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RESEARCH ARTICLE

Economic Analysis of Broiler Meat Price Changes in Indonesia

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ABSTRACT

This study aimed to analyze the effect of an increased price of broiler meat on the production, consumption, and import of these commodities: Maize, rice, broiler meat, and eggs. The research method employed was the survey method and used both primary and secondary. The commodities analyzed in this study included: Maize, rice, broiler meat, and eggs. The business actors were classified into: (1) Commercial-broiler livestock companies (LSCL), (2) commercial-broiler small-scale farms (SSCL), and (3) other households (OTHR). The determination of the commodities was made based on considerations of production and consumption. The analysis results using multimarket model showed that increased broiler meat price would have opposite effects on production and consumption. An increased price of broiler meat increased the production of broiler meat, and on the contrary decreased consumption of broiler meat. Fulfilling the equilibrium caused the net import to decrease. This was very different from commercial layer. Furthermore, the increase in the price of broiler meat caused the production and consumption of maize to increase. The percentage of production increase which was less than the percentage of consumption increase caused the net import for maize to increase, on the contrary for rice.

Key words: Broiler meat, consumption, import, price, production

INTRODUCTION

Commercial broiler is one of the animal-based food commodities which is important in fulfilling the nutritional needs of the people. Demand for this commodity continues to grow as the population grows, income increases, education level improves, lifestyle changes, and the awareness of a balanced diet grows. The factors why broiler meat is liked by the Indonesians are: (1) It has good taste and texture (organoleptic qualities), (2) more variety is available nowadays and it is easy to cook (convenience food), and (3) is relatively cheaper than other livestock commodities.

Theoretically, when related to consumption, the demand for a certain commodity is affected by its price, the price of other commodities which can be substitution or complement goods, and income. The price of the commodity itself has a negative correlation with the amount demanded, whereas income has a positive correlation. Data from the National Socio-Economic Survey (Survei Sosial Ekonomi Nasional-SUSENAS) confirm that there was an increase in the Indonesian per capita consumption of broiler meat. The consumption of broiler meat increased by 10.42% from 2010 which was 3.65 kg/capita/year to 4.03 kg/capita/year in 2014. This condition indicated that, partially, the price of broiler meat did not affect the demand for broiler meat because when the price of broiler meat increased, the demand for broiler meat also increased.[1-6]

From the income point of view, the increase in income due to an increase in the price caused the people's buying power to increase, leading to an increase in consumption. This demonstrates that the amount of the commodity consumed is simultaneously determined by the price of the commodity itself, the

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price of other commodities which are substitutes/ complements, and income. The end effect of changes in price on consumption level depends on how much of a substitution and income effect occurs. Based on the aforementioned issues, this study aimed to analyze the impact of an increase in the price of broiler meat on production, consumption, and import of food crops and livestock commodities in Indonesia.

MATERIALS AND METHODS

The type and sources of data

The data consisted of: (1) Production and input, consumption, and household income data for each commodity, (2) price input and output, and (3) elasticity. Production, input use, consumption, and income and price data were taken from the 2015 Central Bureau of Statistics and the Ministry of Agriculture data, whereas data for elasticity were taken from a previous study. This study developed multimarket model from
the commodities analyzed in this study included: Maize, rice, broiler meat, and eggs. The business actors were classified into: (1) Commercial-broiler livestock companies (LSCL), (2) commercial-broiler small-scale farms (SSCL), and (3) other households (OTHR). The determination of the commodities was made based on considerations of production and consumption. For food crop commodities, maize and rice are competitive crops in land use. This is due to the shift in land use from rice cultivation to maize cultivation. From the consumption point of view, maize and rice are substitution goods. For livestock commodities, broiler and layer are livestock that use maize as the main feed ingredient.

Model structure

Price block

Block prices show the relationship producer and consumer prices. Given the four commodities analyzed in this study is an imported commodity, then the transmission starting price for each commodity import price. Prices of imported commodities are determined by world prices, exchange rates, and import tariffs. Furthermore, import prices linked to domestic prices through margin. Value of domestic marketing margin is set at 25%. Determination of margin is adapted to the use value of margins by previous researchers who use margin ranges from 25% to 35% (Hutabarat *et al.* 2012; and Umboh *et al*. 2014).

$$IMP_c = INP_c * EXR * (1 + IMR_c) \quad (1)$$

$$COP_c = IMP_c * (1 + IMG) \quad (2)$$

$$PRP_c = \frac{COP_c}{(1 + DMG)} \quad (3)$$

where: c = commodities, IMP = import price, INP = world price, IMR = import tariff, COP = consumen price, IMG = international margin, PRP = produsen price, DMG = domestic margin.

