

# Opportunities of Indonesia To Export Halal Meat to the World: The Analysis Using RCA Index

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## Abstract

Every year, the number of Muslims is growing rapidly. Indonesia also has the highest population of Muslims and this is the pull factor of production and the increasing demand for halal meat products. Indonesia has many factors that make it as halal meat exporting countries to the world market because of its land is suitable for the Agribusiness cattle, protein source for cattle feed and low labor costs and the level of confidence in halal certification. This study was conducted to examine the method to compare between Indonesia between several countries such as Thailand, Malaysia and Australia as an exporter of halal meat to the world market by using RCA. MATLAB method is used to view the movement of export halal meat. The study also uses data from 2005 to 2011. The data is obtained that been published by FOASTAT and World Trade Organisation (WTO), and the Badan Pusat Statistik (BPS), Indonesia. Indonesia does not have a comparative advantage because Indonesia RCA index for exports in 2005 until 2011 less than one. Beef export index using MATLAB also showed an increase in export halal meat to Indonesia. The author also suggests that some recommendations and steps to be taken by the relevant authorities in order to realize the goals of Indonesia as halal meat exporters to the world market. Thus, the expectation of future research is should focused more on how to achieve this goal.

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## 1. Introduction

Generally, halal market is increasingly recognized as a new market sector that is very important. It is a new market forces that can not be forgotten. Users halal products has increased rapidly every year worldwide. The one of the contributing factor is the increase in the Muslim population of the world. According to the Halal Industry Development Corporation (HDC), the current world's Muslim population is approaching 1.8 billion people, or about a quarter of the world's population. Furthermore, they said that in 2025, the population of the Earth will increase to 36%. The population is large enough potential market for halal food products, especially meat. Data from the World Halal Forum (2011) showed almost around US \$ 42,328 billion the consumption of halal food products worldwide. In terms of total world consumption of food products around US\$ 158,949 billion, halal food distribution reached 26% of total consumer food products worldwide. While users Muslim countries reached US \$28 881 billion. With this amount, it is definitely that the demand for halal food will also increase.

Indonesia is a country with majority of the population is Muslim. Currently, Islam is the fastest growing religion in the world (Hariyadi, 2006). When viewed from wide territory and low labor costs and a lot of raw materials and

sources of food, such as grass and other food crops are in a state of abundance. This shows that Indonesia has a great opportunity to enter the world market for halal meat. Protein sources such as palm kernel, corn, cottonseed, and coffee grounds are the examples of an excellent source of protein for cattle gain weight. These allow Indonesia to become producer of halal meat and the strength of its natural resources is key competitive strategy to gain a greater chance of halal meat's main market. Other factors that are also important because the increasing global consumer confidence will be production of halal meat from areas that apply Islamic law. Even Harry Lawson, owner of Angus Lawson and Livestock Improvement Company, one of the largest exporters of beef in Australia was almost in tears when he saw the ground in Indonesia, he said that Indonesia is the best farming land he had encountered in this world

On the other hand, non-Islamic countries are very strong in terms of animal husbandry such as Australia, Brazil, Canada and has become the world's leading supplier of halal meat and other livestock products are halal because they have realized that the potential market for halal products have the potential to be developed (Gumbira-Said, 2008). Global competition is a challenge for Indonesia halal meat products to fill the global halal market potential optimally with the ability to develop a competitive advantage in these products and institutions.

It is necessary for Indonesia to not only capture the domestic market and avoid the biggest importers of Halal products. While Indonesia has a potential to become producer of the world. Therefore, this study want to discuss some of the challenges and problems that lead to the production of halal beef and why Indonesia had yet to be reached to become significant exporter and compete globally.

This study was conducted to evaluate the ability of Indonesia as the largest Muslim population in the world to be a national supplier of halal meat to the domestic and global market demand. Among the objectives of the study was to assess the extent to which Indonesia is a potential producer of halal meat and comparing other countries such as Thailand, Malaysia and Australia as imports of meat producers, as well as look at the factors that influence the inefficiencies in the halal meat industry in Indonesia.

