

ACFTA AND DOMESTIC TOYS MARKET

The Urgent of Marketing Network and Training Inovation For the Toys Industry

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Abstract

ACFTA memberi dampak terhadap hampir semua sektor ekonomi, baik dampak positif maupun negatif. Namun demikian, dampak negatif ini lebih tinggi ketimbang dampak positifnya. Artikel ini mengkaji dampak ACFTA terhadap permintaan mainan anak-anak buatan Indonesia; dan mengkaji tingkat elastisitas produk mainan anak-anak buatan Indonesia dengan produk mainan anak-anak buatan China. Nilai-nilai yang diuji dalam artikel ini menggunakan Model Regresi Multiplikatif. Hasil menunjukkan: pertama, ACFTA berdampak terhadap produk mainan Indonesia. Indikatornya adalah pasar didominasi oleh produk mainan buatan China, dan produk mainan dari China 11,7 kali lebih diinginkan oleh konsumen ketimbang produk mainan Indonesia. Kedua, elastisitas silang antara kedua produk asal bernilai 0,085. Nilai ini mengindikasikan bahwa produk mainan buatan Indonesia dan China adalah komplementer dan substitutif satu sama lain. Elastisitas silang yang positif bisa menjadi petunjuk adanya praktik kartel di pasar mainan anak-anak Indonesia.

Keywords: demand, elasticity, substitute, cartel, product innovation

INTRODUCTION

On November 11, 2004, the Government of Republic of Indonesia with ASEAN countries signed the Framework Agreement on Comprehensive Economic Co-operation between the Association of South East Asian Nations and the People's Republic of China. The agreement underlies the Asean-China Free Trade Agreement (ACFTA), which implemented in January 2010. The purposes are to (1) strengthen and enhance economic cooperation, trade and investment on both regions, (2) liberalize trade in goods, services and investments (3) searching new areas and develop mutually beneficial economic cooperation on both regions, (4) facilitate more effective economic integration with the new

member states of ASEAN and to bridge the gap that exist on both regions. Both regions also agreed to strengthen and enhance economic cooperation through (1) elimination of tariff and nontariff barriers to trade goods, (2) progressive liberalization of trade in services, (3) build a competitive investment regime and openly within the framework of ACFTA.

With this agreement, since January in 2010 as much as 83 percent of 8738 imports of Chinese products free entry into the Indonesian market without customs fee. The question is does ACFTA has positive impact on Indonesia's economy?

A number of studies have been conducted to assess its impact. Hutabarat, et al. (2007)

found that the Early Harvest Package (EHP) policy in ACFTA has proven positive impact on export performance of agricultural commodities that are dominated by palm oil, natural rubber, rubber sheet and rubber mixtures.

Research by Oktaviani, Widyastutik and Amaliah (anonymous) found that the macroeconomic impact of ACFTA improve welfare, real DGP, GDP deflator, the consumption (government and private sector), investment, TOT, volume and price of investment but it causes a negative trade balance. By sector, the impact of ACFTA increases the output of some specific commodities that this is in line with the increase in exports and employment. But Vutha and Jalilian (2008) stated that "trade liberalization can have positive or negative consequences on the environment depending on a country's comparative advantage, existing policies and resource management".

However, Mutakin and Salam (2009) stated that since the implementation of the ACFTA, Chinese products flooded into the markets of Indonesia. However, the rate of 0% based on ACFTA then it can certainly jump in imports from China will be more difficult to control (Syachroni, 2010).

One of the market is toys market. Data of the Indonesia Association of Educational and Traditional Toys (Apmerti) states approximately 80-90% of imported toys are from China.

In 2011 the realization of the import of toys for 10 months in 2011 reached US\$ 60.237 million. It jumped to 30.7% over the same period that only reached US\$ 46.08 million in 2010. The high of imports is certainly related to the lack of raw materials, component supply, instability and the high cost of energy, as well as any capital. This condition then forced the toys manufacturers to reduce their production. They ultimately prefer to import it rather than produce it.

