Value Added Analysis of Beef Cattle Supply Chain Actors Micro-Scale Community Farm Based

Hastang, Sitti Nurani Sirajuddin, A. Rahman Mappangaja, Rahim Darma, Indrianty Sudirman

ABSTRACT

The research aimed to analyze value added analysis of beef cattle supply chain actors micro-scale community farm based on Regional Enterprise Slaughterhouse Makassar (RESM). The research was conducted in April – June 2013 in Bone Regency, which was beef cattle source of community farm based and Makassar in which the beef was produced and consumed. Data which were used in the research consisted of primary and secondary data. Population of the research was beef cattle breeder in Bone, beef cattle distributor from various levels in Bone, butcher in Regional Enterprise Slaughterhouse Makassar, beef distributor and beef cattle retailer who lived in Makassar. The respondents were determined by using chained referral sampling or snowball. Data analysis was: value added = output value – (basic commodity cost + other input cost, exclude labours). Profit = value added – labour cost. The result of the research showed that the value added and profit of beef cattle supply chain actors were different according to the supply chain form. Value added and profit had not been proportionately distributed among all actors of beef cattle supply chain. Supply chain actors in supply chain downstream got bigger value added and profit than actor in internal supply chain and upstream supply chain.

KEY WORDS

value added, supply chain actor, beef cattle, community farms

INTRODUCTION

Beef was one of animal husbandry products that has very important role, both in terms of economy and in terms of the fulfillment of society nutrition. However, many people lively discussed about the high of beef price recently. Development of beef average price at national level had been increasing during 2010 – April 2013 (data center and agricultural information system, 2013). The local beef price was higher than beef price in another country. The data were spread by World Bank 2013, that in December 2012 beef price in neighboring countries and some other countries had lower price - Malaysia was US$ 4.3, Thailand was US$ 4.2, Australia was US$ 4.2, Japan was US$ 3.9, Germany was US$ 4.3 and India was US$ 7.4. [12]

The high price of beef was influenced by many factors; one of the factors was low performance of beef cattle supply chain management. One of supply chain management performance was value added distribution of supply chain actor. Every existed measuring instrument had some limitations. Through value added analysis in the chain, we could determine who got profit from the participation in the chain and which actor who took advantage of supported or organizational improvement [16]. Value added was a value changing that occurred because of special treatment of particular commodity [20]. Value added improvement flow of agricultural/animal husbandry commodity occured to every supply chain actor from upstream to downstream.
In presenting the commodity value added, it had to emphasize the principle of efficiency to reach the supply chain target. According to Prastowo et al, one of factor that influenced commodity retail price was the size of the profit margin that was determined by distributors. According to Downey and Erickson [5], every tax, charges to be paid or reward to connect buyers and sellers were charged to the final consumers but according to Fatahillah et al., good supply chain could be seen from the distribution of value added from each supply chain actors. Good supply chain insisted on the principle of the value added distribution, profit and fair risk between supply chain actors in delivering products to consumer with right quantity, place and time, affordable price and satisfies consumers.

Problems that often arose in beef cattle supply chain management was value added distribution on each actors on beef cattle supply chain. Supply chain management activity was part of value chain activities, so the improvement of supply chain management would have positive impact on value chain. Effective value chain would trigger value excellence and productivity excellence which in turn would increase the competitive excellence and fulfilled consumer needs [18, 25] and according to Daryanto [3], consumers today were increasingly demanding high quality, cheap and fast delivery product. For those reasons, research needed to be conducted in order to assess value added of actors who involved in beef cattle supply chain community farms-based in the regional enterprise slaughterhouse Makassar.

1. Research Method:
The research was conducted in Makassar as the biggest center of beef consumers in South Sulawesi and Bone regency as the main supplier of beef cattle from farms community in South Sulawesi to Makassar. The Focus of beef cattle supply chain study was regional enterprise slaughterhouse Makassar. The data were used in this research consisted of primary data and secondary data. Primary data were the data which were obtained through direct observation and indepth interview to respondents by using questionnaire. That primary data consisted of input data of beef cattle farm, input price, product price, pre-transaction cost, transaction cost, labour cost and another cost in supply chain levels. Secondary data was obtained from related institutions.

Population of the research was beef cattle breeder in Bone, distributor in various levels from Bone, beef cattle butcher in regional enterprise slaughterhouse Makassar, beef distributors, retailers and beef consumers in Makassar. Respondents were determined by using chained referral sampling or snowball, it was another variation from purposive sample. The data was obtained, processed and done the value added calculation which referred to Sudiyono [20].

Value added = output value – (basic commodity cost + another input cost exclude labour)
Profit = value added – labor cost

Output value (acceptance) was whole production result value, in terms of accepted, self-consumed, given to another people as reward or in terms of used in the process (Mubyarto, 1989). Acceptance was calculated in the form of production value for both sold and not sold [19].

Cost calculation for supply chain actor include basic commodity cost was purchase value of beef cattle, while another input cost was all cost which used in supplying process, production process and selling process of every beef cattle supply chain actor besides labor cost. Furthermore, the obtained calculation result of value added and profit was conducted descriptive analysis to see the distribution of value added and profit between all institutions that involved in beef cattle supply chain.

RESULTS AND DISCUSSION

The research analyzed value added of all beef cattle supply chain actors started from upstream supply chain, internal supply chain and downstream supply chain, which consisted of 3 parts: 1) Upstream supply chain, this part covered supplier first-tier from organization and the supplier in which there was a relationship building; 2) Internal supply chain, this part covered all processes which was used by organization to change supplier’s deliver input into output; 3) downstream supply chain covered all processed which was involved in product delivery to final consumers [21].

