Currency Devaluation: A review

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Abstract
Currency devaluation is an essential topic in the history of international economics and finance. It has proven to have a diverse impact on individual economies; while it is positive on some economies' trade, growth, and development, it is harmful to others. This is a systematic review of several research works in which the ways through which currency devaluation affects trade and growth were surveyed, and the study found that the effects of Currency devaluation is inconclusive and hanging starting from earlier studies as far back as 1940's up to recent studies. After reflecting on the conflicting results, this study argued that the studies on currency devaluation are still hanging. Recent studies reveal that there is a need for further research to better address the issue of recurring currency crises after devaluation, emphasising the need for continued research on the subject and the need to have several reviews to provide summarised research for public policymakers that may still be in doubt as to what the effect of devaluation might be to their economy. The study recommends that only countries with the production of goods and services for both local consumption and exportation should devalue their currency when needed. Furthermore, countries on the verge of devaluation should endeavour to improve local technology and infrastructural facilities to improve GDP and enhance employment.

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1. Introduction

In the past few decades, currency devaluation has been a major concern in the international economy. From the 20th century until recently, many developing economies have experienced currency crises at a point or the other, thereby contemplating whether devaluation of their currency is the way out or perhaps another economic and financial policy/reform.

Theoretical and empirical evidence reveals that currency devaluation can positively affect some economies, and it can be negative in some other instances. Devaluation can be expansionary or contractionary, and there are many views on whether currency devaluation is contractionary or expansionary. Furthermore, there are diverse views on whether it wields positive or negative effects on trade, growth and development, or whether it is appropriate for an economy with huge debt denominated in foreign currency to respond to a call for a devaluation of currency (Saibene and Sicouri, 2012). Earlier literature and the rate at which the International Monetary Fund invest in research associated with currency devaluation show the value attached to the devaluation of a currency. The objectives of this survey are: (i) To review works of literature that examine the effect of devaluation on growth, and (ii) To survey the works of literature that examine the effects of devaluation on trade.

This study systematically examines several databases from 1940 to date. The search produced several high impact journal articles, books and working papers, conference papers, and reports to see the views and stand taken by many scholars on this topic. The study considers the following inclusion criteria in selecting papers for the survey; (i.) Studies that focused on currency devaluation and depreciation, (ii.) Papers that link currency devaluation or depreciation to economic growth or trade (iii.) Research works that examine the relationship between currency devaluation and trade, (iv.) Studies that investigate the relationship between currency devaluation and growth together with trade collectively.

There are many studies on currency crises and devaluation, and these studies have checked the causes of several crises and the effects of devaluation in many nations. However, these studies lack consensus in results; hence, this paper focuses on surveying these studies and identifying why there have been mixed results from various studies even by the same authors. This research will be useful to several countries because the issue of currency crises leading to devaluation is a recurring phenomenon. This research will benefit economies that currently intend to devalue their currency and those that will want to devalue in the future as exchange rate plays a vital role in trade and economic development. This paper extends previous studies by reviewing more recent studies not found in other studies. This paper also stands out as a review paper which is uncommon in this area. The paper argues that the inability of previous studies to have consensus calls for more research. Future studies are inevitably required, studies that will carefully examine the outcome of devaluation in countries that have devalued in the past and use it to form a reliable model to make more informed recommendations and predict the effects for countries deliberating on devaluation. This research is relevant because it brings together the findings from different studies. These findings include studies that found a long-run effect and those that found a short-run effect. Some studies show a contractionary effect, while some show an expansionary effect. However, some findings of some studies did not show any significant effect. Therefore, it is paramount to conduct this survey as it will benefit policymakers who have questioned the effectiveness of currency devaluation as a way out of crises. It will also ease the political pressure to devalue a nation's currency as this will be an intellectual reference point. This paper is an informative study as it examines studies spanning for decades on currency devaluation. It, therefore, provides background for discussions on the appropriateness of currency devaluation when crises occur. It shows how currency devaluation influences growth and trade; therefore, it stands to be a strong reference point, especially when talking

about the role of currency devaluation and whether it is the best solution in a situation of crisis or another economic policy.

