>Why are they able to enter your market or field of business?</td>
</tr>
<tr>
<td>Threat of substitutes (products that can replace your)</td>
<td>What are their advantages or disadvantages relative to you?</td>
</tr>
<tr>
<td>Threat of substitutes (products that can replace your)</td>
<td>Do the products on the market that could replace your products?</td>
</tr>
<tr>
<td>Threat of substitutes (products that can replace your)</td>
<td>Is there a drastic technical change or changes in demand affecting the competitiveness of your products?</td>
</tr>
</tbody>
</table>
For qualitative research of competitiveness north-western region of Bosnia and Herzegovina we use Michael Porter’s ‘Diamond’ of competitiveness (Figure 4).

![Figure 4. Porters diamond of competitive advantages](image)

Factor conditions cover: natural resources, climate, location, unskilled and semi-skilled labor, debt capital [8]. The structure and management systems of firms in different countries can potentially affect competitiveness. If rivalry in the domestic market is very fierce, companies may build up capabilities that can act as competitive advantages on a global scale. Home markets with less rivalry may therefore be counterproductive, and act as a barrier in the generating of global competitive advantages such as innovation and development [12].

If the local market for a product is larger and more demanding at home than in foreign markets, local firms potentially put more emphasis on improvements than foreign companies. This will potentially increase the global competitiveness of local exporting companies [12].

Customers with very demanding requirements can provide valuable insights into their standards and their direction. Very often these demanding customers are even willing to assist their suppliers to reach a certain level of performance [8].

When local supporting industries and suppliers are competitive, home country companies will potentially get more cost efficient and receive more innovative parts and products. This will potentially lead to greater competitiveness for national firms [12].

3. Results and Discussion
3.1 Structure and strategy of leading companies

The north-western Bosnia and Herzegovina has always been famous for its broiler poultry production, as well-known companies like Agrokomerc from Velika Kladusa, and Zivinoprodukt from Srbac. Today, the leading companies in the north-western Bosnia and Herzegovina area within the value chain of poultry meat are those companies which to a higher extent have established a rounded production cycle within the scope of their own processes inside their companies or based on outsourced processes to their subcontractors. Most of the meat processing farms, but also the biggest poultry farms are located in the area of the municipalities: Srbac, Prnjavor, Derventa, and Gradiska. Most of these farms are subcontractors for companies in the north-western Bosnia and Herzegovina region, but also some of them are supplying other big slaughterhouses in the Federation of Bosnia and Herzegovina.

Nowadays, leading company in the value chain of poultry meat is Perutnina Ptuj S Ltd. Srbac. The company Perutnina Ptuj S Ltd. Srbac was established by purchasing the slaughterhouse, Zivinoprodukt Srbac by Slovenian Perutnina Ptuj Group and today employs over 200 workers in poultry slaughterhouses. According to the data that was obtained during the interview, the main identified strengths are: rounded production cycle, large production capacity, the company’s own knowledge and tradition in the business as well as the affiliation to the large group of Perutnina Ptuj. Weakenesses identified during the interview are: infrastructure deficiencies within the slaughtering plant, high operating costs and problems related to the recovering of receivables.

As far as the production of beef and pork meat, including products of beef and pork meat, in the north-western Bosnia and Herzegovina area is concerned, there is no outstanding company to be mentioned particularly in comparison to the other competitors.

3.2 Factor conditions

Subsidies for the agriculture and food industry are channeled through the Entity Ministries of Agriculture and the Regulation act for subsidies, which is passing resolutions for each year separately. According to the data obtained during the interview, the envisaged subsidies for the year 2014 for the Republic of Srpska are ca. 30 million euros, which is significantly less than in 2012. The greatest part of the subsidies is planned for milk production premiums (ca. 33.3%), while subsidies for meat production premiums are significantly smaller (ca. 4%).

