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by Murpin Sembiring

Analysis on the Effect of Inflation, Foreign Exchange Rate and the Flow of Ship Arrivals towards Cattle Ship Unloading: Case Studies in Surabaya Port

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Abstract: *The price of goods and services will increases at a certain period, such as the Eid al-Fitr day or Muslim festival or before Christmas or New Year, then after those days, the prices of goods and services will drop again, this is not an inflationary pressure, but only a price fluctuation because the supply and demand at certain time. Especially the cattle import, during the Eid-al-Adha the demand is rising, thus the market must be able to supply the needs. Foreign Exchange Rate or the exchange rate of national currency against foreign currency, the fluctuation of the exchange rate between the State currencies with other foreign currencies greatly affect the potential of the country's export-import. This research method is included in the type of causal research because one variable with other variables is interconnected, namely the independent variable and the dependent variable. between inflation, exchange rates and Dead Weight ship calls, so that they can be known to affect imports. In this work which is known that the flow of ship's arrivals in a port is categorized as Dead Weight Ships Call and Unit Ships Call, thus, in this research the researcher only limit the research and focus on the flow of the arrival of the ship with the category of Dead Weight Ships Call. The results of this paper show that (1) there is simultaneous influence of Inflation, Foreign Exchange Rate, and Dead Weight Ships Call on Imported cattle; (2) There is no partial influence of Inflation and Dead Weight Ships variable on cattle Imports; (3) There are partial influences of Foreign Exchange Rate variable on Imported cattle; (4) Foreign Exchange Rate is a variable which has the greatest influence on Imported cattle.*

Index Terms: *Keywords: Inflation, Foreign Exchange Rate, Dead Weight Ships Call, Imported Cattle.*

I. INTRODUCTION

Inflation is an increase in the price of goods and services in general and continuous or in other words the decreasing of purchasing power of the country's currency for the purchase of goods and services in general. When the price of goods and services increases in a certain period such as the Eid day or Muslim festival or before Christmas or New Year then after those days the prices of goods and services will drop again, this is not an inflationary pressure, but only price fluctuations. The rise in prices of goods and services is not in general but only in some certain goods and services. Inflation is best described as an increase in general price, where inflation lowers the purchase potency of a currency [1]. Inflation also raises the prices of goods and labor cost so that the cost of goods and selling prices increases. Inflation is one of the main factors affecting the exchange rate. Theoretically, the low inflation scenario will show the increase rate of the currency, because the purchase potency of the currency will increase if compared to other currencies. Inflation may cause the rising prices of imported commodities, such as oil. However, this type of inflation is usually temporary, and less important than structural inflation which caused the excess supply of money [2]. According to Jansson [3], inflation is the increase of general prices in several occasion or certain situation where the value of money is declined. Similiar with the idea, there are several authors who said that inflation as a process or an event of the increase of general prices, and deflation as the vice versa, where it limited as part of the declining process. According to Mallik [4], inflation is a global concern that continually threat all economies, either the developed or developing, due to its undesirable effects. Keynesian's theory demonstrates that inflation occurs when demands exceed the economy potential [5].

Foreign Exchange Rate or the exchange rate of national currency against foreign currency or popularly called the exchange rate. Exchange rate system has an important role in declining or minimalize the fluctuations risk of the exchange rate. Every conversion of the exchange rate will have a big impact on the economy. The exchange rates between the currencies of the State with other foreign currencies will greatly affect the potential of the country's import and export. According to the opinion of Cahyono and Mallik [4],[6], the change in the exchange rate can affect inflation through the price of imported goods. Likewise with Huchet [7] and Rahman [8] who researched that real exchange has the direct positive influence to inflation, where the real exchange rate was formulated as foreign

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price ratio in local currency with a domestic price. According to Permani [9], with a focus on 22 set data of sub-Sahara countries, stated that effective exchange rate could decrease the inflation level. How the effect of exchange rate changes on the flow of goods in foreign trade, especially the impact on imported cattle which was unloaded from the ship at Tanjung Perak Port, Surabaya Indonesia.