This paper will also be a solid reference point for other researchers working on currency devaluation. The other sections of the paper are; introduction of major concepts, which is presented in section 2, Introduction of earlier/foundation studies on currency devaluation is presented in section 3. Studies on the effects of devaluation on growth are presented in section 4; section 5 shows studies on the effects of devaluation on trade, and section 6 summarises and concludes with policy recommendations.

2. Definition and Introduction of concepts

This section presents the definition and brief explanations of the common terms used in this study.

Currency devaluation

This is the downward review of the value of the local currency versus other currencies. The currency's value is revised downward by the government to bring down the cost of exports in the international market. In other words, devaluation can also be referred to as a downward adjustment of a country's official exchange rate in contrast to other currencies (Krugman and Obstfeld, 2000). This is different from when a country reviews the value of its currency upwards which is the opposite of devaluation. This is usually done when there are favourable conditions in the economy, and there is a need to curb inflation and, at the same time, safeguard confidence to encourage investors. This usually raises the value of the currency. This is effectively different from redenomination, which is a situation where a country resolves to change the old notes that have immensely declined with new ones in response to favourable conditions in the economy to reduce inflation or satisfy investors and trading partners. Reviewing the value of a currency upwards would result in a rise in the value of an existing currency, as against the case with redenomination where a country issues new currency to replace an old currency that had excessively declined in value (Krugman and Obstfeld, 2000).

Mundell-Fleming Model

Discuss on currency devaluation can be conventionally answered using the analysis of the Mundell-fleming model, and the result has a positive effect on the current account. Additionally, with respect to GDP, devaluation is expansionary as exports increase more than imports (Saibene and Sicouri,2012). In order to evaluate the rate of the reaction of the current account, the model can be expanded by considering other critical features like:

a.) Variation in exports (imports) in response to changes in the real exchange rate, i.e. World's prices elasticity demand for tradable goods.

b.) The presence of supply shocks effects due to the presence of intermediate inputs and raw materials, for example, oil.

According to Saibene and Sicouri (2012), the Mundell-Fleming model argued that devaluations are expansionary, and exports do not just rise, but also, the demand for aggregate demand of imports is low, leading to a favourable effect on the balance of trade.

Marshall-Lerner Condition

The Marshall-Lerner condition affirms that devaluation of currency will only improve the balance of payments if the total demand elasticity for exports and imports is above one. However, the success of a devaluation lies in the reaction of export and import volumes to price changes as a result of devaluation. If the trade volume is elastic relative to price changes, then a successful devaluation is expected. In other words, a rise in the cost of imports leads to a more than proportionate decrease in the volume of imports. This leads to a reduction in the total amount of foreign currency needed to finance the import bill, while the fall in the

cost of export results in a more than proportionate increase in export volume, leading to a rise in the sum of foreign currency income on exports.

On the contrary, if the volume of trade is relatively inelastic to changes in price, devaluation will not be successful because a rise in the price of import will lead to a less than proportionate decrease in volume of import, leading to a rise in the total sum of foreign currency needed to finance import bill. The fall in export prices leads to a less than proportionate rise in export volume, leading to a fall in the total sum of foreign currency income on exports (Awan, Khan, and Mughal, 2013).

Purchasing Power Parity

Purchasing Power Parity (PPP) as a theory of exchange rate determination compares the average costs of products among countries. The theory is based on the assumption that exporters and importers' actions motivated by the price differences across the country lead to a change in the exchange rate (Suranovic, 2010).

Balance of Payment Theory

Balance of payment theory can also be referred to as the demand-supply theory of exchange. The theory affirms that the exchange rate relates to the balance of payment position of the country. When there is a favourable balance of payments, there will be a rise in the external value of the country's currency. When the balance of payment is unfavourable, there will be a fall in external value (Johnson, 1972).

J-Curve

Devaluation of currency is believed to worsen the balance of trade initially and then improve afterwards, leading to a pattern that looks like alphabet J, hence, The J-CURVE. In international economics, The J-Curve can be said to be the time of path of an economy's balance of trade after a devaluation of the currency, under some assumptions. When a currency is devalued, it means the imports cost increases. The assumption is that the imports volumes and exports change slightly initially; this leads to a reduction in the current account, a smaller surplus and more deficit. Hence, in economics, the J-curve effect is a situation where an economy's trade balance initially worsens after devaluation before recovering higher (Magee, 1973).