## 2. Methods

Halal products, food and shariah system has attract many attentions among members of the Organisation of Islamic cooperation (OIC). In the study by Endang (2010) who studied business opportunity fair in the global market where their research focused on consumer behavior Islam and consumers of halal mention that OIC has estimated the value of halal products market globally has reached over US \$ 600 billion and trade will continue to increase at a rate of 20 to 30 percent every year. Halal products are focused on the Islamic population in the world, which is almost 1600 million people. Of these totals, Indonesia 180 million people, 140 million of India, Pakistan 130 million, 200 million middle East, Africa 300 million, 14 million and 8 million in North America. There are limited dietary products to meet the needs of users, where some Muslim countries should meet the requirements of halal products from non-Muslim countries. The examples of the Middle Eastern countries import goods from non-Muslim countries. The study found that if Indonesia wants to increase economic growth by investing and developing halal products, it requires to study the behavior of economic agents such as consumers product Islamic halal.

Dwi Purnomo study, this study saw the competitiveness of agro-industry products and dietary ASEAN institutional involving Malaysia, Indonesia, Brunei, Singapore, Philippines, Thailand, using SWOT analysis. SWOT analysis to identify internal factors (certification system adaptability, level of trust, the power of Halal industry, the potential for government support, public awareness, product innovation, added value and competitiveness of products, market potential) and external (advocacy and networking organization, research and technology, infrastructure, logistics, Halal certification bodies, provide the raw material sustainability, free trade and government regulation). From the analysis done by considering weight factors of interest, the findings show that the competitive position of Indonesia in ASEAN Halal agro-industry development occupies in the fifth position, just higher than the Philippines. As extrinsic factors or institutional, Indonesia

just ahead on the market potential, Halal certification system, certification bodies as well as availability of raw materials, while the logistics infrastructure, commitment and government policies, and the ability of the international and domestic advocacy, Indonesia was under the country- other countries.

The study conducted by Maimunah (2014) about Malaysia's potential as a world halal meat producers and she found that Malaysia is still suffering from shortages of some animal-based food products, especially beef and lack of land for the project site also prevent cattle breeders who want to develop their livestock. This study using RCA to see export potential. The demand for meat is expected to exceed 150 thousand tonnes by 2010, up to the year 2005, Malaysia is able to produce about 23 percent of the country's beef needs a total of 138 tonnes.

Melissa Wan Wan Hassan (2009) Review of halal food in New Zealand. Tourism New Zealand believes that New Zealand as a world leading producer of Halal meat, and this could attract foreign tourists come to visit. But the study found that travelers find it difficult to find halal food in New Zealand restaurants. Data was collected using questionnaire of 99 restaurants in New Zealand. The study found that a large percentage of the sample disagreed that Islam is an important tourism market for their business. And many are reluctant to promote halal food even in front of the store.

The study examined the modeling method using an estimation index RCA (Revealed Comparative Advantage). RCA is the index used in the economy of nations to calculate the relative advantages or disadvantages of a particular country or the employment in the goods, as evidenced by the flow of trade. It is based on the concept of Ricardian comparative advantage. To show the level of competitiveness of a region within a commodity on the world, which are widely used in many studies to evaluate the potential of a country in deciding whether to produce or import products because the opportunity cost factor in the production of a product.

$$RCA_{ij} = \frac{X_{ij}/X_i}{X_{aj}/X_a}$$

$X_{ij}$  : Export of beef from countries i

$X_i$  : Total export from country i

$X_{aj}$  : Total world export of beef

$X_a$  : Total export of world goods

A country is said to have comparative methods if the RCA index > 1. If the index is less than one, a country is not said not being able to become a producer (Greenaway and Milner, 1993). The equation 3 of RCA index is calculated only as alternative to make a reference to the performance trade only in their own country. Then, we also looking at halal meat export movement patterns using MATLAB.