One of the major problems, companies dealing with the slaughtering of poultry and livestock and with meat processing are facing, is the disposal of their animal waste. A particular problem is disposal of slaughterhouse waste due to the large amount of waste that is produced. In Bosnia and Herzegovina there are no incinerators which could serve as a place for the disposal of this kind of waste. Despite the fact, that the disposing of animal waste on unauthorized dumps is strongly forbidden by law, in practice this unacceptable manner can be noticed. The company Perutnina Ptuj S Ltd. solves the problem of slaughterhouse waste disposal by placing it into special containers and transporting it for the purpose of further treatment in Croatia.
For each kind of development people are the key factor - their specificity, creativity and motivation to achieve results. In the region of north-western Bosnia and Herzegovina are scientific institutions for education people with high professional qualifications to work in slaughterhouses and meat processing. Regarding the cooperation with these institutions, the companies' representatives pointed out during the interviews that the connection with educational institutions is on a very low level. The companies are complaining about the fact, that they could not receive support in terms of addressing specific technological problems they had to overcome and they also mentioned that the profile of the graduates after leaving the faculties in many cases does not meet their needs and requirements. Generally, communication and cooperation between companies and faculties in the field of meat processing is at a low level.

Almost all surveyed companies perceive that access to finance is too difficult and that cost of capital is too high. Special credit lines for agriculture and the food industry with preferential interest rates are provided by the Investment Development Bank of the Republic of Srpska. However, during the interview most of the companies stated that the complicated bureaucracy and, in some cases, also the political influence create the biggest obstacles for using these funds. Loans from commercial banks are very unfavorable, with high interest rates and demanding security instruments. Thanks to the somewhat more favorable credit guarantee instruments and the eased access to finance, a significant part of the loan funds, above all to the benefit of farms, has been provided by micro-credit organizations. These types of loans are determined by high rates of interest (up to 20% per annum) and short terms for loan repayments.

3.3 Related and supporting industries

In Bosnia and Herzegovina, there are no producers of equipment for meat processing and slaughtering. The overall production machinery and equipment is imported, and authorized services are responsible for the machinery maintenance, respectively the companies have organized their own maintenance services.

Raw and auxiliary materials for meat processing (additives, spices, and other raw materials) are mostly imported and distributed by domestic representatives of foreign producers. The exception is salt, which is largely from Bosnia and Herzegovina.

There is a significant interaction between companies selling additives, spices, etc., and meat processors. Namely, the first-mentioned group of companies engages technologists who are working on application of these types of products together with experts from the meat processing companies in order to improve existing and develop new products by using raw materials and products which their companies are selling.

Manufacturers of packaging for final products have a significant impact on the value chain of the meat processing and manufacturing industry. Packaging materials for primary packaging such as sausage casings are predominantly being imported. Foils for vacuum packaging of final products are procured from the domestic market which has significant number of producers of these types of packaging. Cardboard boxes for products over pack are almost exclusively supplied from domestic producers. Cans for production of canned products are exclusively imported goods (Serbia and Croatia), because of the fact that there are no manufacturers of cans for packing meat products on the domestic market.

The transportation costs of meat and meat products play an important role within the scope of the price calculation for the products due to specific transport conditions in terms of temperature control and other requirements regarding the vehicle. One of the problems identified during the interviews is the lack of an organized system of distribution (distributors) for meat and meat products. The percentage of transportation and distribution costs for meat and meat products as related to the total price is calculated between 4 and 5%.

3.4 Demand conditions

Meat consumption per capita in Bosnia and Herzegovina is at the average level of the region. A higher proportion of spending per capita in relation to the regional average is to be noticed for poultry and beef. Consumption of meat per capita in Bosnia and Herzegovina is 17.1 kg for beef meat, 25.4 kg for pork meat and 18.7 kg for poultry meat [13].

The largest part of the trade of meat products is done through retailers. Requirements on the part of retailers are mainly reflected by:

- Strong pressure to reduce prices (rebates from 15 to 20%, credit notes based on traffic on annual level of about 2%, fees for introduction of new products on retail/store shelves, etc.). The average margin of retail chains for meat and meat products is around 15-20%.
- Long term payments (ranging from 60 to 120 days).
- Short delivery time.
- Remaining shelf-life of meat products on delivery as long as possible.

Specific customer requirements, which slaughterhouses face with, include special types of packaging for fresh meat, especially in regard to packing (cutting and processing) meat with a longer shelf life. Slaughterhouses which process poultry and deliver poultry meat also face with the same requirements.
As far as changes in demand for meat and meat products are concerned, they do exist and are typical for the winter period, from December to March. In that period, as part of tradition, many households in the Republic of Srpska carry out the slaughter and prepare meat products for their private consumption.

Another reason for seasonally caused demand variations is the result of religious fasting periods when the demand for meat and meat products decreases. When it comes to seasonal variations, distributing companies which are supplying the market with various products are showing a greater flexibility and thus maintain the level of income that is required for a normal company functioning.