The flow of ship arrivals in a port of both foreign ships and ships with national flags if seen from the economic aspect then this is supply or offer for sea freight services at the port, and if one time ships coming to a port in a very large amount while the exported goods or inter-island that can be loaded only a bit then in accordance with the theory of market prices this situation will cause the shipping cost or freight ship will go down and become cheap, on the contrary if at any given time the arrival of ships entering the harbor is too few while the flow of exported or shipped goods between islands are in large quantities or in other words the supply of sea transport services is smaller than the vessel service hence the shipping cost or freight ship cost will increase or become expensive. Thus, for users of sea freight services should look at the situation at the local port on the moment when there will be a large amount of ships arrival and at the time when it comes in a small amount. The arrival of the ship or popularly called the ship call consists of dead weight ship call and unit's ship call, and in the context of this research, the writer will only discuss the issue of Dead Weight Ship Call (DWT ship call). Dead weight is essentially the dead weight of the ship which means the weight of the ship and all the logistics (water reserves and oil fuel) along with the crews, plus all the cargos of the importer exporter's goods carried by ship, it will immerse the body of the ship into the water until the surface of sea water reaches the line of insurance on the line where the maximum load may be carried by ship. If a ship's body passes the prescribed insurance line then the harbor authorities will not issue a sailing permit. In this research the flow of ship arrivals in a port is limited flow of ship arrival with the category Dead Weight Ships Call.

II. LITERATURE REVIEW

A. Inflation

Inflation is best described as an increase in general price, where inflation lowers the purchase potency of a currency [1]. Inflation also raises the prices of goods and labor tariff so that the cost of goods and selling prices increases. Inflation is one of the main factors affecting the exchange rate. Theoretically, the low inflation scenario will show the increase rate of the currency, because the purchase potency of the currency will increase if compared to other currencies (Duarte and Stockman, 2002). Inflation may cause the rising prices of imported commodities, such as oil. However, this type of inflation is usually temporary, and less important than structural inflation which caused the excess supply of money[10].

Generally, the inflation rate is used to measure prices stability in the economy. Conceptually, inflation can be divided into two sides, i.e: demand pull inflation and cost-push inflation. For the open economy countries, inflation came from domestic factors (internal pressure) as well as external factors/external pressure [11]. According to Ellsworth [12] inflation can be devastating because of several reasons. First, people may be neglected if prices rise faster than their income. Second, inflation may reduce the value of the investment if the return is insufficient to compensate for inflation. Third, since inflation rates often go hand in hand with an overheated economy, they can accentuate the boom-bust cycle in the economy.

In certain situation, the government can intervene to suppress and anticipate the inflation rate by either issuing national stocks or open the imported commodity faucet from neighboring countries that are cheaper. National stocks, for instance, if the price of wheat flour and sugar rose drastically, the government could issue such stocks in the warehouses of BULOG (The Indonesia Logistics Bureau) is a government-owned company in Indonesia which deals with food distribution and price control or those in BULOG warehouse for foodstuff which already prepared by both agencies long before the momentum of those days. Or it is possible to open imported faucets for rice, flour and sugar before those big days to be distributed to all markets, both traditional and modern markets, and this method is known as open market operation, so that the flow of goods flooding in the domestic market to suppress and lower the price level of goods.

In developing countries like Indonesia where the currency is classified as a soft currency, if there is an increase of demand in the market, the value of the rupiah tend to decrease compared to the price of goods and services. In fact, the prices are increased before those big days, then, after the big days had passed that goods price will drop again but the decline in the price of goods is not as high as the increase of price of goods, in other words the price of goods and services becomes higher before those big days. Then, because of this kind of occurrence recurred in the following years, the decline in the value of the rupiah currency cumulatively become larger and this become one of the causes from the declining of Indonesia rupiah currency.

In Indonesia, as well as in all countries, the one in charge of fighting inflation is not the government but it is task for the central bank, because the central bank which known as the Bank Indonesia, it has the tools to control inflation, which in principle is to lower the price level in general which can be done with open market operation where the government distributes large amounts of traditional goods to traditional markets and modern markets so that the price of goods to drop again, can also with a cash ratio through the banking world or reserve requirement, credit / loan policy, interest rate policy, refinancing, and foreign exchange rate policy [5] ,[11].

According to the history of Indonesia's economy, the hardest and most severe inflation was the inflation occurred during the first presidential government of the Indonesian republic, the president Soekarno around 1964-1966, where inflation pressures at that time reached the world's highest record of 600% a year, where the price of basic materials such as rice, cooking oil, sugar and other necessities such as soap, toothpaste, and

medicines from day-to-day always increase, caused by the discharge of Indonesia from United Nations, therefore, excommunicated by the other countries.

