



Apart from the effects of oil and oil balance of payments Currency analytical India and Indonesia

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ABSTRACT

Contrary to prior studies that put the cart before the horse in investigating the impact of exchange rates on balance of payments, this study as one of the limited few painstakingly investigate specifically the impact of oil and non-oil balance of payments on exchange rates of the Indonesia Ringgit and the India Naira. This study used the USD (\$) to bench mark for foreign currencies because of its universal applicability and acceptability in the foreign exchange market. Data were collected for period 1971-2010 and regression equations defining oil, non-oil and total balance of payments as independent variables and exchange rates as dependent variable is employed to analyze data. Augmented Dickey-Fuller Tests equation was employed to perform unit root tests for stationary and co integration tests. From the analysis, oil, nonoil and total balance of payments contributes immensely to the strength of the Ringgit against the USD\$ in the international market. Contrary, only the oil and total balance of payments accord the Naira strength against the USD\$. The India non-oil balance of payments on the whole has performed below expectation thereby impacting adversely on the exchange rate of the Naira. Though India total balance of payments show a better results, sectoral impact of the non-oil sector is much more significant a determinant of the exchange rates of a country's currency. This study therefore recommends that India should enhance her export promotion strategies and diversify her economy far away from crude oil.

Keywords: oil, non-oil, total balance of payments, exchange rates, exports, imports

1. Introduction

Countries of the world today are engaging themselves more in international trade to earn foreign currency, maintain a surplus Balance of Payment (BOP), establish good relationship with foreigners and most of all achieve economic growth. Until a few years ago only a few economists and public officials were concerned about balance of payments. Today balance-of-payments figures are frequently reported and widely discussed. Unfortunately, for most people balance-of-payments terminology is a jungle and balance-of-payments statistics are a mystery (Pippenger, 1973). A nation's balance of payments is measure of her international trade. In principle, the balance of payments is a record of the value of all transactions between domestic and foreign residents over a given period of time, usually one year (Pippenger, 1973). As a fundamental gap, most studies in this area focus on the relationship either between importation or exportation activities as aspects of international trade and exchange rate. Kayani, Abbas, & Aftab (2012) explore the impact of exchange rate volatility at sectoral level on the exports of Pakistan and find that exports are negatively influenced by exchange rate volatility and relative price while positively affected by foreign income. Veeramani (2008) equally explores the relationship between the real effective exchange rate and exports for the period 1960-2007. Using World Trade Organisation and Reserve Bank of India data, it finds that the appreciation of the REER leads to a fall in the dollar value of India's merchandise exports. Furthermore, Berman, Martin & Mayer (2012) analyses the heterogeneous reaction of exporters to real exchange rate changes using a very rich French firm- level data set with destination-specific export values and volumes on the period 1995–2005. They find that high–performance firms react to depreciation by increasing significantly more their markup and by increasing less their export volume. Equally, Tang & Zhang (2012) studies how real exchange rate movements affect firm export behavior, using monthly data that cover the universe of Chinese export transactions over the period of 2000–2006. Specifically, they examine exchange rate effects on an exporter's extensive (entry, exit, and product churning) and intensive margins of exports and find significant effects on the extensive margin. Also, Arize, Osang & Slottje (2000) investigates empirically the impact of real exchange-rate volatility on the export flows of 13 less developed countries (LDC's) over the quarterly period 1973-1996. The major results show that increases in the volatility of the real effective exchange rate, approximating exchange rate uncertainty exert a significant negative effect on export demand in both the short-run and the long-run in each of the 13 LDC's. Verena, & Nawsheer (2011) empirically investigates the impact of real effective exchange rate volatility on the Mauritian export performance from 1975 to 2007. Findings reveal that exchange rate volatility has a positive and significant short run effect on exports, whilst in the long run; volatility adversely affects the Mauritian exports. Giving consideration to imports, Schneider (2012) evaluate the effect of China's exchange rate policy on the United States' textile imports between May, 2001 and December 2010 and reveal that changes in China's exchange rate have not had a statistically significant effect on the percentage change in the United States' textile imports from China. Oyovwi (2012) equally