Supply block

Livestock commodities supply is determined by the output price and input price.

$$\log\left(LVP_{rt,l}\right) = \alpha^{t}_{rt} + \beta^{t}_{rt} \log\left(PRP_{rt,l}\right) + \gamma^{l} \log(COP_{rt,fe}) \quad (4)$$

where: LVP = livestock production, l = livestock commodities, fe = livestock input

Consumption block

$$\log\left(CONS_{rt,i}\right) = \alpha^{rt}_{rt,i} + \sum_{j} \beta^{rt}_{rt,i,j} \log\left(COP_{j}\right) + \gamma^{rt}_{rt,i} \log\left(INC_{rt}\right) \quad (5)$$

Where: CONS = consumption, COP = consumen price, INC = household income

Equilibrium block

The value of net imports in the modeling of a residual which is the difference of production and consumption

$$NETM_p = CONS_p + DFE - CRP_p \quad (6)$$

$$NETM_l = CONS_l - LVP_p \quad (7)$$

Where: NETM = net import, CONS = consumption, DFE = demand for feed, CRP = food crop production, LVP = livestock production

RESULTS AND DISCUSSION

The commercial broiler market condition in Indonesia

Theoretically, pricing for broiler meat is determined by the strength of demand and supply. Other factors

that could increase the price of broiler meat are the drop in supply broiler meat offered to the market to a stable demand level and the growth of the demand for broiler meat at a stable supply level. In relation to the current market condition for broiler meat, the demand is relatively stable and is even shows an increasing trend every year as the population grows, the people's awareness of nutrition develops, and the people's income increases. In the supply point of view, the availability of broiler meat depends on the production of livestock companies and small-scale farms. Empirically, an increase in the price of broiler meat is caused by an increase in production cost and also by an oligopoly in the commercial broiler industry. The shift in the market structure has enabled the livestock companies to determine the price.

This finding was affirmed by Kariyasa and Sinaga (2007); Umboh *et al*. (2014) who stated that the pricing for broiler meat is currently determined by livestock companies because this business actor is the one who rules over the market and has access to market information. The livestock companies' control over the market is strongly connected to ownership and control over technology and their integration to breeding companies, feed mills, and processing plants, allowing the livestock companies to control the supply of broiler meat in the market. Theoretically, if the supply of broiler meat decreases, the supply curve shifts to the upper left. The shift of the supply curve in a stationary demand level would cause the price of broiler meat to rise, and *vice versa*. This indicates that the price of broiler meat formed through interactions between the powers of supply and demand depends on the livestock companies' decision.

Furthermore, the pricing behavior of agricultural commodities is influenced by determinant factors, including government policies in the agricultural sector and trade regulations. Empirically, both the producer and the consumer have difficulties in facing price instability. This is related to the biological condition of agricultural commodities which are influenced by climate, pests, and diseases, *et cetera*. This requires government surveillance because it is related to the welfare of the people as consumers and the farmers as the producers.

In relation to the behavior of small-scale farmers in responding to price changes, there is a difference between small-scale farmers in partnership schemes and independent farmers. For small-scale partnership farmers, if the price of broiler meat drops, they still receive the price stated in the contract; however, if the selling price rises, they do not enjoy any extra profit because the price of broiler meat had been determined when the contract was signed. In this case, production decisions are made by the livestock companies, so farmers receive benefit in risk insurance. This is poles apart from independent farmers. Independent farmers with their business scale and limited capital must face the risks caused by broiler meat price fluctuations price which are determined by livestock companies. This condition indicates that independent farmers are more vulnerable to changes in the price than partnership farmers. If this condition is not addressed, small-scale independent farmers will continue to incur losses.[7-11]

Yusdja *et al*. (2004) and Fitriani *et al*. (2014) stated that the development of the commercial broiler industry must consider the empowerment of small-scale farmers. In this case, the government policies must address the interest of small-scale farmers so that inclusive growth within the commercial broiler industry could be realized.[12-14]

There are a number of policy alternatives, both on the supply and demand point of view which could be undergone to develop an inclusive commercial broiler industry. Because broiler meat pricing is a market mechanism, from the supply point of view there could be a policy to regulate market segmentation so that there would be no market tug of war between livestock companies and small-scale farms. For example, the production of livestock companies could be allocated for export and the production of small-scale farms directed to the domestic market. This could be done as an effort to strengthen the small-scale farmers' bargaining position. Presidential Decree number 22/1990 has already regulated this, but it has not been working as expected because of the business scale limit which does not side with small-scale farms. However, nowadays, market segmentation needs to done as there is growth in both domestic and international market opportunities. In addition, there needs to be a cooperation that could accommodate small-scale farmers. The cooperation would help small-scale farmers in obtaining input and in marketing their products.