Data taken from annual data is obtained from FOASTAT issues and World Trade Organisation (WTO), and Badan Pusat statistik (BPS), Indonesia. From 2005 to 2011 involving three countries, namely Malaysia, Thailand, Australia.

## 3. Result and Discussion

To measure the extent to which Indonesia is a country of opportunities for halal beef producers on a global scale, the method of comparison is done by using the RCA (Revealed Comparative Advantage) to see whether Indonesia will be the producer or importer of kosher beef. RCA calculation results show that when the value is less than 1 there is no comparative advantage. RCA index calculation results have been obtained and are shown in Table 1.

**Table 1 : Beef RCA Index**

Years Country	2005	2006	2007	2008	2009	2010	2011
Indonesia	0.001	0.002	0.003	0.0009	0.0001	0.001	0.001
Thailand	0.018	0.018	0.038	0.049	0.085	0.093	0.188
Malaysia	0.024	0.024	0.022	0.035	0.039	0.049	0.046
Australia	15.441	14.015	13.016	10.516	8.861	8.436	7.7317

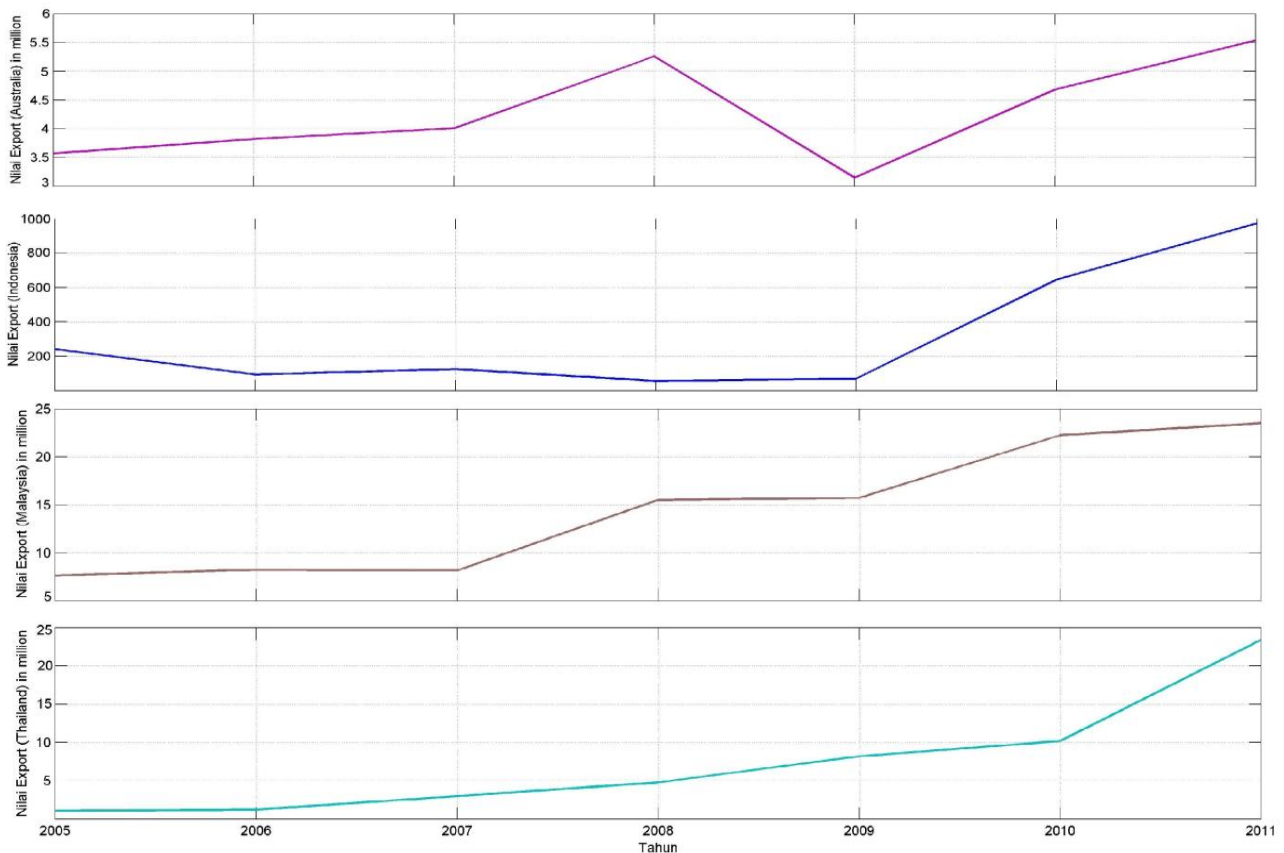
RCA calculation results show that Indonesia does not have a comparative advantage because Indonesia RCA index for exports in 2005 until 2011 less than one. The countries surveyed were ranked lowest Indonesia from 2005 to 2011, but Indonesia RCA index showed a slight increase in 2008 of 0.0009 but the figure is still below to be so called no comparative advantage, but the index is decrease in 2009 to 0.0001. Similarly happen to Thailand and Malaysia. However, although still below one, Thailand show an increase in meat production from 2006 until 2011 at the rate of 0.018 to 0.188. Currently,