Theoretically, increase in trading volume impact on increasing the number of supply and the resulting price will be cheaper than before. It coupled with high product variants of toys, so consumers have the choice of a variety of toys products as well. Prices are cheap and varied products that will certainly make consumers prefer to buy toys from China. Based on that description, this study is to (1) analyze the impact of ACFTA on demand for toys product made in Indonesia, and (2) analyze the elasticity of toys products from Indonesia to China's.

In East Jakarta, there is a market that has existed since the 1960's which called the Prumpung Market or Gembrong Market. This market is located on Jl. Ahmad Yani and Jl. Basuki Rahmat in Cipinang Besar subdistrict. In the past this market is a traditional market that provides a variety of vegetables, fish, and other. In 1998, after the riots some local people started to build small 'wild' shops there. At the beginning, only a few merchants sold toys, office equipment, and writing tools but later evolved into the wholesalers to the present. Products sold in this market are mostly toys, writing tools, knick-knacks and accessories hair ornaments. Looking at the market conditions, the object of research was conducted on this market. The Picture 1 below is a map showing the location of Prumpung Market.

METHOD

The study design used in this paper is a quantitative design. The type of the data used is primary and secondary data. Primary data is collected by using questionnaire instruments. Sampling technique used purposive sampling. The number of respondents is 30 people.

The Central Limit Theorem states that if $X_1, X_2, \dots, X_n$ is a random variable of the population (in this case, the probability distribution) with any mean of μ_x and mean of σ^2_x , then the variance of the sample tend to be normally distributed with a mean μ_x and variance $\frac{\sigma_x^2}{n}$ when the sample size increase to infinity. If

X_i is assumed to originate from the normal population, then the mean sample will follow a normal distribution regardless of sample size. In practice, irrespective of any underlying probability distribution, the sample mean from a sample size of at least 30 observations will be close to normal.

To determine the impact of ACFTA on demand toys made in Indonesia, it is used the demand equation. The most common specification is the linear model as follows: (Pappas and Hirschey, 1995).

$$Q = a + bP + cA + dI \dots\dots\dots(1)$$

As Pappas and Hirschey (1995) said, then the toys demand model in the Prumpung Market is designed as follows:

$$Q_{Dx} = f(P_x, I, P_r, P_e, T, N, 0) \dots\dots\dots(2)$$

To find the amount of variance, P_x , I , P_r , P_e , T , N , on Q_{Dx} can be searched by using the Least Squares regression model as follows:

$$Q_{Dx} = a + \beta_1 P_x + \beta_2 I + \beta_3 P_r + \beta_4 T + \beta_5 N + \varepsilon \dots\dots(3)$$

However, because the above equation is often not logical, then it is used the following multiplicative equation as follows: (Pappas and Hirschey, 1995)

$$Q = aP^bA^cI^d \dots\dots\dots(4)$$

The equation above is equivalent to

$$\ln Q = \ln a + b \cdot \ln P + c \cdot \ln A + d \cdot \ln I \dots\dots\dots(5)$$

So that equation (3) becomes:

$$\ln Q_{Dx} = \ln a + \ln \beta_1 P_x + \ln \beta_2 I + \ln \beta_3 P_r + \ln \beta_4 T + \ln \beta_5 N + \varepsilon \dots\dots\dots(6)$$

The equation above is developed further in view of the parameters of consumer expectations (P_e), and consumer tastes (T) is a non-monetary variables. So therefore, it needs to be transformed. In this case, it was used

dummy to estimate the magnitude of both variables. The set of the following dummy variables is:

Taste for toys made in China = 1

Taste for toys made in Indonesia = 0

The use of dummy model is assumed that the toys are made in China is more competitive and cheaper than toys products made in Indonesia. Giving a value of 1 is also in accordance with the logic theory which states that the demand for quality and cheap price of a product, the higher the demand for such products.

In addition, data is cross-sectional. The Least Squares Regression equation (6) is modified into:

$$\ln Q_{Dx.i} = \ln a + \ln \beta_1 P_{xi} + \ln \beta_2 I_i + \ln \beta_3 P_{ri} + \ln \beta_4 N_i + \beta_5 DF_i + \varepsilon \dots\dots\dots(7)$$

Where Q_{Dx} is demand for toys, P_x is price toys made in Indonesia (in rupiah), I is consumer income (in rupiah), P_r is price toys made in China (in rupiah), N is potential consumer (in frequency of visits), and DT is dummy taste.