Table I. Inflation data from 2014-2016

Month	2014 IHK Monthly	2014 IHK Quarterly	2014 Inflation Monthly	2014 Inflation Quarterly	2015 IHK Monthly	2015 IHK Quarterly	2015 Inflation Monthly	2015 Inflation Quarterly	2016 IHK Monthly	2016 IHK Quarterly	2016 Inflation Monthly	2016 Inflation Quarterly
January	110.99		1.07		118.71		-0.24		123.62		0.51	
February	111.28	333.64	0.26	1.41	118.28	355.47	-0.36	-0.43	123.51	370.88	-0.09	0.61
March	111.37		0.08		118.48		0.17		123.75		0.19	
April	111.35		-0.02		118.91		0.36		123.19		-0.45	
May	111.53	334.89	0.16	0.57	119.5	358.55	0.5	1.4	123.48	370.96	0.24	0.45
June	112.01		0.43		120.14		0.54		124.29		0.66	
July	113.05		0.93		121.26		0.93		125.15		0.69	
August	113.58	340.52	0.47	1.67	121.73	364.66	0.39	1.27	125.13	375.69	-0.02	0.89
September	113.89		0.27		121.67		-0.05		125.41		0.22	
October	114.42		0.47		121.57		-0.08		125.59		0.14	
November	116.14	349.56	1.5	4.43	121.82	366.38	0.21	1.09	126.18	378.48	0.47	1.03
December	119		2.46		122.99		0.96		126.71		0.42	
Inflation Level			8.08				3.33				2.98	

Source: Indonesian Central Bank(2017)

B. Foreign Exchange Rate

Foreign Exchange Rate in Indonesia known as for Foreign Exchange Rate is essentially the price of the national currency against other foreign currencies. For example, at this time, the price or exchange rate of Indonesia republics against the US dollar is Rp 13450, - = US $ 1, - the inflationary fluctuations often occurred in Indonesia, then, this caused the level of trust in rupiah currency users were decreasing, which made the rupiah exchange rate from time to time get depreciate. The rate of Indonesia Rupiah to United States Dollar can be shown in table II.

Table II. Exchange Rate of IDR to USD

Month/Year	2014 Monthly	2014 Quarterly	2015 Monthly	2015 Quarterly	2016 Monthly	2016 Quarterly
January	12,210.00		12,267.50		13,775.00	
February	11,609.00	35,179.00	12,925.00	38,267.50	13,372.00	40,407.00
March	11,360.00		13,075.00		13,260.00	
April	11,561.50		12,962.50		13,185.00	
May	11,675.00	35,091.50	13,224.00	39,519.00	13,660.00	40,057.50
June	11,855.00		13,332.50		13,212.50	
July	11,577.50		13,527.50		13,089.50	
August	11,690.00	35,452.50	14,050.00	42,227.50	13,267.50	39,408.00
September	12,185.00		14,650.00		13,051.00	
October	12,085.00		13,687.50		13,048.00	
November	12,204.00	36,674.00	13,835.00	41,310.00	13,552.50	40,395.50
December	12,385.00		13,787.50		13,795.00	

Source: Indonesian Central Bank(2017)

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Month						
January	12,210.00		12,267.50		13,775.00	
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April	11,561.50		12,962.50		13,185.00	
May	11,675.00	35,091.50	13,224.00	39,519.00	13,660.00	40,057.50
June	11,855.00		13,332.50		13,212.50	
July	11,577.50		13,527.50		13,089.50	
August	11,690.00	35,452.50	14,050.00	42,227.50	13,267.50	39,408.00
September	12,185.00		14,650.00		13,051.00	
October	12,085.00		13,687.50		13,048.00	
November	12,204.00	36,674.00	13,835.00	41,310.00	13,552.50	40,395.50
December	12,385.00		13,787.50		13,795.00	

Source: Indonesian Central Bank(2017)

Exchange rate system has an important role in declining or minimalize the fluctuations risk of the exchange rate. Every conversion of the exchange rate will have a big impact on the economy[13]. On the other hand, the government cannot anticipate or hold the depreciation of the rupiah because the national reserves of Indonesia (CDN) is not sufficient for the government to intervene in the exchange market. Also, the government policies in running managed to float foreign exchange rate cannot firmly set the upper limit and lower limit of rupiah exchange rate [5]. Whereas in the other countries, especially countries with strong foreign exchange, when facing with monetary situation like this where the exchange rate / national currency exchange rate to foreign currency declined steadily than the central bank in that country must intervene by dropping the foreign currency (US $) to the currency market in order for the dollars supply able rise to offset the rise of dollar demands so that the exchange rate or national currency price strengthened again and expected to the position of the original exchange rate. Typically, the various national currencies in other countries, especially in developed countries, the national currency exchange rate fluctuations can strengthen and vice versa can get weaken against other foreign currencies, but in Indonesia the currency exchange rate tends to always degenerate against the foreign currency (depreciate) and there is rarely a situation where the rupiah strengthens its exchange rate against the foreign currency (appreciate) [14].