offer empirical evidence on the impact of real exchange rate volatility on India's imports and result indicates that real exchange rate volatility has no significant effect on India's imports. Exchange rates are determined in the international exchange rates markets giving considerations to the forces of demand and supply. Therefore contrary to previous studies that are one sided (investigating the relationship between either exportation or importation and exchange rates), this study as one of the limited few investigates wholesomely the interpolation between oil exports and imports (oil balance of payments), non-oil exports and imports (non-oil balance of payments), total exports and imports (total balance of payments) and exchange rates of the Ringgit and Naira for period 1971-2010.

In another dimension as a gap, prior studies on exchange rates and balance of payments produce mixed relationship between them. Most of these studies identified exchange rate as the independent variable while international economic transactions, dependent variables. Notable among others include Oladipupo & Onotaniyohuwo, (2011) who affirmed that exchange rate is a key determinant of the balance of payments (BOP) position of any country; Kiguel & Ghei (1993) shows that exchange rate affects balance of payments; Obadan & Nwobike (1991) opine that a rationalized and properly administered dual exchange rate system can be very helpful to developing countries for ensuring the satisfaction of basic needs, ensuring fixed and balance of payments viability and general resource mobilization. Similarly, Khan & Lizondon (1987) and Cooper (1976) observe that devaluation which is the reduction of the value of one's currency in terms of other currencies leads to higher exports and lowers imports, which in the long run would improve the balance of payments position and international capital movements of a country.

Conversely, limited literatures addressing respectively balance of payments and exchange rates as the independent and dependent variables exists. To Kouri (1976) the exchange rate is viewed as a price that equilibrates the balance-of-payments flows. Birds (1984) equally opined that the improvements of balance of payments after devaluation do not necessarily suggest that the balance of payments always improve because of devaluation. Yet, Oloisadebe (1996) posits that international exchange (balance of payments) determines the amount of payments involved in economic transactions (exchange rates). The MABP, which regards the balance of payments as a —monetary phenomenon, expresses the relationship between a country's balance of payments and its money supply (Chacholiades, 1990:463) and argues that there is disequilibrium in the money market if there are surpluses and deficits in the balance of payments.

In basic terms, a variable represents a property of an event or phenomenon associated with a particular object (Ryan, Scapens & Theobald, 1992). Variables can be dichotomised as dependent and independent (Hair, 1995). The impact of changes in the independent variable upon the dependent variable is considered in data analysis. That is, a dependent variable is predicted to change when independent variables change (Chotkunakitti, 2005). Expectation holds in research and statistics that consideration is given to orderly relationship between variables. In defining relationship between variables in the appropriate perspective, Burns & Bruns (2008) affirmed that predictor is a variable (the independent variable) from which a value is to use to

estimate a value on another variable (the dependent variable) and criterion variable is a variable (the dependent variable) a value of which is to be estimated from a value of the predictor variable (the independent variable). This distinction is very important in order to establish nonspurious association which means any covariation between a cause and an effect is true, rather than due to some other variable and a spurious association which is one that is not true (Cengage, 2012). Thus, from the stand point of view of cause and effect, balance of payment is not an end in itself but a means to an end while exchange rate is an end in itself making the later the criterion variable, which value is estimated from balance of payment as the predictor variable.