One part of the sale of meat products is carried out through public procurement tenders for the needs of organizations in Bosnia and Herzegovina.

Export markets that are currently available for domestic meat producers are the CEFTA signatory countries, or primarily: Serbia, Montenegro and Macedonia. Exports of meat and meat products (beef and poultry) on the Turkish market are possible in accordance with certain export quotas, but only for products with a Halal certificate. Interviewed companies dealing with this type of processing do not export their products on the Turkish market. Export of meat and meat products on the EU market is currently not possible, due to inability to meet EU standards in several areas, such as official food safety regulations, market regulation, and state support.

3.5 Company level - competitive pressures within the value chain

For a more detailed analysis of competitive pressure within the value chain, we choose a part of the chain that refers to meat processing and production of meat products.

3.5.1 Competitors

The main competitors for local producers from the north-western Bosnia and Herzegovina region on the domestic market for meat products are large companies from: Croatia, Serbia, Macedonia and Montenegro. Competitors from other regions of Bosnia and Herzegovina are also present on market of north-western Bosnia and Herzegovina.

The main competitors for poultry meat from the north-western Bosnia and Herzegovina region are companies in the Federation of Bosnia and Herzegovina, competitors from abroad are not present on market in significant numbers.

As the basics advantages of meat processing industry from the north-western Bosnia and Herzegovina region in relation to imported products, domestic processors generally emphasize a better understanding of market opportunities, cheaper labor force and exemption of customs duties. A certain number of companies believe that their competitive advantage is also based on the existence of good conditions for production as well as the efficiently implemented quality management and food safety system.

As a CEFTA member, Bosnia and Herzegovina has a competitive advantage in relation to the import of products from Croatia, because imported products from Croatia are liable to customs duties after the EU accession of this country. Almost all surveyed companies indicated marketing and promotion of their products to be the weakest link in the process and admitted that they are significantly weaker in this segment than their competitors.

Most of the surveyed enterprises in the field of meat processing quote to have older technology solutions and difficulties to secure funds for investment in the modernization of their technological equipment.

A significant level of cooperation between slaughter and meat processing companies in the project area is not noticeable, with the exception of cases of joint procurement of raw materials (mainly meat import) or mutual borrowing/lending of equipment.

3.5.2 Suppliers

One of the main characteristics of the domestic beef and pork meat products processing industry is its high dependence on imported basic raw material - meat. According to data obtained through the interviews, the processing industry imports about 80% of meat for processing purposes. This is primarily related to beef and pork. According to the information obtained from the processors, the basic reasons for this situation are: the deficient quantity of local meat, poor quality of domestic meat (in terms of processing), significantly higher price of domestic meat in relation to imported meat.

Quotas, specified for each year, are restricting the duty-free import of meat from the EU. In a situation where the domestic market is not able to meet the needs in terms of quantity and quality according to the requirements of the meat processing industry, quotas contribute to the better competitiveness of the domestic meat processors, but also create additional pressure on domestic meat producers.

In general, poultry meat is available in sufficient quantities to satisfy the demand of the meat products manufacturers which are primarily using mechanical separated boneless poultry meat (MSM), but there is also a significant quantity of imports due to lower prices of imported poultry meat. For the import of mechanical separated boneless poultry meat (MSM) from the EU, quotas have been defined, ensuring a better
position for the local manufacturing industry, because the duty-free import of a certain quantity proposed by these quotas is made possible.

Other raw materials, such as additives and casings mainly derive from imports, through commercial agencies of international companies in Bosnia and Herzegovina. Packaging is produced mostly in Bosnia and Herzegovina, with the exception of tin cans for food packaging, which are imported from Serbia or Croatia.

Companies along the value chain of poultry meat production and processing showed a higher degree of integration, with the result that we have companies with an integrated production cycle, ranging from partial crop production to production of breeding animals, fattening broiler chickens up to the slaughterhouse as well as processing of poultry meat.

A small number of meat processing enterprises that are engaged in the processing of beef and pork have their own slaughterhouses, mostly with smaller capacities. In north-western Bosnia and Herzegovina exist several small sized companies that slaughtering cattle and pigs and manufacturing beef and pork meat products and procuring cattle for slaughter exclusively from the domestic market. Their strategic commitment is directed towards the purchase of livestock for slaughter from the domestic market and the sale of products through their own chain of butcher shops and barbecue restaurants.