According to the opinion of Huchet and Obstfeld et. al. [7] ,[13], the change in the exchange rate can affect inflation through the price of imported goods. Then, Likewise with Grier [15]who researched that real exchange has the direct positive influence to inflation, where the real exchange rate was formulated as foreign price ratio in local currency with a domestic price. According to Permani [9], with a focus on 22 set data of sub-Sahara countries, stated that effective exchange rate could decrease the inflation level. Mc Connel et al, [1] examines the economic impact of critical vessel arrivals for tourism in Australia, this study discusses the magnitude of the costs incurred on each ship arrival which has a significant impact on the economy.

Rahman [8] found the fact that a country's exchange rate volatility can have a negative and significant impact on international trade. Huchet-Bourdon & Korinek [7], conducted a research to what extent exchange rate voting had an impact on trade in China, Europe and America, the results of this study found that exchange rate volatility affected trade in agriculture, mining and manufacturing in three countries that is. Rahman, S., & Serletis, A. [8] discover the fact that uncertainty in the exchange rate will have a negative and significant impact on international reserves in America. Grier, K. B., & Smallwood [15] conduct research on the impact of exchange rate shocks on trade in developed and developing countries where the uncertainty of the exchange rate has a negative and significant impact on exports.

C. Dead Weight Ships Call (DWT Ship Call)

The various flows which enter a port are including the flow of the coming ships and the flow of the departing ships, the flow of ships coming from overseas have the purpose to loading and unloading at the port as well as the flow of the departing ship after loading and unloading at the port to various destination ports overseas for import-export transactions, while in Indonesia the flow of ships coming and departing can also just an inter-island trade transactions, considering Indonesia maritime country which have about 60000 islands. The ships will enter one of Indonesia's ports such as Tanjung Priok Port of Jakarta and Tanjung Perak Port of Surabaya, then once the ship enters the port area, the captain of the ship must submit ship certificates which protect the ship. In accordance with the provisions stipulated by the IMO (International Maritime Organization) and FAL CONVENTION which is the international regulations and also regulated in the 1925 Port Regulation from the Indonesian government. In all Indonesia ports, thus, the regulation's summary in the field application of authority and duty by the local Port Authority is delegated to Syahbandar (Harbor Master) which, finally, if all requirements are met, Syahbandar Indonesia will issue a Clearance Out Ship Procedure or SIB (Permission to Sail) where all its provisions do not deviate/juxtaposed with the 1925 Port Regulation which is the provisions/regulations from the Indonesian government.

The arrival of the ship or popularly called Ship Call consists of Dead Weight Ship Call and Unit Ship Call, and in the context of this research, the writer will only discuss the issue of Dead Weight Ship Call (DWT ship call). Dead Weight is essentially a ship dead weight means the weight of the ship along with all of the logistics (water reserves and fuel oil) along with the crews plus all cargos of importer exporter's goods carried by ship, then this will immerse the body of the ship into the water until the surface seawater reaches the line of insurance where the maximum load may be

transported by the ship.

Dead Weight Tonnage (DWT) in accordance with cargo safety construction which published by international convention for safety of marine life (Smith, 1974), what meant by metric ton is the weight of the ship itself (light ship), plus all of the cargoes either goods or passangers, plus with fuel, diesel fuel, and all other oil or fuel which brought in, plus water for drink and bath for all crews and passangers, logistic materials such as rice, meat, vegetable, etc. which commonly used for cooking.

The FAL Convention or 1965 Convention on Facsimile of International Maritime Traffic, is a convention of all maritime nations in the world that have ocean-ports held in London, England in 1965, the essence of this convention addressed maritime issues, facilities which must be prepared by all seaports and international standard regulations governing the arrival of the sips, the stay/placement of a ship in a port (in a certain time) and the process of departure from the port to the destination port. In all ports of Indonesia, the regulation's summary in the field application of authority and duty by the local Port Authority is delegated to harbor authorities which, finally, if all requirements are met, Syahbandar Indonesia will issue a Clearance Out Ship Procedure or SIB (Permission to Sail) where all the provisions do not deviate/juxtaposed with the rules of Port 1925 which is the provisions/regulations from the Indonesian government.