Thailand continues to increase meat production in the country to become a producer of halal meat.

Unlike the other three countries, Australia show advantages over the export of beef products. Where the index shows from 2005 to 2011 was more than one. Australia beef products mostly exported to Indonesia, the current policies of the government ban on the export of Australian cattle to Indonesia in 2011 affected the Australian economy particularly in the export of cattle up to the level of exports fell. Australia-Indonesia cooperation opportunities in the field of import export of beef is still wide open. Firstly, because Indonesia embracing system based country and geographical distance between the two countries were very close. Nini Salwa Istiqamah (2014) proved that Indonesia is still too far behind to be a beef-producing countries in the global market. Indonesian beef production to cover consumption in most countries and only a small amount is exported to other countries.

In conclusion, based on the RCA index for four countries namely Indonesia, Malaysia, Thailand and Australia, Australia showed that only one country has a comparative advantage in the production of halal meat in the international market . While, Indonesia does not have the beneficial ratio to be halal beef producing countries in the international market. If we look at the pattern of movement of the export of beef from any country using Matlab is as follows:

**Table 2 : Index of beef export using MATLAB**



Based on the variety of beef production data 2005 to 2011 from four countries, it is found that an increase in export

value annually in the state of Thailand, Malaysia, and Indonesia. While National Australia decreased export value in 2009 and increased again in the next year.

Halal Meat Production enhance Indonesia. Based on analysis of available RCA index Indonesia in 2011 was 0.001 which is less than 1. This means that based on the production of beef at this time shows that Indonesia still has not been able to become an exporter of cattle to world trade market. Nevertheless, the external aspect or the constitution, Indonesia is superior in the market potential factors, Halal certification system, certification institutions and the availability of raw materials (Dwi Purnomo), while for logistics infrastructure, commitment and government policies, domestic and international support capability, Indonesia was below other countries. Beef production in Indonesia can still be enhanced by a number of factors as described below:

Vast areas of land Indonesia has vast areas of land that are suitable for livestock farms. The land is suitable for growing grass to feed cattle.

The protein source for cattle feed is enormous. Indonesia also has cracked a lot of protein, such as palm kernel, corn, cottonseed, and coffee grounds, which is a good source of protein for cattle feed.

Low cost labour. Indonesia is a country with a Muslim majority, which has the fourth largest population in the world after China, India, United States. According to statistics released by the Ministry of Internal Affairs of Indonesia, the population of Indonesia on December 31, 2010 stood at 259,940,857 people. This amount consist of 132,240,055 men and 127,700,802 women. Therefore, it has a enormous total labor force and more importantly is that the total labor force can be obtained with low cost. With a total labor force is high and cheap, Indonesia has the potential to improve beef production and the production costs are lower, thus, can match production capabilities of Australia. As to China, China Halal industry has the advantage of cheap labor. China has recently entered into a contract of cooperation with Europe Community (EU) and own several EC-approved companies to export halal products to the European market.