3. Earlier studies of currency devaluation

This section presents a survey of founding studies on currency devaluation. Studies on currency devaluation will not be complete if the earlier studies on contractionary effects of currency devaluation are left untreated. Many of the earlier theories showed how devaluation could have contractionary effects. The contributions of Alexander (1952), Diaz-Alejandro (1963), Krugman and Taylor (1978) and Wijinbergen (1986) have served as foundations on the contractionary effect over the years.

Kohler (2017) affirms that Currency devaluation was initially opposed by Alexander (1952), Diaz-Alejandro (1963), and Krugman and Taylor (1978) as they reiterated that it could be contractionary because of the following dominant reasons asides others,

1. It may not boost exports if the Marshall Lerner condition (MLC) is not satisfied.
2. It may redistribute income from employees to traders/business people prone to have a low disposition to consume normally, thereby reducing consumer demand.

Later, Krugman (1999) and Allen et al. (2002) emphasised why the effect of devaluation on foreign debt and its sustainability is an area to be re-evaluated when stating the merits of devaluation.

It is known that empirical findings on the effects of devaluation on output and growth are mostly left hanging and country-specific. Therefore, the contractionary tendencies of devaluation should be given serious thought before recommending it as the solution to regulate current balances or curb recession.

According to Alexandra (1952), a devaluation is most likely not an excellent proposition when the economy is in recession as it leads to a rise in external debt in foreign currency as the sum to be paid back when converted to local currency skyrockets. However, an economy that is growing can explore devaluation as a solution. This can be a good policy as debt reduces and growth is enhanced. The direct impact of change in quantity is not measured by elasticity. Rather the simultaneous difference in quantity and price as a new equilibrium level is sought after by the economic system. The level of variation in quantity in contrast to that of prices is the overall elasticity. Though the level of change in quantity is the outcome of not only the price disparities to which it is related, instead, it also accommodates several other prices and changes in income which also sum up as part of the indirect and direct effects of devaluation. The percentage of devaluation is not necessarily the same as the change in price; hence, the economy's attitude will determine the total elasticity to be used to analyse the effects of devaluation (Alexandra, 1952). The paper further asserted that foreign balance could only be improved by lowering absorption when there is full employment. The studies provided an alternative to devaluation under full employment, which is disabsorption which can also be likened to deflation. The paper laid the foundation for studies on currency devaluation. However, it was purely theoretical, with most of its suggestions based on economic assumptions without an actual situation to back up most of the facts.

However, studies on devaluation were pushed further by Diaz-Alejandro (1963) in his research; He stated the more advanced results of two effects of devaluation. The study reiterated that the first effect will most likely give rise to real domestic output by enhancing the export and import products which will now spread to other sectors through the multiplier. He noted that redistributive effects are likely to come before price effects even though high elasticity in price is not expected in the short run. It is expected that the result of the redistributive effect would be rapid and would be more effective in filling the vacuum, considering the time balance of trade will respond positively to the adjustment in relative prices as a result of devaluation. This study, however, paid more attention to the timing of devaluation by hypothetically looking at semi-industrialised economies. However, the result from the model shows that the redistributive effect may be an avenue for a possible source of instability in the foreign exchange market. The study suggests that the more a country can substitute investment and goods for alternative ones, the more it is likely to change production positively and, hence, improve the balance of trade and local production after devaluation. After considering all the effects in the study, it concludes that profit share in natural production will appreciate following devaluation. The study developed the model that split the effects of depreciation into two; the traditional view is the terms of trade improvement, which can be determined by the price elasticity of demand and supply of export and import. The other effects are contractionary, mainly because of the fall in domestic output due to demand. This leads to a favourable redistribution of income for profit earners as against real wages. In any case, since the propensity to save is lower for wages as against profit, the average propensity to save rises leading to contractionary effects on demand (Alexander (1952); Diaz-Alejandro (1963) Saibene & Sicouri (2012)). Therefore, devaluation can lead to high savings as against investment leading to a fall in real output. These studies also could not use any real country experience and situation to showcase most of its assumptions, leaving room for further research.