For the analysis of demand elasticity, it is assumed that:

1. Toys in the Prumpung Market is a homogeneous;
2. The market consists of toys products from China and Indonesia;
3. Both products are assumed to have a functional relation to the price;
4. Thus, from the price perspective, both products are substitution for each other.

Of the four assumptions above, if both products have the relation of use, then:

$$Q_{da} = f(P_a, P_b) \text{ dan } Q_{db} = f(P_a, P_b) \dots\dots\dots(8)$$

Q_{da} is toys demand from China and Q_{db} is a toys demand from Indonesia. P_a is the price of toys from China and P_b is the price of toys from Indonesia.

The first derivative of Q_{da} and Q_{db} is marginal demand functions, where: (du Mairy, 2003)

$\frac{\partial Q_{da}}{\partial P_a}$ is marginal demand on A to P_a

$\frac{\partial Q_{da}}{\partial P_b}$ is marginal demand on A to P_b

$\frac{\partial Q_{db}}{\partial P_a}$ is marginal demand on B to P_a

$\frac{\partial Q_{db}}{\partial P_b}$ is marginal demand on B to P_b

Based on the marginal demand function above, the elasticity of demand can be examined, assuming the other variables constant (*ceteris paribus*), both the price elasticity of demand and the cross elasticity of demand. The cross elasticity of demand measures the sensitivity of changes in toys made in Indonesia with regard to changes in the price of toys from China.

$$\eta_{da} = \frac{\% \Delta Q_{da}}{\% \Delta P_a} = \frac{EQ_{da}}{EP_a} = \frac{\partial Q_{da}}{\partial P_a} \cdot \frac{P_a}{Q_{da}} \dots\dots\dots(9)$$

$$\eta_{db} = \frac{\% \Delta Q_{db}}{\% \Delta P_b} = \frac{EQ_{db}}{EP_b} = \frac{\partial Q_{db}}{\partial P_b} \cdot \frac{P_b}{Q_{db}} \dots\dots\dots(10)$$

$$\eta_{ab} = \frac{\% \Delta Q_{da}}{\% \Delta P_b} = \frac{EQ_{da}}{EP_b} = \frac{\partial Q_{da}}{\partial P_b} \cdot \frac{P_b}{Q_{da}} \dots\dots\dots(11)$$

$$\eta_{ba} = \frac{\% \Delta Q_{db}}{\% \Delta P_a} = \frac{EQ_{db}}{EP_a} = \frac{\partial Q_{db}}{\partial P_a} \cdot \frac{P_a}{Q_{db}} \dots\dots\dots(12)$$

Where η_{da} and η_{db} price elasticity of demand; η_{ab} and η_{ba} cross elasticity of demand. A more

explicit equation of cross elasticity of demand can be written as follows

$$\in PX = \frac{\partial Q_y / Q_y}{\partial P_x / P_x} \dots\dots\dots(13)$$

$$= \frac{\partial Q_y}{\partial P_x} \times \frac{P_x}{Q_y} \dots\dots\dots(14)$$

RESULT AND DISCUSSION

Many studies have conducted to evaluate the impact of free trade in particular ACFTA, both from the social, political and economic dimension. Specifically on the economic dimension, those studies have conducted had a variety of approaches. The spectrum of analysis resulted some conclusions varied either. On the one hand, the researchers stated that the scope of economic liberalization in ACFTA area could adversely affect on the national economy. This conclusion departs from the real sector of Indonesia has not been competitive yet. Conversely, many also stated that trade cooperation between ASEAN and China within the ACFTA has any advantageous for a certain economic sectors.