Regarding to IMO (International Maritime Organization), it can be explained that maritime country or archipelago country like Indonesia which have 60.000 islands must immediately propose the rights of Indonesian archipelagic sea lanes based on international sea law convention where this sea lane can be used and utilized for voyages and flights that belong to foreign countries which can be done in a peaceful and normal way. The establishment of the archipelagic sea lanes carried out by the Indonesian government for the benefit of international flights and voyage, the navy since 1987 has initiated and designed the Indonesia archipelagic sea lanes to be proposed to the IMO forum.

The arrival of the ship or popularly called the ship call consists of dead weight ship call and unit's ship call, and in the context of this research, the writer will only discuss the issue of Dead Weight Ship Call (DWT ship call). Dead weight is essentially the dead weight of the ship which means the weight of the ship and all the logistics (water reserves and oil fuel) along with the crews, plus all the cargos of the importer exporter's goods carried by ship, it will immerse the body of the ship into the water until the surface of sea water reaches the line of insurance on the line where the maximum load may be carried by ship. If a ship's body passes the prescribed insurance line then the harbor authorities will not issue a sailing permit. The flow of ships entering a port which viewed from the economic aspect is a supply or offer for sea freight services as it is known that the sea port is also a market where the supplier or seller meet with the buyer or service user then, if in one day there are many ships that go to the port, then the offer of sea freight services are high and if the demand is still or small, then the freight ship or the cost of the ship will be decreased / cheaper, in vice versa, if the entering ship are too few, then the sea freight services are low and the demand for sea freight services are high, then the freight ship / the cost of ship hawser will rise. So the exporters who do the realization with the condition of CIF (Cost Insurance Freight) price should look at the situation in order to charter the ship with cheaper hawser ship cost. The data of the Dead Weight Ship Call as mention in this research can be shown in Table IV.

Table IV. Dead Weight Ship Call data of ship arrivals in Surabaya Port Indonesia

Month/Year	2014 Monthly	2014 Quarterly	2015 Monthly	2015 Quarterly	2016 Monthly	2016 Quarterly
January	6,863,824		7,129,039		8,127,492	
February	6,372,536	20,982,597	6,752,169	21,343,107	6,768,801	22,938,378
March	7,746,237		7,461,899		8,042,085	
April	7,377,215		7,711,854		8,154,550	
May	7,291,870	22,339,291	7,534,945	23,015,319	7,400,565	22,420,791
June	7,670,206		7,768,520		6,865,676	
July	7,016,230		6,490,982		5,650,546	
August	6,473,781	21,116,832	7,086,169	21,016,657	7,159,802	20,097,228
September	7,626,821		7,439,506		7,286,880	
October	7,290,154		7,661,431		7,016,153	
November	7,580,589	21,245,810	7,894,925	23,227,477	7,440,534	22,166,129
December	6,375,067		7,671,121		7,709,442	

Source: Port Authority in Surabaya

In addition, the flow of viruses or insects or bacteria that all stay on living things which is in humans and animals that come out and enter the harbor then ride on various types of plants or in commodities derived from plants. For instance, viruses and bacteria that ride on humans like flu disease that spread in Hong Kong and brought by passengers who come from Hong Kong and enter a country they went to. for example insects which have various kinds brought by imports of plants such as jump fleas that managed to enter Indonesia, pests of plant hopper that destroys rice crops throughout Java island, coffee tree skin disease that can cause the death of coffee trees in tens of hectares, as well as viruses that ride on animals such as anthrax virus that ride on the cattle that enter into a State and this can be transmitted to other animals causing the death of thousands of infected livestock, as well as avian influenza virus from livestock such as chickens,

ducks, geese, ducks that can be transmitted to humans and from some cases, avian influenza virus, can take human life if infected. So in this case, in Indonesia, the one in charge of anticipating and combating the entry of virus / bacteria / insects is the Center of Quarantine which includes animals quarantine and plant quarantine, these two institutions are responsible for examining and taking actions of quarantine including: for cattle, buffaloes, horses and the like when caught sick it must be checked, treated, quarantined, until the animal is healed and free of virus and when it cannot be cured then the animal must be euthanized, then put into a pit to be burned and destroyed.