Finally, while economies particularly, of oil and mineral naturally endowed nations such as Indonesia and India are usually classified into oil and non-oil sectors (Oyejide & Adewuyi, 2011, Luqman & Lawal, 2011), previous studies focus on the wholesome relationship between balance of payments and exchange rates without considering the specific impacts of the oil and non-oil subsector. This distinction is crucial in the spate of identifying economic diversified factors that impact on economic progress (Osuntogun, Edordu & Oramah, 1997). For example, prior to the

1970s, India's exports were predominantly non-oil commodities with agricultural commodities accounting for the lion share. However, in the 1970s, when the price of crude oil in the international market sky rocketed, the share of non-oil exports began falling and has remained low ever since (Adesoji & Sotubo 2013). As at 1996, crude oil constituted about 97.4% of total export earnings while non-oil exports accounted for only 2.6% (Yesufu, 1996) consequently, according India an alarming status of a mono-product economy (Ozurumba & Chigbu, 2013). Therefore, there is a gap in the literature between oil and non-oil balance of payments and exchange rates of India and Indonesia Economies. It is against this background that this study is set to provide an analytical and empirical investigation of the impact of oil and non-oil balance of payments on the exchange rates of the Indonesia Ringgit and India Naira.

This study is divided into the following sections. Section one is the introduction. Section two discusses related literatures on exchange rates, types of exchange rates, foreign exchange markets, factors that affect the demand and supply of a nation's currency, trade balances and exchange rate determination, oil and non-oil economic sectors and balance of payments accounts and its subdivisions. Section three focuses on the methodology including variables definitions. Section four is centred on data analysis and interpretation of results. Section five is all about conclusions and possible recommendations.

2. Literature Review

Exchange Rates

The exchange rate is a key macroeconomic variable in the context of general economic policy making and of economic reform programmes in particular (Obadan, 2006). Economists and financial experts are yet to agree on a single theory that defines the exchange rate (Musyoki, Pokhariyal & Pundo, 2012). However, Fernando & Shelly (2012) define exchange rates as the price of one country's currency in terms of another country's currency; the ratio at which two

currencies are traded for each other. Gottheil (2005) affirmed that exchange rate is the number of units of foreign currency that can be purchased with one unit of domestic currency. To Musyoki, Pokhariyal & Pundo (2012) the real exchange rate (RER), defined as the rate at which goods, and services produced at home can be exchanged for those produced in another country or group of countries abroad, has been recognized as an important aspects in international macroeconomics, and finance. Thus, exchange rates are quoted in terms of one currency in exchange for another. As a price, the exchange rate performs the role of allocating real resources particularly between tradeable and non-tradeable sectors (Obadan, 2006.).

Obadan (2006) presents two commonly distinguished concepts of exchange rate: the nominal exchange rate (NER) – a monetary concept which measures the relative price of two moneys or currencies e.g. Naira in relation to the USD\$ and the real exchange rate (RER) – a real concept that measures the relative price of two goods – tradeable goods (exports and imports) in relation to non-tradeable goods (goods and services produced and consumed locally). However, Obadan affirmed that there is a link between the two concepts in that changes in the NER can cause short-run changes in the RER.

Types of Exchange Rates

In the 1970s the academic debate on this issue focused exclusively on a binary choice between floating or fixed exchange rates (Combes, Kinda & Plane, 2011). This is consistent with Gottheil (2005) who identified two types of exchange rates: an exchange rate determined strictly by the demands and supplies of a nation's currency (floating exchange rate) and a rate determined by government and then maintained through the process of buying and selling of its own currency on the foreign exchange market.

In view of the above, government officials and "men of affairs," on the one hand, insisted that the continued health of international trade, investment, and the world economy required the maintenance of the Bretton Woods system of pegged exchange rates, under which changes in rates were made infrequently and as a last resort. Academic experts, on the other hand, were nearly unanimous in pressing the advantages of greater flexibility of exchange rates, with many urging that governments abstain altogether from intervention and allow exchange rates to be determined by the interplay of supply and demand in the market- place, just like any other price (Whitman, 1975). Although such a duality has analytic convenience (Combes, Kinda & Plane, 2011), this is merely a simplification of the actual continuum between systems (Stockman, 1999).