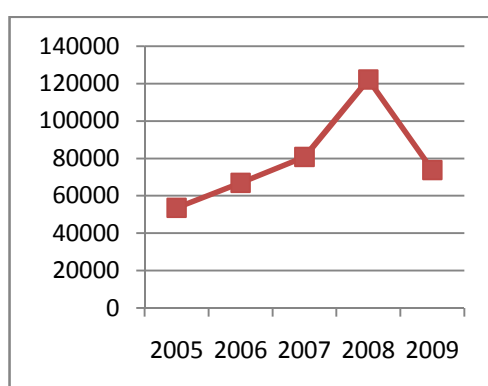
The issue of the toys industry in Indonesia could not be separated by the micro, small, and medium enterprises (SMEs), so the industry is characterized by its raw materials and types of toys. Indonesian toys are generally made of wood, paper and recyclable materials. With these characters, it can be stated that toys industry in Indonesia is more labor intensive. As an illustration, this is the following table of the toys industry workers in Indonesia.

Table 1. Labor of Toys Industry Year 2005-2009

Year	Number of Workers
2005	59.068
2006	59.068
2007	59.068
2008	59.368
2009	60.068

Source: Ministry of Industry

Instead, the type of raw materials of imported toys is characterized by the type of computer games, electronic toys and made of plastic. The type of toys is that it seems to be demanded by the consumer. Because this type of toys is supported by the appearance of colors, types and shapes which more interesting than the domestic toys. Based on this argument, it is not surprising that the value of imports exceeds the value of toys production in the country. As an illustration, this is the following number of toys import to Indonesia from 2005 to 2009.



Source: The Ministry of Industry
Picture 2: The Number of Toys Import to Indonesia (in trillion rupiah)

Of graphic illustration above shows that the number of imports of toys to Indonesia tended to increase, especially since the year 2005-2008. In 2008, the number of imports of toys to Indonesia reached a number of US\$ 122,159 million, it increases of more than 150% from the previous year. According to The Ministry of Commerce, most of the imported toys are from China. The increase in imports, it is especially happened since the implementation of ACFTA.

Ironically, the proportion of toys production in Indonesia continues to decline from 2005 to 2009. The table below is the number of domestic toys production from the year 2005-2009.

Table 2. Toys Production in Indonesia Year 2005-2009

Year	Production (Trillion Rupiah)
2005	2.754
2006	2.497
2007	2.603
2008	2.650
2009	2.690

Source: The Ministry of Industry

To determine whether the model was appropriate or not to predict the impact of ACFTA on demand toys on the Prumpung Market, these are the following tests that are generally used: (1) multicollinearity and; (2) homoscedasticity. The multicollinearity which indicated by Variance Inflation Factor (VIF) value for each variable are follows: 1,958 for P_x , 2,987 for P_r , 2,995 for I , 1,512 for N , and 1,512 for T . VIF values indicate less than 10. This indicates that there is no perfect multicollinearity in the model.

Another assumption that must be met from the regression equation apart from the problem multikolierity is homoscedasticity. P-value indicates that the value is 0.150 or $\alpha > 5\%$. It means that the residual are spread normally. By using equation (7) obtained the values as shown in the table below.

Tabel 3. Significance Analysis of Partial Regression Coefficients

Variable	Coefficients	Probability
Constant	-2.9406	0.020
price toys made in Indonesia	-0.0004	0.997
price toys made in China (in rupiah)	0.0848	0.295
consumer income	0.3449	0.002
potential consumer	0.8672	0.000
dummy taste	0.1170	0.080
R-Sq	94.50%	
R-Sq (adj)	91.67%	
DW-Statistic	1.81	

Source: proceed of primary data

Based on the table above, the demand equation is.

$$\ln Q_{Dx,i} = -2.9406 + 0.0004 \ln P_x + 0.0848 \ln P_r + 0.345 \ln I + 0.867 \ln N + 0.117 DT \dots \dots \dots (15)$$

Coefficients for each independent variable show the marginal relation between its variable with demand for toys in the Prumpung Market, by maintaining the effect of all other variables are constant in the demand function. In other words, the coefficient is the slope or elasticity. From the equation (15) shows that the coefficient of the price toys made in Indonesia (P_x) is -0.0004. This value stated that while maintaining the effect of all other variables remain constant, any increase one Rupiah in price causes a demand for toys in the market decreased by 0.0004.