Figure 1. showed that in general, the line form in upstream supply chain was the movement of beef cattle from Bone to regional enterprise slaughterhouse Makassar consisted of two lines, namely: (1) Line I: breeder ➔ local collector trader ➔ inter regional trader ➔ butcher. (2) Line II: breeder ➔ inter regional trader ➔ butcher. Line forms in downstream supply chain was beef line which consisted of three forms, namely: (3) line III: butcher ➔ beef wholesaler (pallembara) ➔ consumer (final and distributor); (4) line IV: butcher ➔ beef wholesaler ➔ retailer in traditional market ➔ consumer (final and distributor); (5) line V: butcher ➔ beef wholesaler ➔ retailer in supermarket ➔ consumer.

Distribution of value added in upstream supply chain was from the value added per beef cattle, so breeder gained value added Rp.473.404/beef cattle or 10% value added, which meant every acceptance value from beef cattle farm business will get 10% value added; while another supply chain institutions were lower. However, it was necessary to know that the breeder’s value added was obtained through one year process but another
institution had days process. If breeder value added was converted to value added per day, so it was obtained in average value added Rp 1,315/bc/day. The value added was very small if it was compared with another supply chain institutions value added, it could be seen on Table 1. The low of breeder value added was caused by beef cattle farm was still traditional – semi intensive and extensive, micro scale, limited extra feeding so the management became very limited. This agreed with that of Abidin, [1] and Rota and Sperandini [14] who said that farmer/breeder had only received a small portion of the final value of their product, whereas in a theory said that risk and benefit must be shared to the bottom chain. According to McDermott et al [10], there were some challenges that had to be solved to improve the success of farmer production market. In input side, technical input such as rare feed, expensive and low quality, and required skill and knowledge in inaccessible. In output side, farm organization link to market was hard so policy and regulation to support farmer access to market was really needed.

Table 1 showed that in supply chain I, value added and profit obtained by collector in regional area was Rp.242,405 / head (3,5%) which was bigger than inter regional trader value added and profit which was only Rp.
144,428 / head (2.4%) and Rp 129,703 / head (1.9%). It was caused by collector trader who treated beef cattle before selling, while inter regional trader sold beef cattle directly without any treatment.

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<th>Table 1: Distribution of value added and profit on beef cattle supply chain.</th>
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Source: Dissertation, Hastang [7].

The difference of value added and profit total between supply chain I and II because in supply chain I, there was collector trader treated beef cattle before it sold, therefore value added had increased because of the treatment. In supply chain II, inter regional trader directly bought beef cattle to breeder then sold it to Makassar without any treatment. So, both lines could not be compared by seeing the length of line, value added total and inter line profit. From the result of field observation, regional collector trader and inter regional trader searched and bought directly the beef cattle to breeder. Breeder was free to sold beef cattle to seller who bought it with higher price. From interview with breeder, all breeders were not loss in price determining, therefore there was free competition between beef cattle seller in purchasing. This condition made breeder had stronger bargaining position. The problem was breeder did not know any information about price in downstream level (butcher).

The average of value added and profit obtained by seller was relatively big, but in other case seller would get loss if seller misinterpreted the price or high risk of beef cattle delivering from production regional area to Makassar. According to Kaitibie et al. [9] in local market, complexity of livestock value chain gave various chances for the value improvement by poor community, but not only for farmer but also supplier, livestock producer, labor and employee, agent and retailer in market.

Table 1 showed that the average of butcher’s value added and profit was Rp 395.876 / head or Rp 5.008/kg and Rp 290.117 / head or Rp 3.670/kg. It was bigger than other supply chain institution in upstream supply chain sector. The high of value added was because butcher had to take a bigger risk in a bigger credit. Butcher sold all beef by credit system (not cash) to beef wholesaler while basic commodity (beef cattle) and other cost must be paid in cash.

Total of value added in beef supply chain in downstream sector was different according its line form. By seeing whole chain, from upstream, internal supply chain until to downstream supply chain so it could be said that the more downstream would increase the value added and profit obtained by supply chain institution. It showed that there was no fair sharing between supply chain institutions involved, no price transparency and no integration between all supply chains institutions involved because supply chain management had not run well. It was the same as Kadigi et al. [8] and Fatatilla et al. [6] statement who said that value chain of traditional beef cattle operated inefficiently. Breeder received lower price and profit margin. Vertical integration from breeder, beef processor and seller was still limited; and it was the same as Rusastra [15] opinion who said there was profit difference of beef seller according to seller class based on selling volume, the higher the class, the profit obtained by seller was lower namely profitability of wholesaler was 4, 4%, medium seller was 5, 6% and retailer was 13, 6%. The result was the same as Whyuni [23] statement who said it had not obtained a fair profit distribution in livestock and beef marketing. However, the research was different with Poaponsakom result who said traditional supply chain in agricultural (included beef cattle) in Thailand had been efficient because the
market was very integrated because of infrastructure investment and wholesaler cooperation in all supply chain levels.

**Conclusion:**
Value added and profit of beef cattle supply chain was different according to supply chain form. Value added and profit had not distributed proportionately between all actors of beef cattle supply chain. Supply chain actors in supply chain downstream (beef retailer in supermarket, beef retailer in traditional market, beef wholesaler) obtained bigger value added and profit than internal supply chain actors (butcher) and upstream supply chain actors (beef cattle inter regional trader, beef cattle collector trader and breeder).

**REFERENCES**