In practice, we see few examples of purely floating exchange rates without direct government intervention, or purely fixed exchange rates with long intervals between realignments (Stockman, 1999). Though, a floating exchange rate is one determined strictly by the demand for and supply of a nation's currency, Broz & Frieden (2001) and Bernhard, Broz & Clark (2002) affirmed that countries choose a fixed exchange- rate regime in order to achieve the following objectives: first, pegging —can be a substantial benefit for economies that have had difficulty in controlling inflation; second, it lowers the exchange-rate risk and thus stimulates international trade and investment; third, it reduces the ability to use monetary policy responses to an

economic shock; and fourth, an exchange rate fix makes a real appreciation more likely for most countries. Therefore despite the arguments of Frieden (1991), (2002), Frieden, Ghezzi & Stein (2001), Frieden, Leblang & Valev (2008) Plümpera & Neumayer (2008) and Bearce & Hallerberg (2008) that individuals who predominantly receive income from the production of tradable goods favour a fixed exchange rate since exchange rate volatility increases their risks. In contrast, individuals generating income from the production of non-tradable goods and services ought to prefer flexible exchange rates, which allow governments to use monetary policy to stimulate domestic economic activity, it is pretty clear in consistent with (Stockman, 1999) that it is imperative to shift pole between the two extremes of either a system of pure floating (or flexible) exchange rates (which can be thought of as an exchange rate band with indefinite bounds) and a system of pure fixed (or pegged) rates (which is a band with zero bounds).

In reality, many countries used to choose an intermediate path: that is, an exchange rate that was often stabilized by the central bank, but might sometimes shift, often known as a "soft peg." (Calvo & Mishkin, 2007). The common language implies a dichotomy between two systems of fixed and floating exchange rates (Stockman, 1999). The reality today is much more complex, as suggested by the distinction between de jure and de facto classifications, which expands the number of regime categories (Combes, Kinda & Plane, 2011). Therefore, despite a variety of experiences with different exchange-rate systems, the evidence suggests that the real productive and allocative consequences of the choice of systems - aside from times of currency crises associated with speculative attacks on pegged rates - are quite subtle (Stockman, 1999). The equilibrium for a floating exchange rate is found in the market for foreign exchange.

Foreign Exchange Markets

Currencies from different nations are traded in the foreign exchange market. Gottheil (2005) defined a foreign exchange market as a market in which currencies of different nations are bought and sold. Cengage Learning (2012) affirmed that buyers and sellers of different nations' currencies make exchanges in these markets, just as buyers and sellers of other goods make exchanges in markets. Therefore based on the forces of demand and supply, the equilibrium price in a foreign exchange market also known as the exchange rate is determined.

Hitherto, there are at least five competing theories of the exchange rate concept, which may either be classified as traditional or modern. The traditional theories are based on trade and financial flows, and purchasing power parity, and are important in explaining exchange rate movements in the long run. These theories are: the elasticity approach to exchange rate determination, the monetary approach to exchange rate determination, the portfolio balance approach to exchange rate determination, and the purchasing power theory of exchange rate determination. The modern theory, however, focuses on the importance of capital and international capital flows, and hence, explains the short run volatility of the exchange rates and their tendency to overshoot in the long run (Musyoki, Pokhariyal & Pundo, 2012).

Factors that Affect Supply and Demand for a National Currency

Basically, changes in people's preferences for goods and services from other countries result in changes in the supply and demand for different national currencies. For example, when firms in the United States want to buy goods and services made in France, or when U.S. tourists visit France, they have to trade dollars for French francs. That creates a demand for French francs and a supply of dollars in the foreign exchange market. When people or firms in France want to buy goods and services made in the United States they supply French francs to the foreign exchange market and create a demand for U.S. dollars. Other factors also affect the supply and demand for a national currency. These include the prices of goods and services in a country, the country's national inflation rate, its interest rates, and its investment opportunities.