By looking at the numbers of elasticity, the nature of toys made in Indonesia (P_x) is inelastic because less than 1 or $E_d < 1$. In theory stated that the more responsive the quantity demanded to price changes, the greater the change in the quantity obtained from the shift in supply curve (Lipsey et.al 1995).

In the case of toys made in Indonesia (P_x), it was seen that consumers are less responsive to price changes. The small elasticity of toys made in Indonesia (P_x) seems to be caused by the substitution of goods, namely toys made in China. The existence of substitute goods is a major determinant of the elasticity of demand.

The variable price toys made in China (P_r), the value of the coefficient is 0.0848. This value stated that every increase of 1 rupiah price of toys made in China will cause demand for its product increases by 0.0848. Or in other words, $\partial Q / \partial P_r = 0.0848$. This is the evidence that ACFTA impacts on demand for toys in the Prumpung Market.

The value of the cross elasticity indicates that toys made in Indonesia (P_x) with toys made in China compete and substitute with each other. This can be compared with the value of

the elasticity between both products. Value of the elasticity of demand for toys made in Indonesia is smaller than the value of the elasticity of demand for toys made in China.

Cross elasticity is also shown that consumers will switch to toys made in China when it is cheaper. The magnitude of the cross elasticity and a positive or negative sign indicates whether a particular commodity is a substitute or not (Lipsey et.al 1995). The cross elasticity can be used as an indicator whether toys market in Indonesia is cartel or not. The term is taken from the Antitrust Laws and the United States today is known as a Cartel.

Cartel is an association of two or more legally independent entities that explicitly agree to coordinate their prices or output for the purpose of increasing their collective profits (Ganner, 1999 in Soemardi, 2009). Under Antitrust Law, cartel is prohibited in almost all countries. In Indonesia, the case is governed by Law No. 5/1999 concerning Prohibition of Monopolistic Practices.

The indication of unfair competition is getting stronger because according to estimates of the Ministry of Trade, nearly 80-90% of products imported toys are from China. This was later clarified to the merchants stating that almost 75% of toys in the market come from China.

Theoretically, if the price of other goods changes the quantity demanded of good X may also be changed. In practice, the demand for most products is influenced by the price of other products. The concept of cross elasticity is used to examine the responsiveness of demand for a product to changes in prices of other products. On the estimation results show, the sign of the price of toys made in China is positive. This means that the goods are substitution of goods (Nicholson 1994, Sudarsono 1995) and also indicates that the price of the goods and the demand for other goods are always moving in the same direction (Pappas and Hirschey 1995).

In the event of price changes for toys made in China (in terms of cheaper products than toys made in Indonesia), the change in prices will encourage consumers to buy toys made in China more. In this case, the tastes and preferences of consumers towards the toys made in China are higher when compared with the tastes and preferences of toys made in Indonesia.

Furthermore, if the demand for toys made in Indonesia (P_x) had no change in line with declining prices, then this condition will force domestic manufacturers to reduce the production of toys. It could be happened if there are no incentives to increase competitiveness and protect them from the government.

On the consumer's income variable (I), the value of the coefficient is 0.345. This value is stated that any increase in income of 1 rupiah will increase the demand for toys on the market by 0.345. On variables of potential consumers (N), shows the value of the coefficient is 0.867. This value indicates that any increase in the frequency of consumer visits to the market will increase the demand for toys for 0.867.

Based on the value it can be stated that the toys are normal goods. Elasticity of the normal goods to income can be greater than one (elastic) or smaller than one (inelastic). It depends on whether the percentage change in quantity demanded is greater or smaller than the percentage change in income that caused it.

On variables of potential consumers (N) has a positive coefficient. This value indicates that any increase in the frequency of consumer visits to the market will increase the demand for toys. This indicates that the higher number of consumers visits into the market, then the higher the probability of consumers are buying toys. The survey shows that the frequency of customer visits rate 6 times a year. The results state that one visit will increase the demand for toys on the market at 0.867 percent.