D. Import of cattle

Indonesia still imports cattle every month with a varying amount especially through the port of Surabaya. The amount of cattle import each month ranges from 1000 to 4000 cattle and imported from various countries, mainly from Australia. The actual data of cattle import and unloading through the Port of Surabaya can be shown in table V.

Table V. Recapitulation data of cattle import unloading through the port of Surabaya

Month	2014 Monthly	2014 Quarterly	2015 Monthly	2015 Quarterly	2016 Monthly	2016 Quarterly
January	950		354		575	
February	1256	4165	40	1896	283	2439
March	1959		1502		1581	
April	1261		1153		1065	
May	565	3209	254	2652	679	2734
June	1383		1245		990	
July	981		877		400	
August	2358	7215	3932	8838	2471	3348
September	3876		4029		477	
October	350		991		0	
November	0	500	452	2093	1571	11204
December	150		650		9633	

Source: Port Authority Surabaya (2017)

Actually in Indonesia has a lot of cattle ranch, the majority still done with traditional method and the type of business is still classified as a sideline business, this is due to large-scale investment in cattle farm done massively and modern needs large of funds. Some factors that affect the speed of cow body growth rate are, including that must be considered is genetic problem of cow by looking for good genetic quality so that cow will quickly become big and fat, in other words beef production becomes higher, the problem of animal feeds should be well thought out in the amount which will dominantly affect the quality of beef, the selection of bulls to grow faster than the female cow so that at the same age bulls will produce greater than the female cow. Although traditional cattle ranches in Indonesia has been done by following the concepts of modern cattle concepts, in fact, the

growth of procurement of fresh beef is not sufficient with the growth of beef consumptions for the Indonesian.

III. METHODOLOGY/MATERIALS

Type of research

This research is included in this type of causal research because the one variable with the other is related which is the independent variable and the dependent variable. According to Marczyk et al. [16], the causal relation is a link that has characteristic of cause and effect, there are independent variables (variables that effect) and the dependent variable (affected). This research uses a quantitative approach, it is a research which uses research data in the form of numbers and analysis using a statistic.

A. Dependent Variable

The dependent variable used in this study is the Import of cattle (Y). The beef import variable was measured using live cattle import data dismantled from ships at Tanjung Perak Port, Surabaya, Indonesia 2014-2016.

B. Independent Variable

The independent variables used in this research are:

1) Inflation

Inflation is the increase in price from one or two items in a short time. Inflation in this research is measured by looking at inflation data of 2014-2016.

2) Foreign Exchange Rate

Foreign Exchange Rate is the value of a country's currency relative to the currency of another country. The Foreign Exchange Rate in this study is measured by looking at IDR to USD in 2014-2016.

3) DWT (Dead Weight Ships Call)

DWT (Dead Weight Ships Call) is the weight of the ship and all the logistics (water reserves and fuel oil) along with the crews plus all cargos of importer-exporter which carried by ship. DWT (Dead Weight Ships Call) in this study was measured by looking at Dead Weight Ships Call (DWT) or Ship's Arrival in 2014-2016.

C. Multiple Linear Regression Analysis

This study used multiple linier regression analysis techniques. Multiple regression formulation is:
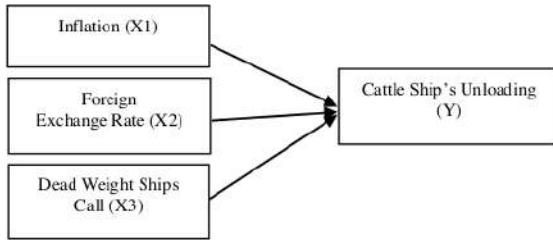
$$Y = \alpha + \beta 1\, X1 + \beta 2\, X2 + \beta 3\, X3 + \varepsilon$$

Where:

Y : Import of cattle
α : Constant
$\beta 1, \beta 2$: Regression coefficient
X1 : Inflation
X2 : Foreign Exchange Rate
X3 : DWT (Dead Weight Ships Call)
ε : Residual

D. Conceptual Framework

Fig 1. Conceptual Framework

E. Hypothesis

H1: Inflation affects the cattle ship unloading through Port of Surabaya in.

H2: Foreign exchange rate affects the cattle ship unloading through Port of Surabaya

H3: Dead Weight Ships Call affect the cattle ship unloading through Port of Surabaya in 2014-2016.

F. Hypothesis Test

Hypothesis testing was conducted to determine the effect of Inflation, Foreign Exchange Rate, and DWT (Dead Weight Ships Call) on the Import of cattle. The following is the hypothesis test used in this study.