Economic Sector: Oil and Non-Oil Sector

In lieu of the objective of this study, economic classification is important in providing a framework for understanding and determining the impact of specific economic activities on the exchange rates of the Ringgit and Naira. The question is: how does a state's natural resource wealth influence its currency exchange rates? Though efforts by prior studies attempt dichotomising economy of natural endowed states into oil and non-oil, Oyejide & Adewuyi (2011) in their quest to establish linkages of oil and gas industry with other sectors of the economy affirmed that crude oil has played an important role in our modern civilisation. It has transformed agriculture and industry and has revolutionised the means of transport. The oil sector has become the basis of vast petrochemical industries that produce fibres, plastics, synthetic rubber, fertilisers, pesticides, synthetic resins and a host of other end-products.

The major compositions of energy in the world are crude oil, coal, solar etc. Crude oil however has always been the major source of energy that is most important to countries of the world that have the drive for industrialization (Oyejide & Adewuyi (2011). Petroleum or crude oil is an oily, bituminous liquid consisting of a mixture of many substances, mainly the element of carbon and hydrogen known as hydrocarbons. It also contains very small amounts of non-hydrocarbon elements, chief amongst which are sulphur (about 0.2 to 0.6% in weight), then nitrogen and oxygen. (Anyanwu et al, 1997). India is among the the top 5 exporters of petroleum in the world. The top crude oil exporters' countries are Saudi Arabia, Russian Fed, and Norway. Others are India and United Arab Emirates. However, Indonesia equally endowed with crude is neither classified as a major exporter or importer of crude oil.

Conversely, non-oil activities can be broadly classified into three, namely: agricultural produce, manufactured activities or industries and machineries (Ajakaiye & Ojowu, 1994). These activities have great potentials. (Ozurumba & Chigbu (2013). Thus, non-oil exports/imports comprises of agricultural products, chemicals, manufactured goods such as textile, tyre etc, machineries, manpower, etc. it is made up of every other thing exported or imported, except petroleum products. In the decades of the 1960s and 1970s, the India economy was dominated by agricultural commodity which played significant roles in the economy before the advent of crude oil. It contributed largely to India's Gross Domestic Product (GDP) and it was also the primary source of foreign exchange (Uniamikogbo, 1988). Such commodities include cocoa, groundnut,

cotton and palm produce. From the mid-1970s, crude oil became the main export produce of the Indian economy. (Anyanwu et al, 1997).

Relationship between Balance of Payments and Balance of Trades

At this juncture, distinction between balance of payments and balance of trade is imperative. The balance of payments is a statistical statement that systematically summarizes, for a specific time period, the economic transactions of an economy with the rest of the world (Aniekan, 2013; International Monetary Fund, 1993). Gottheil (2005) equally, define balance of payments as an itemized account of a nation's foreign economic transactions. Thus, the financing of a nation's international trade and its other financial transactions with the rest of the world are recorded in its balance of payments. A number of assumptions, explicit or implicit, underlay the economic analysis of payments adjustment in the fifties and sixties and the resulting implications for balance-of-payments policies (Whitman, 1975). Notably, net exports were assumed to be a function of aggregate demand and of relative prices at home and abroad.

As a part of balance of payments, balance of trade refers to the export and import of visible items, i.e., material goods. It is the difference between the value of visible exports and imports. Visible items are those items which are recorded in the customs returns; for example, material goods exported and imported. If the value of visible exports is greater than that of visible imports, the balance of trade is favourable. If the value of visible imports is greater than that of visible exports the balance of trade is unfavourable; if the value of visible exports is equal to that of visible imports, the balance of trade is in equilibrium. Balance of trade is also known as merchandise account of exports and imports (Preserve Articles, 2012). In a nutshell, balance of payments is a broader term than balance of trade; balance of payments includes both visible as well as invisible items, whereas balance of trade includes only visible items.