The measure need to be taken. Based on the existing potential, it would not make sense if Indonesia does not take certain actions to ensure that there are potential benefits and may in turn could increase the production of beef. Among the measures to be taken are:

*Financial capability.* Without adequate financial, ambition only a dream only. Action must be taken to ensure that Indonesia does not have a big problem to implement the project to increase the production of beef.

*Halal Certification and Food Hygiene Certificate.* The focus of the State to be export to the countries meat is having a Muslim population of about a quarter of the population of the world such as India, Pakistan, Middle East, Malaysia and North America. To ensure this halal meat products can be accepted by States may be applicable, there must be a valid halal certificate and accepted by the States concerned importer. For non-Muslim countries, they require a health certificate that is recognized to ensure that imported meat is certified safe for consumption by health standards of each country.

Halal certification issued by Majelis Ulama Indonesia (MUI) for outstanding products and made in Indonesia, the world is still not recognized and currently only 25 countries that recognize the certification of halal Indonesia. Today many Indonesian companies which do the export to the Middle East chose to take care of halal certification in Malaysia. Prior to the United Arab states that does not to recognize Lembaga Pusat Pengembangan Obat dan Makanan (LPPOM) MUI. The reason due to they do not know deeply about the MUI. MUI lobbying effort against UAE authorities also failed because the institution does not represent the government of Indonesia. Indonesia has not being label as halal recognition by trading partners of the world due to lack of quality certification branding. Admittedly, Malaysia still better to show seriousness determine the halal product.

Products produced by MUI halal certification, should provide security for manufacturers, thus, products from Indonesia can be accepted by all countries, especially Islamic countries export. But in reality, not all countries accept Islam. Though Indonesia is the largest Muslim country.

According to the National Certification Agency (BSN), the Government of Indonesia does not have halal certification institution which is internationally recognized Indonesian export products had experienced rejection because halal logo has not been consistently recognized in some countries. There is currently no laboratory or institution that is recognized halal certification. Neighboring countries like Malaysia have a certification agency under the ministry of religion that has been recognized. Hopefully, the expectation is that in the future, Indonesia has halal certification institution recognized internationally. There are some fundamental reasons why the halal label Indonesia not recognized by Muslim countries and the international world.

Firstly, the Majelis Ulama Indonesia or MUI is not under the banner of the Indonesian government as an official institution. Despite the word "Assembly" but arguably just MUI class community organizations that there is no credibility in the reign of the Shah. So far, the Council may designate a product is halal or not, just by the Decree of 3 Ministers. In addition, the government has a capable device, while the Council did not have.

Secondly, the Council did not have members who qualified in terms of investigations and the laboratory, such as expert nutritionists, chemist, physicist, pharmacist and others. MUI should only function is has many qualified scholars in religion, for example such as fatwa, not a council or group of scientists or researchers. So MUI should cooperate with other agencies.

Third, in condition of the MUI that has the power to determine whether or not a fully halal products ranging from process to issue halal certificates for the food and drink. However, MUI is not experts in science to investigate the content or materials or the materials or substances that may be found not kosher in a product, it is natural for MUI halal label is suspected by other countries. Fourth, it has been the involvement of the Council under the Food and Drug Supervisory Agency (BPOM), the MUI become sub-ordinate under the board. This causes the MUI is not too happy because authorization is not full,

then the certification is not recognized by many countries, including Muslim countries.

During the question of certification of halal food product label globally still a major problem because each country gives recognition to the halal certification system for the products they produce. This leads to a wide variety of halal certification in the market globally. So that the industry is getting stronger and we need a well-organized nature of international halal certification under a certifier institution designated by producing countries of the world halal food products. Strengthening these systems will have a major impact on a consumer confidence in the halal food products and encourage people to be more interested in non-Muslim halal food products.