On the taste variable (T), this variable is measured and identified through the categorization of the price to be paid on each type of toys, whether toys are made in Indonesia or made in China. If the sample of consumers stated that spending more money for toys that have been identified are toys made in China, then its value will be given a dummy value of 1. Conversely, if his/her spending less money for toys made in Indonesia, the dummy values will be given a value of zero. Coefficient value of this variable is 0.117. It indicates that the taste has positive effect on demand for toys in the market. This positive value indicates that the toys from China 11.7 times more interesting than the toys from Indonesia.

Coefficient determination is 94.50%. Independent variables can explain the variance of demand for toys in the market. This is evident from the F test with a significance that reaches 83.21 with p-value = 0.000 at α 5%. The results of the estimate show that the impact of ACFTA has affected on demand for toys made in Indonesia.

CONCLUSION

ACFTA has a real impact on demand for toys on the Prumpung Market. As a result, quantity of toys in the market is dominated by toys made in China. Caused the price of the toys are cheaper, so consumers will prefer to buy toys made in China than Indonesia.

In addition, toys products made in Indonesia and China compete and substitute with each other. A positive elasticity shows when demand for toys made in China increases, the demand for toys made in Indonesia are also increasing. There is cartel indication in the toys market in Indonesia, especially on the Prumpung Market. Positive sign of the cross elasticity can be a hint at the existence of this case. But the limitations of the coverage data are not strong enough to conclude the existence of this case.

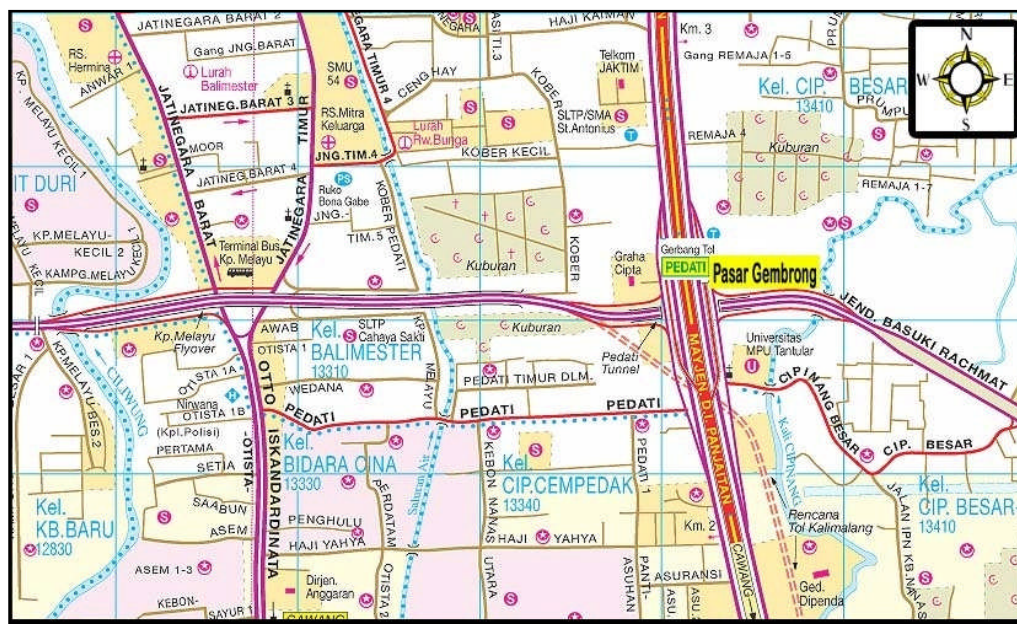
Based on the conclusion above, it can be given the following suggestions. It needs some

incentives from the government to increase the competitiveness and protect toys industry in the country. Incentives can be applied such as soft loans for small and medium toys industries, marketing network, and training innovation as well as creativity by involving new technology.

More extend study of the impact of ACFTA on toys industry in Indonesia is still very necessary to be conducted. These are the mainly related issues: (1) unfair business practices that occur in toys market, (2) the situation and condition of toys manufacturers in the country, (3) identification of grading on toys product in order to obtain any kind of toys that developed in the market, and (4) the role and technical government policies in protecting toys manufacturers in the country.

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Prumpung/Gembrong Market Map, Jatinegara, Jakarta Timur