3.5.3 Customers

The largest part of trade transactions of meat products is done through supermarkets. Restaurants, hotels and catering services are important customers for fresh meat and prepared grilling meat. Butcheries are also significant customers of fresh meat and to a limited extent of meat products.

Large supermarkets mainly determine the conditions for the procurement of fresh meat and meat products. Some of the specific requirements that are set in front of processors are mainly reflected in the following aspects: specific processing of meat, a special way of packaging (controlled atmosphere), the delivery of products with longer expiry dates, etc. Restaurants and hotels usually have specific requirements in terms of meat quality or specific ways of packaging of meat products (threading, etc.).

Changes that have occurred after Croatia’s accession to the EU have led to the fact that Croatian companies, in order to maintain the competitiveness of their products on the market of the CEFTA countries, are contracting service production with companies in the CEFTA countries. Two companies from meat processing industry in the north-western Bosnia and Herzegovina region have signed such contracts with Croatian companies.

Contract production is a specific form of cooperation between companies, with emphasis on price determination based on the final price calculated by the buyer, which will be accepted on the market. However, it is important to notice that the contract production for other brands is a good solution for domestic companies, because this enables them to make better use of installed capacities and to upgrade their competitiveness, respectively reduce their costs per produced unit of their products.

3.5.4 New competitors

Local meat processing companies emphasized during the interview that they do not see the interest of new competitors for entering the market of Bosnia and Herzegovina. Due to their opinion, primarily because of the small size of the market and because of the existing oversized processing capacities in the country.

3.5.5 Changes in demand

Meat is one of the essential ingredients and must be present in human diet. However, the Bosnian market is characterized by seasonal fluctuations of demand:

- Reducing the consumption of meat products in the period from November to March due to the preparation of meat products in households (primarily in the Republic of Srpska).
- Reducing the consumption of meat and meat products due to seasonal nature of religious holidays and habits not to consume meat and meat products during these religious holidays.
- Increased consumption of meat during the large seasonal immigration (summer holidays, etc.) of people from the Bosnia and Herzegovina diaspora.

In general, consumption of poultry meat is increasing, probably due to the acceptable market price for this sort of meat. Consumption of beef and pork meat is decreasing, caused by high prices on the one hand and migration and reduction of population in Bosnia and Herzegovina on the other hand.

3.6 Key findings in the value chain of poultry meat and poultry meat products

The production of poultry meat and poultry meat products showed the greatest competitiveness level of three observed value chains.

There is a significant integration of all stages in the value chain from primary production of crop products to delivery of the final product within a company.

Number of commercial farms for fattening broilers (with over 1,000 broilers per round) was significantly higher and is approximately 300 farms with average 10,000 broilers per round.

The infrastructure requirements in industrial slaughterhouses are on a satisfactory level, but there are significant gaps in smaller slaughterhouses.
Poultry meat is generally available in sufficient quantities to meet the demand of the manufacturers of meat products who mainly use mechanical boneless poultry meat (MSM), but also a significant amount of imports due to variations in terms of quality and food safety, but also due to lower prices of imported products.

Costs for the distribution of poultry meat and poultry meat products play a very significant role as far as the price determination of the product is concerned, because they require specific transport conditions in terms of temperature, hygiene and vehicles etc.

The level of organization of the Association of the poultry farmers of the Republic of Srpska is developed to a significantly higher standard as compared to other agricultural associations in the region.

3.7 Key findings in the value chain for beef and pork meat and meat products

During the past few years a significant reduction of the livestock quantity, respectively the number of cattle and pigs is to be noticed.

The number of commercial farms is very small (farms with 20 or more cattle or farms with more than 200 pigs) in relation to a large number of small farms and farms within the household.

There is no significant slaughtering capacity in the region of north-western Bosnia and Herzegovina for the slaughter of livestock (cattle and pigs).

Industrial processors of meat are importing 80% beef and pork meat in order to satisfy their needs.

Related to the procurement of meat, insufficient quality of local meat, high price of domestic meat, insufficient amounts of certain categories of meat have been mentioned by the meat processors as their main problems.

The main export destinations for products from beef and pork are Serbia, Montenegro and Macedonia.