Although there are alternative theories of balance of payments adjustments, namely; the elasticities and absorption approaches (associated with Keynesian theory) (Aniekan, 2013) and different definitions of the balance-of-payments deficit or surplus have been used in the past with each definition having different implications and purposes (Stein, 2013), the major objective of this analysis by different countries is to restore equilibrium, or reduce disequilibrium, in the balance of payments. Therefore, consistent with Keynesian analysis, this study emphasis on the components of aggregate demand and focused on the balance of trade (net exports of goods and services) (Whitman, 1975). Thus, oil, non-oil and total balance of payments is defined as the respective differences between oil exports and imports, non-oil exports and imports and total exports and imports. The totals of exports and imports for oil and non-oil activities vis-à-vis total trade are not equal, evidencing inequalities—excesses of exports or imports, called deficits or surpluses for oil, non-oil and combined transactions. Consequently, of the divisions of international transactions into the current account, capital account, and financial account emphases and discussions is limited to the items on the current accounts.

Subdivisions of Balance of Payments Accounts

A nation's balance of payments is made up of accounts as measures of international trade. The precise partitioning of these groups' varies between countries and over time. Though balance of payments is divided into four traditional subdivisions: (1) current account, (2) unilateral account, (3) capital account and (4) gold (Pippenger, 1973), prior studies mostly emphasises on current and capital accounts. For the purpose of this study and consistent with Kaplan (2002) light is shed on these classifications.

a) The current account deals with the trade of goods and services between two countries. An export is a good (or service) that is sent from the domestic country and purchased abroad. An import is a foreign produced good that is imported for domestic consumption. The monetary value of exports from a country and imports into a country are measured in the current account. If the value of a country's exports exceeds the value of the goods and services it imports, then that country has a trade surplus, and a trade deficit holds if otherwise.

b) A unilateral account is necessary because a gift is a one-sided transaction. If we export something as a gift, there is no payment. In order to meet the requirement of double entry bookkeeping, the country creates a unilateral account and enter in that account what would have been the payment for the gift. In addition to a purely accounting function, a unilateral or gift account also helps separate gifts from other transactions. It should be understood, however, that a unilateral account does not record what a country gives or receives as a gift, but what would have been the payment. Thus, a debit entry in a unilateral account indicates that the country gave a gift, not that the country received one.

c) The capital account measures monetary flows between countries used to purchase financial assets such as stocks, bonds, real estate and other related items. When foreign saver purchases shares of a U.S. corporation on the New York Stock Exchange, or a hotel located in the U.S., they are sending money into the U.S., leading to an increase in the capital account balance of the United States. In this case, the value of the assets (stocks brought and sold on the New York Stock Exchange) or the assets itself (the hotel) remains in the United States. If U.S citizens decide to buy shares of a foreign company on the London exchange, these citizens are sending money out of the U.S. through the capital account. A capital account surplus indicates that more foreign money is entering a country than leaving it.

d) All official purchases or sales of gold are recorded in the gold account. The import and export of gold for commercial purposes, however, are entered in the current account.

Note: Balance of-payments statistics follow the principle of double entry bookkeeping. Since exports are recorded as credits the payment received for exports must be recorded as a debit and since imports are debits, it follows that the payment made on imports must be recorded as a credit. That is, what is giving up in every transaction is recorded as a credit and what is received is recorded as a debit. As earlier mentioned, in view of the objective of this study, emphases and focus is on

the capital account of balance of payments, particularly, the exports and imports of visible merchandise.

Trade Balances and Exchange Rate Determination

As earlier mentioned, exchange rates give us the price of one currency in relation to another. As with any good, the relative price of two currencies is determined by the supply and demand of the currencies in exchange rate markets. Following Whitman (1975) who presents the automatic adjustment mechanism of the monetary approach-the assertion (a) that the relationship between the demand for and the supply of money plays a key role in the functioning of all markets in the economy; and (b) that the demand for money is fundamentally a stock demand characteristic of asset markets rather than a flow demand appropriate to output (commodity) markets, This study specifically conjecture that there exists a significant relationship between trade balances and exchange rate.