Legislation, Indonesia is a vast country and comprised of many countries. Realizing that the broad fields farmed throughout Indonesia requires efficient management and monitoring and has no legislative issues. Let the government party ensure legislation does not become a factor that is a big problem or an obstacle to spending beef.

Infrastructure such as roads, water and electricity facilities, information is also important to facilitate the breeding of cattle. Current information technology to accelerate economic movement. Those technology and infrastructure able to reduce production costs, shorten the distribution chain and product distribution efficiency. In the future, the use of information technology is very important for the development of the global halal food industry. For everyone who is able to master information technology, they will become the market leader in the global halal food industry.

Marketing factors need to be emphasized to ensure that meat-beef that is processed later can be sold overseas and dumping on the market in the country. The potential market will attract businesses to enter the industry of halal food products. Future competition for market share halal food products will be more competitive. It is necessary to strengthen market research and product testing in order to obtain a product created niche markets. Thailand is moving fast in terms of research and testing halal food products. When this has been a lot of halal food products from Thailand which are ready to market the world's halal food products. Malaysia also has a few years ago to set up their halal food industry. Their target market is no longer in the country but increase the share of exports especially to the EU and the Middle East. While Indonesia is still difficult to meet the demand in the country, making it difficult to export.

Research and management development (R&D) should continue to be carried out so that this industry continues to grow rapidly. Efforts to improve the quality of meat and find ways to further reduce the cost of production is continuing efforts to be done.

#### 4. Conclusion

Although based on the analysis of RCA found that meat production Indonesia currently does not demonstrate the potential to become major meat exporter to the world market, but the potential is still there by a number of factors as described above. It should be used to take the measures that have been proposed and is possible in the next few years that Indonesia was able to emerge as a nation's largest kosher beef exporter in the world. The situation on the ground to support the above statement which found that as the country's largest Muslim population but it is not yet understood as Halal products as products with good quality. Halal is still valued merely as the product in accordance with religious rules and not seen as a high quality product as well as in Malaysia and Brunei Darussalam until Lawfulness products synonymous with high quality.

#### References

- [1]. Departemen Dalam Negeri Indonesia. (2010) *Statistical Bulletin*. Jakarta.
- [2]. Gumbira-Sa'id., E and Intan A. H. (2000). Menghitung Nilai Tambah Produk Agribisnis. *Komoditas*, II, 19 : 48, Institut Pertanian Bogor. Bogor.
- [3]. Hariyadi, P. (2006) Mutu dan Ingridien Pangan. *Editorial Food Review Indonesia* Vol. 1, No 5. Bogor
- [4]. Maimunah. (2014) Potensi Malaysia Menjadi Negara Pengeluar Utama Daging Lembu Halal. *Thesis FEP Universiti Kebangsaan Malaysia*
- [5]. Purnomo, Dwi. at all. Posisi Daya Saing Produk Dan Kelembagaan Agroindustri Halal Asean. *Journal Mahasiswa Program Doktor Teknologi Industri Pertanian – IPB*.
- [6]. Wan Hassan, Wan Mellissa (2009). Halal Food in New Zealand Restaurants: An Exploratory Study. *Int. Journal of Economics and Management* 3(2): 385–402.
- [7]. Zainal abidin M., Mad Nasir S. And Anjah Amzah A.R. (2003) Comparative Advantage Indices of Selected Livestock Production Sectors in Brunei Darussalam, *Journal of International Food & Agribusiness Marketing*, 15(1/2), 77-92.
- [8]. Zalina Zakaria. (2004). Keberkesanan Undang-Undang Makanan Halal Di Malaysia, *Jurnal Syariah* 12, Jilid 2, pp. 95-106.
- [9]. FAOSTAT: <http://faostat.fao.org/>
- [10]. <http://devdata.worldbank.org/data-query/>
- [11]. <http://agriexchange.apeda.gov.in>
- [12]. <http://bps.go.id>
- [13]. [www.worldhalalforum.org/](http://www.worldhalalforum.org/)
- [14]. [www.hdcglobal.com/](http://www.hdcglobal.com/)