From the demand point of view, there needs to be a policy that could increase the demand for broiler meat. Theoretically, the factors that could increase the demand for broiler meat are the price of the commodity itself, the price of substitution/ complement goods, income, population, and taste, *et cetera*. Fitriani *et al*. (2014) stated that increasing the demand could be done through a campaign to build the public's awareness of a balanced diet, because Indonesia's average per capita consumption of broiler meat was only 3.45 kg/capita in 2013, low compared to Malaysia whose consumption was 38.5 kg/capita, Thailand at 18 kg per capita, and Singapura at 28 kg per capita. The demand for broiler meat should be an opportunity for the development of the commercial broiler business.

The impact of an increase in the price of broiler meat on the production of food crop and livestock commodities in Indonesia

The impact of an increase in the price of broiler meat can be studied from food crop agribusiness [Table 1] and livestock agribusiness [Table 1]. An increase in the of price broiler meat in this model is proxied from the increase in the margin value. Tomek and Robinson (1990) stated that the marketing margin is an aggregate of values or services that happen during the production and distribution processes, transportation (infrastructure), and transaction cost. Besides the marketing value or service, the marketing margin also includes the profit received by the producer from business in that particular commodity.

The effect of a 10% increase in the price of broiler meat is the income of the commercial broiler business actors increases, thus increasing the buying power for maize for feed. This condition is responded by maize farmers by increasing production, even though in relatively small amounts [Table 1].

This is because, for maize farmers, the main consideration for deciding how much maize to be produced is the price of maize itself. This consideration is based on the reasoning that commercial broiler feed is not the only commodity that uses maize as its ingredient as maize is but now also used as an ingredient for non-cholesterol cooking oil (corn oil), low-calorie sweetener, cornflour (maizena), snacks (popcorn, corn puffs, and as a mixture in coffee), and corn noodles, *et cetera* (Fadwiwati *et al*. 2014). This condition has provided more alternatives for using maize which influences the farmers' production decision. The 10% increase in the price of broiler meat gives an incentive for maize farmers to increase the acreage of land used for planting maize, even though the change in allocation is relatively small. The increase in land allocation is followed by an increase in the use of urea and TSP fertilizers, leading to an increase in productivity and production. This finding is in line with the results of the study by Kariyasa and Sinaga (2007) who found that an increase in the price of broiler meat had a positive impact on the performance of the maize agribusiness.

Production of broiler meat in this study was conducted by livestock companies and small-scale farms. The impact on the two business actors was an increase in the production of broiler meat, both in livestock companies and small-scale farms, by 2.2332 and 2.2329%, respectively, so that the total domestic production of broiler meat increased by 2.2330% [Table 2].

The impact of an increase in the price of broiler meat on the consumption of food crop and livestock commodities in Indonesia

The 10% increase in the price of broiler meat had an impact on the consumption of maize, rice, and eggs. The amount of the commodities consumed in this model was simultaneously determined by the price of the commodities themselves, the price of other commodities which were substitution/complement goods, and income. The increase in the price of broiler meat caused consumption of broiler meat to decrease. The results of the simulation demonstrated that the 10% increase in the price of broiler meat caused a 1.945% decrease in the consumption of broiler meat [Table 3].

Similar to the impact of the increase in the price of broiler meat on the consumption of broiler meat, the impact of the increase in the price of broiler meat on the consumption of eggs could be explained through the substitution effect. As a substitution, the increase in the price of broiler meat causes an increase in the consumption of eggs. The results of the simulation demonstrate that a 10% increase in

Table 1: The results of simulation of broiler meat price increase by 10% on the production of foodcrop commodities

Variable	Unit	Base value	Simulation*	
			Unit	Percentage
COP_{ja} (Maize Price)	IDR/Kg	5786	320.37	5.537
COP_{br} (Rice Price)	IDR/Kg	8922	−164.43	−1.843
CRY_{ja} (Maize Productivity SSCL)	Ton/Ha	4.711	0.075	1.60
CRY_{ja} (Maize Productivity OTHR)	Ton/Ha	5.198	0.084	1.61
CRP_{ja} (Maize Production SSCL)	Thousand ton	8874	307.04	3.46
CRP_{ja} (Maize Production OTHR)	Thousand ton	10159	351.50	3.46
$CRPI_{ja}$ (Maize Production of Indonesia)	Thousand ton	19033	658.40	3.46
CRY_{br} (Rice Productivity SSCL)	Ton/Ha	4.622	−0.026	−0.5729
CRY_{br} (Rice Productivity OTHR)	Ton/Ha	5.728	−0.033	−0.5735
CRP_{br} (Rice Production SSCL)	Thousand ton	7792	−129.17	−1.6578
CRP_{br} (Rice Production OTHR)	Thousand ton	63040	−1045.07	−1.6578
$CRPI_{br}$ (Rice Production of Indonesia)	Thousand ton	70832	−1174.25	−1.6578