Where a state is involved in international trade, assessing trade performance would either present a situation of surplus or deficit, balanced trade is seldom experienced. Thus, trade surplus or deficit embodies a form of "real balance" effect that impact on the desired level of the demand and supply of a nation's currency in the exchange rate market. Here, these effects are of two folds: first it produces a flow demand for a country's currency which is a function of the volume of the country's currency desired and required by foreign consumers to purchase domestic commodities. Second, it equally presents a flow supply of foreign currency. According to the demand and supply relationship, as demand increases, so does the price while as supply increases, prices fall. Thus, the underlying basic fundamentals of supply and demand for the domestic currency explain how a domestic currency's price changes in relation to another at equilibrium in the exchange rate market.

3. Methodology

Drawing from the literature, our framework of analysis is the augmented traditional linear regression model. This study formulates three linear regressions respectively for Indonesia and India. First regresses exchange rate as the dependent variable on oil balance of payments, second, exchange rate on non-oil balance of payments and finally on total balance of payments. Balance of payments is measured as the differences between oil exports and oil imports, non-oil exports and non-oil imports and total exports and total imports. The USD\$ employed to benchmark for foreign exchange therefore the exchange rates between the Indonesian Ringgit and Indian Naira and USD\$ was considered. To McGraw-Hill (2012) there's nothing very tricky about the notion of independence and dependence. But there is something tricky about the fact that the relationship of independence and dependence is a figment of the researcher's imagination until demonstrated convincingly. Researchers are most interested in relationship among variables and ultimately hypothesize relationships of independence and dependence. In order words, variables are usually dichotomised into presumed reasons and presumed effects, stimulus and response, predicted from and predicted to, antecedent and consequence, manipulated and measured outcome and predictor and criterion. Therefore this research addresses exchange rates as the dependent, criterion, measured outcome and response variable and oil, non-oil and total balance of payments as independent, predictor or stimulus variable.

4. Finding

With the formulated model above, this study carry out estimations of the model using the co integration tests and tested for stationary of the series using the Augmented Dickey Fuller (ADF).

Table 1: Non-Oil Balance of Payments and Exchange Rates Model: $M\$ = 2.7049 + 1.53E-05MNBP$

Variable	Coefficient	t-Statistic	Std. Error	Prob.
C	2.704908	51.03786	0.052998	0.0000
MNBP	1.53E-05	9.801588	1.57E-06	0.0000
R-squared	0.716568	Mean dependent var	2.889648	
Adjusted R-squared	0.709110	S.D. dependent var	0.580849	
S.E. of regression	0.313276	Akaike info criterion	0.565245	
Sum squared resid	3.729400	Schwarz criterion	0.649689	
Log likelihood	-9.304897	Hannan-Quinn criter.	0.595777	
F-statistic	96.07112	Durbin-Watson stat	0.327033	
Prob(F-statistic)	0.000000			

Results also show that $C = 2.7049$. The estimated value of the slope coefficient on the variable Indonesia non-oil balance of payments (MNBP) is $1.53E-05$. The interpretation of MNBP is: every RM100 of Indonesia non-oil balance of payments (MNBP) accords the Ringgit the strength of RM0.0000153 against the USD\$, holding all other factors.

Table 2: Oil Balance of Payments and Exchange Rates Model

Variable	Coefficient	t-Statistic	Std. Error	Prob.
C	14.81659	2.800437	5.290815	0.0080
NOBP	1.79E-05	10.33969	1.73E-06	0.0000
R-squared	0.737767	Mean dependent var	42.24013	
Adjusted R-squared	0.730866	S.D. dependent var	55.81142	
S.E. of regression	28.95392	Akaike info criterion	9.617995	
Sum squared resid	31856.53	Schwarz criterion	9.702439	
Log likelihood	-190.3599	Hannan-Quinn criter.	9.648528	
F-statistic	106.9092	Durbin-Watson stat	0.390553	
Prob(F-statistic)	0.000000			

Results show that $C = 14.8166$. The estimated value of the slope coefficient on the variable India oil balance of payments (NOBP) is $1.79E-05$. The interpretation of NOBP is: every N100 of India oil balance of payments (NOBP) strengthens the Naira against the USD\$ by N0.0000179 holding all other factors.