Manufacturers of meat products on the market of Bosnia and Herzegovina are facing competitors from CEFTA agreement who are selling their products under the same conditions as the products of domestic manufacturers. Croatian accession to the EU has had a positive impact on domestic processors due to the introduction of tariffs on products from Croatia, and on the other hand, Croatian companies have transferred a certain part of their production capacities to Bosnia and Herzegovina with the impact that there has been a major recruitment processing capacities of Bosnia and Herzegovina.

3.8 Identified key gap on company level

As a result of fragmented production capacities (addresses mainly the breeding of cattle and pigs), production costs and the prices of livestock/meat from domestic producers are high. Farms do not meet the EU standards in terms of hygiene, animal welfare and environmental protection.

Available quantity of beef and pork, meeting the quality requirements of meat processors on the domestic market at competitive prices, is insufficient and therefore the domestic meat processing industry covers its demand for basic raw beef and pork meat through imports (approx. 80%).

Equipment and technology used in the meat processing process is out of date. This is particularly pronounced in smaller processing plants, which results in a very low level of productivity.

Facilities for processing meat generally do not meet the EU standards in terms of veterinarian and sanitary conditions, and one part of the facilities do not meet veterinary sanitary conditions which are in force in Bosnia and Herzegovina.

Meat processors usually do not have their own laboratories for operational quality control and product testing.

There is insufficient number of skilled workers in meat processing sector (butcher) with secondary school education.

Companies engaged in the production of meat and meat products do not have adequate marketing and promotional activities for their products.

There is low level of mutual cooperation between the companies engaged in the same or a similar activity.

Range of meat products is mainly focused on cheaper products without significant innovation in products and without significant manufacturing of products in higher price categories.

3.9 Identified key gap on institutional level

The official quality and food safety control for meat and meat products is not adequate and does not meet the requirements of valid legislation.

There is no adequate system for the disposal of offal and animal waste from meat processing plants and slaughterhouses.

Because of complicated political system in Bosnia and Herzegovina, there are too many laws, ordinances and regulations governing livestock production. Farmers are not able to adequately monitor and implement the complicated procedures that are required.

Financial burdens in terms of compensation for water, various financial burdens in the context of obtaining and monitoring environmental permits are very high.

Subsidy policies agricultural development are not clearly defined and are not long-term oriented.
Supporting measures by the authorities are conducted during the same year when the incentives are paid and this leads to uncertainty on the manufacturer’s side, thus complicating the planning of agricultural production. The subsidies projected in the Strategy for the Development of Agriculture of the Republic of Srpska have not been fully disbursed.

Subsidies for the production of meat, including beef, pork and poultry meat are defined as a symbolic amount and do not provide adequate support to domestic production. Size of these subsidies is far below the regional average.

The capital for investments is very expensive with high interest rates for agricultural production in Bosnia and Herzegovina.

Prices for acquisition of tender documentation within the scope of tendering procedures for the supply of domestic institutions with meat and meat products are high.

Bosnia and Herzegovina is still a long way away from exporting live animals, meat and meat products to the EU due to the EU-incompatibility of its systems for food safety control of animal origin. The problems are reflected in following areas [2]:

- Animal health: Mainly compatible with EU requirements, with the exception of classical swine fever and veterinary control system.
- Animal welfare: Problems that have to be solved are related to small pig and poultry breeding farms as well as to practices of informal slaughter.
- Animal identification: EU standards adopted for cattle identification, standards for pigs, sheeps and goats are underway, but movement of animals without adequate permissions still remains a problem.
- Hygiene on farms and in processing industry: Conditions on big farms and processing facilities generally good, but smaller facilities are a serious problem. Another problem is the meat production outside of registered objects.
- Environment protection on farms and processing facilities: Disposal of fertilizers on farms is not in line with the EU standards. A strong focus of attention is also related to disposal of animal waste at slaughterhouses and meat processing facilities.

Inequality of bilateral relations within CEFTA agreement due to existing non-tariff barriers, which are reflected in the necessity to submit specific product analyses, by taking long waiting periods for health tests etc., slows down the trade between the CEFTA members.

4. Conclusions

- Despite the fact that each of observed value chains shows a certain level of specificity, the value chains for beef and value chain for pork meat products show great similarity in terms of actors and the structure of the value chain.
- Value chain for poultry meat and poultry meat products showed the greatest competitiveness level of three observed value chains.
- It is necessary to take measures of the relevant institutions of Bosnia and Herzegovina in order to facilitate the export of meat and meat products to the EU countries, which is especially true of products from poultry meat.

5. References