*broiler meat price increase by 10%

Table 2: The results of simulation of broiler meat price increase by 10% on the production of livestock commodities in Indonesia

Variable	Unit	Base value	Simulation*	
			Unit	Percentage
COP_{da} (Broiler Meat Price)	IDR/Kg	28976	2897.6	10
COP_{eg} (Egg Price)	IDR/Kg	20063	−1257.43	−6.2674
LVP_{da} (Broiler Meat Production LSCL)	Thousand ton	1315.99	29.39	2.2332
LVP_{da} (Broiler Meat Production SSCL)	Thousand ton	208.91	4.66	2.2329
$LVPI_{da}$ (Broiler Meat Production Indonesia)	Thousand ton	1524.90	34.054	2.2330
LVP_{eg} (Egg Production SSCL)	Thousand ton	0.10	−0.002	−1.9766
LVP_{eg} (Egg Production OTHR)	Thousand ton	1025.91	−19.835	−1.9334
$LVPI_{eg}$ (Egg Production Indonesia)	Thousand ton	1299.20	−25.12	−1.9334
LVD_{fe} (Maize Demand LSCL)	Thousand ton	1234.11	114.14	9.2485
LVD_{fe} (Maize Demand SSCL)	Thousand ton	260.81	3.50	1.3425
$LVDI_{fe}$ (Maize Demand Indonesia)	Thousand ton	11931.78	286.04	2.3973

*broiler meat price increase by 10%

the price of broiler meat causes a 3.327% increase in the consumption of eggs [Table 3].

The increase in the price of broiler meat also affects the consumption of maize and rice. In these models, maize, and rice are assumed to be complement goods for broiler meat, and both are normal goods. Based on the theory, an increase in the price in one commodity which causes the consumption of that commodity to decrease will also lead to a decrease in the consumption of its complementary commodity. The results of the simulation demonstrate that a 10% increase in the price of broiler meat would lead to a 1.212% decrease in maize consumption [Table 3]. This condition demonstrates that the price effect has a greater effect than the substitution effect. Meanwhile, for rice, the 10% increase in the price of broiler meat caused a 3.067% increase in the consumption of rice. This shows that the price effect has a greater effect than the substitution effect.

The impact of an increase in the price of broiler meat on the import of food crop and livestock commodities

These models guarantee the equilibrium of all commodities. The equilibrium occurs when the supply (production+net import) is equal to the demand. For maize, the 10% increase in the price of broiler meat led to an increase in production and decrease in consumption. The simulation results demonstrated that a 10% increase in the price of broiler meat caused the net import for maize

Table 3: The results of simulation of broiler meat price increase by 10% on the consumption of food crop and livestock commodities

Variable	Unit	Base value	Simulation*	
			Unit	Percentage
COP_{da} (Broiler Meat Price)	IDR/Kg	28976	2897.6	10
$CONS_{ja}$ (Consumption for Maize)	Thousand ton	418.73	−5.076	−1.212
$CONS_{br}$ (Consumption for rice)	Thousand ton	21638.26	663.62	3.067
$CONSP_{da}$ (Consumption for broiler meat)	Thousand ton	1016.54	−19.77	−1.945
$CONSP_{eg}$ (Consumption for egg)	Thousand ton	1295.53	43.1	3.327

*broiler meat price increase by 10%

Table 4: The results broiler meat price increase by 10% on the import of food crop and livestock commodities

Variable	Unit	Base Value	Simulation*	
			Unit	Percentage
COP_{da} (Broiler meat price)	IDR/Kg	28976.00	2897.6	10
$NETM_{ja}$ (Maize import)	Thousand ton	3253.61	−34.58	−1.063
$NETM_{br}$ (Rice import)	Thousand ton	49193.74	1837.87	1.348
$NETM_{da}$ (Broiler meat import)	Thousand ton	508.5	−8.68	−1.706
$NETM_{eg}$ (Egg import)	Thousand ton	3.67	4.31	117.43

*broiler meat price increase by 10%

to decrease by 1.063% or 34.58 thousand tons [Table 4].