The descriptive statistics of Indonesia and India data as it relates to analytical impact of oil and non-oil balance of payments on exchange rates present parallel results. Starting with the oil activity, averagely, Indonesia exportation of oil products was more than double of its importation having 15969.06 and 6722.65 and 34647.21 and 23567.55 as means and medians respectively for oil imports and exports. On the other hand, India oil imports were about eight times lower than her exports having respectively means of 219171.8, 1748940 and median of 6922.65, 111741.5. The interpolation between the above variables accorded Indonesia oil balance of payment a mean

of 18678.15 and median of 15950.65 and India with corresponding values of 1529768 and 104818.9.

Fundamentally, India importation of non-oil activities is about five times that of Indonesia and approximately fifteen times her exportation of non-oil activities. On the contrary Indonesia's importation of non-oil activities is far below her exportation of these activities eleven times. Thus the mean and median respectively for India imports and exports stands at 695284.5, 51390.85 and 47035.90, 3743.95 against 148375.9, 83157.20 and 160239.1, 61134.65 respectively for the mean and median of Indonesia imports and exports of non-oil trade. The consequential impact of this relationship on the India non-oil balance of payment is grossly disastrous with a negative mean of -648248.6 and a negative median of -47422.45. The corresponding figures for Indonesia are a positive mean of 12038.09 and a negative median of -2473.70.

The overall interplay of oil and non-oil activities generated the total international trade activities of both economies. Thus, while the Indonesia total imports reflects a mean of 164345, a median of 89974.85; total exports – a mean of 194886.3, a median of 87071.50 and total balance of payments, a mean of 30541.31 and a median of 5220.80; India total imports exhibit a mean of 914456.3, a median of 58313.50, total exports show a mean of 1795975 and a median of 115709.9 including her total balance of payments reflecting a mean of 881519.2 and a median of 37724.10. Despite the fact that India exhibit a better result in terms of total balance of payments compared to Indonesia, consideration is majorly accorded to non-oil balance of payments as it has the potential to impact favourably and significantly on the exchange rate of an economy. This is why Indonesia with the best non-oil balance of payments experienced favorable and stable exchange rates in the international market with a mean of 2.8896, a median of 2.6055 and standard deviation of 0.5808. India with her favorable balance of payments on the overall international trade have her Naira experience weak and volatile status in the exchange market with mean of 42.240, median of 8.9737 and standard deviation of 55.81.

5. Discussion & Conclusion

Oil and non-oil balance of payments are able to predict the exchange rates of the Indonesia Ringgit and the India Naira benchmarking foreign currency with the USD\$. The Indonesia oil, non-oil and total balance of payments impact positively in strengthening the Ringgit against the USD\$. However, while the India oil and total balance of payments accord India Naira strength in the exchange market, India non-oil balance of payments weakens the Naira, suggesting that the India non-oil potentials are not optimally tapped. This conclusion is consistent with Oyejide & Adewuyi (2011) who affirmed that the Indian economy is largely dependent on its oil sector which supplies the bulk of its foreign exchange earnings and income. This study particularly conclude that despite the ability of a nation to finance its total import from total exports (that is total exports exceeds total imports) resulting into surplus balance of payment, unalloyed consideration is given majorly to specific impacts of dichotomised international trade activities (oil and non-oil activities). From the above results it is crystal clear

that the ability of a nation to finance or accommodate her non-oil imports from/in her non-oil exports is a major determinant of the country's exchange rate in the international market.

Therefore, in view of the fact that crude oil is an exhaustible asset which makes it unreliable for sustainable development (Ozurumba & Chigbu, 2013), this study recommends that Indian government should borrow leaves from Indonesian government to diversify the nations export base by facilitating and expanding the non - oil export sector.

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