1. F test was used to determine whether there is an influence on one or more independent variable to dependent variable. If the significance value of $F < (\alpha)$ 0.05 then there is an influence on one or more independent variables (simultaneous) to the dependent.

2. A t-test was used to determine the influence of each independent variables to the dependent variable. If the significance value of $t < (\alpha)$ 0.05 then there is an influence on independent variables on partially bound.

IV. RESULTS AND FINDINGS

A. Data Analysis

1) Model of Equation Regression

Based on the calculation of data processing with the help of SPSS computer program for windows then obtained multiple linear regression equations in Table VI.

Table VI. Results of Multiple Linear Regression Analysis

	Unstandardized Coefficients		t_{count}	Sig
	B	**Std. Error**		
Constant	-13271,8	5257,544		
Inflation (X_1)	-125,411	537,505	-0,233	0,817
Foreign Exchange Rate (X_2)	0,721	0,335	2,152	0,039
Dead Weight Ships Call (X_3)	0,001	0,001	1,424	0,164
Fcount = 3,085			F_{sig}	= 0,041

Based on the above calculation results, obtained multiple linear regression equations significant as follows:
$$Y = -13271,8 - 125,411\ X1 + 0,721\ X2 + 0,001\ X3$$

The value of constant (α) will be equal to the value of Imported cattle (Y) of -13271,8, if Inflation (X1), Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3) are constant or equal to zero. The value of Inflation coefficient ($\beta1$) of -125,411 shows that if the Inflation (X1) variable rises one unit, it will result in the decrease of the cattle Import by 125.411 and it is assumed that the Foreign Exchange Rate and Dead Weight Ships Call variables are constant or equal to zero. The value of Foreign Exchange Rate coefficient ($\beta2$) of 0.721 indicates that if the Foreign Exchange Rate (X2) rises one unit, it will result in an increase in cattle Import by 0.721 and assumed for Inflation and Dead Weight Ships Call variable is constant or equal to zero. The value of Dead Weight Ships Call ($\beta3$) coefficient of 0.001 indicates if the Dead Weight Ships Call (X3) variable rises one unit, it will result in an increase of the cattle Import by 0.001 and assumed for the Inflation and Foreign Exchange Rate variables are constant or equal to zero.

2) The coefficient of Determination and Coefficient of Multiple Correlation

Table VII. Correlation Coefficient (R) and Multiple Determination (R^2)

R	R Square	Adjusted R Square	Std. The error of the Estimate
0,474	0,224	0,152	1630,20188

The value of correlation coefficient (R) shows how close the relationship between independent variables Inflation (X1), Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3) with the dependent variable of cattle Import (Y), the value of correlation coefficient is 0.474. This value indicates that the correlation of Inflation (X1), Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3) with the cattle Import variable (Y) is moderate because of the correlation value 0.474 lies between 0.4 to 0.599.

The value of determination coefficient or R2 was used to measure how far the model capabilities in explaining the variation of the dependent variable or the independent variable which is the cattle Import variable. The calculation result of SPSS, obtained value of R2 = 0,224 which means that 22,4% of cattle Import can be explained by Inflation (X1), Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3). While the remaining 77.6%, influenced by other variables outside of the researched model.

3) F Test (Simultaneous Test)

Based on Table I. it can be seen that the value of sig. 0.041 which means that it has a value of < 0.05 so that it can be said that H0 is rejected, with means the Inflation (X1) variable, Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3), simultaneously have a significant influence on the Import of cattle (Y).

4) t-Test (Partial test)

a)   Inflation (X1)

Ho: $\beta1 = 0$, Inflation variable (X1) does not have a significant partial effect on the Import of cattle variable (Y).

H1: $\beta1 \neq 0$, Inflation variable (X1) has a significant partial effect on the Import of cattle variable (Y).

Based on Table I. the significance value of Inflation Free variable (X1) on t-test is 0.817 or > 0,05. This indicates that H0 is accepted and H1 is rejected. Thus, the Inflation free variable has no partially significant effect on the Import of cattle.

b)   Foreign Exchange Rate (X2)

Ho: $\beta2 = 0$, variable Foreign Exchange Rate (X2) does not have a significant partial effect on the Import of cattle variable (Y).

H1: $\beta2 \neq 0$, variable Foreign Exchange Rate (X2 has a significant partial effect on the Import of cattle variable (Y).