Meanwhile, for rice, this condition caused a decrease in production and an increase in consumption caused an increase in import. The end result of the increase in the price of broiler meat was a decrease in the net rice import. Results of the simulation demonstrated that there was a 1.348% increase in the net import of rice [Table 4]. This is because rice import is always done even though rice production increases. This policy is applied by the government with the purpose to ensure the domestic availability of rice.

For broiler meat itself, the 10% increase in its price had an opposite effect on production and consumption. The increase in the price of broiler meat increased the production of broiler meat but decreased the consumption of broiler meat. To fulfill the equilibrium, this could be fulfilled by an increase in export and or a decrease in import which would ultimately cause the net import to decrease. The results of the simulation demonstrated that the increase in production and decrease in consumption causes an excess supply, reducing the net import of broiler meat by 1.706% [Table 4].

This was different from commercial layer, where the increased price of broiler meat caused consumption of eggs to increase at a stable production level, leading to excess demand for this commodity. An equilibrium is reached through a decrease in export and or an increase in import. The simulation results demonstrated that a 10% increase in the price of broiler meat would result in an increase in the net import of eggs by 117.43% [Table 4].

CONCLUSION AND POLICY IMPLICATION

An increase in the price of broiler meat would encourage farmers to increase the production of broiler meat, requiring more feed or maize. The increase in the price of maize as a result of the increased demand for maize as an ingredient in feed causes farmers to be inclined to plant more maize (reducing the acreage for rice) and to use more production input and to follow the fertilizer-use recommendations (productivity increases) which in the end will cause the production of maize to increase. However, the increase in the price of broiler meat causes the demand for this type of meat to decrease.

Increasing the price of broiler meat could be done by increasing the demand because the per capita consumption rate of Indonesian people for this type of meat is still considered low and is way below the consumption of people from other countries (Malaysia, Thailand, and Singapore). Therefore, the effort to increase the demand for broiler meat could

be done through socialization programs to build awareness of a balanced diet. This activity could be conducted by the government in collaboration with a stakeholder who is interested in the development of the commercial broiler business in Indonesia.

REFERENCES

1. Assa M. Poultry production and rural poverty among small-scale farmers in Mzimba district of Malawi. Livest Res Rural D 2012;24:1-9.
2. Dorosh PA, del Ninno C, Sahn DE. Poverty alleviation in Mozambique: A multimarket analysis of the role of food d. Agric Econ 1995;13:89-99.
3. Fadwiwati AY, Hartoyo S, Kuncoro SU, Rusastra IW. Analisis efisiensi teknis, efisiensi alokatif dan analisis ekonomi usahatani jagung berdasarkan varietas di provinsi Gorontalo. J Agro Ekon 2014;32:1-12.
4. Firdaus M, Komalasari S. Feasibility analyses of tegrated broiler production. Medpet 2010;33:182-8.
5. Fitriani A, Daryanto HK, Nurmalia R, Susilowati SH. Structure, conduct, and performance of Indonesia broiler dustry. J Agro Ekon 2014;32:167-86.
6. Hutabarat B, Setiyanto A, Kustiari R, Sulser TB. Conjecturing production, imports and consumption of horticulture in Indonesia in 2050: A GAMS simulation through changes in yields induced by climate change. J Agro Ekon 2012;30:1-23.
7. Kariyasa I, Sinaga BM. Feed and broiler meat markets behaviour analysis in Indonesia: Simultaneous econometric model approach. Serv Oriented Comput Appl 2007;7:158-66.
8. Lundberg M, Rich K. Multimarket Models and Policy Analysis: An Application to Madagascar. Development Economics Research Group/Poverty Reduction Group, Environment and Infrastructure Team, Mimeo. Washington, D.C: World Bank; 2002.
9. Minot N, Goletti F. Export and Liberalization nd household welfare: The case of rice in Vietnam. Am J gric Econ 1998;80:738-49.
10. Pakage S, Hartono B, Fanani Z, Nugroho BA. Analysis of technical allocative and economic efficiency of broiler production using closed House system ini Malang district of east java Indonesia. Livest Res Rural Dev 2015;27:1-8.
11. Pusdatin Ministry of Agriculture. Statistics Agricultural ommodity Prices. Jakarta: Agriculture Statistics; 2012.
12. Tomek WG, Robinson KL. Agricultural Product Prices. 3rd ed. New York, US: Cornell University Press; 1 .
13. Umboh SJ, Hakim DB, Sinaga BM, Kariyasa I. Impact of maize import tariff policy changes on production and consumption in Indonesia: A multimarket model analysis. t J Food Agric Econ 2014;2:113-26.
14. Yusdja Y, Ilham N, Sajuti R. Tinjauan penerapan kebijakan industri ayam ras: Antara tujuan dan hasil. J Agro Ekon 2004;22:21-36.

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