Based on Table I. the amount of significance value of Foreign Exchange Rate independent variable (X2) on t-test is 0,039 or < 0,05. This indicates that H0 is rejected and H1 is accepted. Thus, the independent variables of Foreign Exchange Rate have a significant partial effect on the Import of cattle.

c)   Dead Weight Ships Call (X3)

Ho: $\beta3 = 0$, variable Dead Weight Ships Call (X3) does not have a significant partial effect on the Import of cattle variable (Y).

H1: $\beta3 \neq 0$, variable Dead Weight Ships Call (X3) has a significant partial effect on the Import of cattle variable (Y).

Based on Table I. the significance value of the Dead Weight Ships Call (X3) independent variable on t-test is 0.164 or > 0.05. This indicates that H0 is accepted and H1 is rejected. Thus, the Dead Weight Ships Call independent variable has no significant partial effect on the Import of cattle.

B. Discussion

From the value of regression equation model, it is known that the Inflation (X1) variable shows negative regression coefficient value, it indicates the negative direction or unidirectional relation of the Inflation (X1) variable to the Import of cattle (Y). It can be interpreted that if the Inflation variables increasing, then, the cattle imports will decrease, and vice versa, if the variable of Inflation decreasing, then the cattle imports will also increase. While Foreign Exchange Rate (X2) and Dead Weight Ships Call (X3) show positive regression coefficient, it indicates a positive direction or direct relationship of Foreign Exchange Rate (X2) and Dead Weight Ships Call (X3) to the Import of cattle (Y). This can be interpreted that, the increase of Foreign Exchange Rate and Dead Weight Ships Call, will increase the cattle Import, and vice versa, the decrease of Foreign Exchange Rate and Dead Weight Ships Call variable will also decrease the Imports of cattle.

The results of the analysis show that the Inflation (X1), Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3) variables simultaneously influence with significant to the Import of cattle (Y). It is known from the result of F test indicating that the value of sig. in F test is 0.041, which means < 0.05, so that the influence of all independent variables

which consist of Inflation (X1), Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3) simultaneously influence to the dependent variable which is Import of cattle (Y).

The result of this research showed that Inflation (X1) and Dead Weight Ships Call (X3) variables partially do not have significant effect on Imports of cattle because the significance value of Inflation (X1) in t-test is 0.817 or > 0.05 and the value of Dead Weight Ships Call (X3) significance variable on t-test is 0.164 or > 0.05. However, partially, Foreign Exchange Rate (X2) variables proved to have a significant effect on the Import of cattle because the significance value of Foreign Exchange Rate (X2) variable on t-test is 0,039 or < 0,05.

The variable that has the greatest influence on the Imported cattle is Foreign Exchange Rate (X2) variable because it has the largest partial correlation value than the other variables which is 0.356. This means, partially, Foreign Exchange Rate (X2) variables give dominant influence on the Import of cattle with the percentage of relationship are 35.6%.

The results of this study contradict the research of Huchet-Bourdon [7], Tawaf [10] & Serletis , A. [8]. Grier, KB, & Smallwood [15]. Which states that the exchange rate exchange rate has a negative and significant impact on international trade. The rupiah exchange rate has a positive and significant effect on cattle exports in Indonesia considering that beef is a necessity principal for the people of Indonesia so that the government continues to import even though the exchange rate is rising because Indonesia has not yet been self-sufficient in beef.

V. CONCLUSION

Based on the results of research and discussion in the previous chapter, it can be drawn some conclusions, such as:

1. There is simultaneous Influence on Inflation (X1), Foreign Exchange Rate (X2), and Dead Weight Ships Call (X3) variables to the Import of cattle (Y). Because the significant value of the F test is 0.041 or less than 0.05. 2.

2. There is no partial influence of Inflation variable on Import of cattle because the significant value in the t-test of Inflation variable shows greater than 0.05.

3. There is the partial influence of Foreign Exchange Rate variable on Import of cattle because the significant value in t-test of Inflation variable shows less than 0.05.

4. There is no partial influence of Dead Weight Ships Call variable on Import of cattle because the significant value in t-test of Inflation variable shows greater than 0.05.

5. Foreign Exchange Rate is the variable that has the greatest influence on the Import of cattle. Because it has the largest partial correlation value than other variables which is 0.356.

6. From the results of this study, the government should pay more attention to the rupiah exchange rate so that the cost of importing cattle can be reduced and concrete steps are needed to increase self-sufficiency in cattle in the future.

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GENERAL COMMENTS

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