Hirschman (1949) and Cooper (1971b) earlier said that devaluation in a country with an unfavourable balance of trade would result from falling in natural income ditto aggregate demand. The assertion is apparent because devaluation raises export prices on one hand and also raises the cost of imports. These two studies also laid the foundation for the difference in real and nominal movements regarding issues on devaluation and its monetary analysis.

However, Krugman and Taylor (1978) drew attention to the fact that previous studies left out something important: the fact that devaluation causing movement in prices can lead to having many losers in real terms as it can immediately lead to an excess supply of domestic goods. The study states that the larger the deficit in the trade before a devaluation, the more the contractionary effect. In a balance of trade situation, the rate of contraction will be subject to the propensity to save by the wage earners and profit earners. Finally, when there are advalorem taxes on international trade, devaluation will lead to a redistribution in earnings to the government from private sector, which will result in a fall in aggregate demand. The studies adopted a Keynes-Kalecki model with assumptions that are more or less like features of many industrialised countries. While looking at the distributional effect, the study also supports the finding of Diaz-Alejandro (1963) that devaluation redistributes income from wages to profits and rents. To clarify his assertions, he further used a numerical example which is a step further when compared to earlier studies. The study shows the difference in monetarist and Keynesian assumptions results from contraction with numerical examples, and the findings contradict that of (Johnson, 1972). Krugman and Taylor (1978) suggest that since in the short run devaluation may have no effect, and since it has a negative effect on labour and reduces employment and output, theoretically, fiscal or monetary policy can be used to compensate, thereby allowing devaluation to bring substitution. However, the country should borrow to settle its immediate hitches and endeavour to eliminate its structural problems by expanding traded goods production in the medium term. The study further suggests that policies like tariffs, subsidies, multiple exchange rates should be used to encourage private production. Devaluation would, however, work better in the medium term and not the short term. The study, however, says that devaluation should be accompanied by policies that will boost demand as devaluation itself leads to a switch in expenditure (Krugman and Taylor, 1978). The paper itself implied that its suggestions cannot always apply to all economies. In any case, we must note that even though the paper used numerical examples, these are just arbitrary numbers and not real-life examples from any country. This, however, shows that the findings are also not representative of the real economic situation, and it relies on economic assumptions.

Khan and Knight (1981) posited that the International Monetary Fund (IMF) regulatory role ensures economic development in member nations. The IMF, however, believe that Currency devaluation is needed in under-developed countries; this is because it is paramount to expand the balance of payment to pull down their external trade deficit. It is also crucial for pricing to be accurate and the need for proper price distortions. If all these issues are adequately addressed and tackled, third world countries can easily experience growth.

Gylfason and Risager (1984) attempted to clarify the propositions of cooper (1971a) and Krugman and Taylor (1978) in the short run. The study further included the link between current account, gross national product (GNP) and exchange rate with empirical evidence against previous studies. The studies examined fifteen countries comprising of seven industrialised and eight developing economies with extremely high debts. The studies show that in the less developed countries, the current account improved, and this was accompanied by a fall in GNP as Philippines and Turkey had minor losses while about 2.4% contraction was recorded in Morocco except in Korea and Pakistan. In the industrial countries under study, Portugal, Ireland, and Spain had a negligible negative effect of devaluation on GNP while devaluation enhanced GNP in the other countries. Since devaluation tends to increase the price of imports, the Marshall- Lerner condition was not met by some countries. While devaluation enhanced demand in some, it had a negative effect on others though very negligible. On the supply side, the countries relying heavily on imported raw materials experienced an upward shift in the aggregate supply schedule. Devaluation is, however, reported to have a positive effect on the current account in both groups. The study also

examined the role of foreign debt on devaluation. The study, however, held wages constant and concluded that devaluation is effective for external adjustment in all the countries under study with or without wage indexation. However, a high cost is imposed when there is full indexation in respect of income loss and unemployment severally. The research theoretically asserted that expenditure switching on the demand side could offset the negative effect of devaluation on the supply side, which arises due to a rise in the receipt of imported goods and low substitutability of external and domestic factors of production. The GNP responses tend to be ambiguous, and this is made stronger by the foreign debt as the stock of debt outstanding in domestic currency value, and the burden of interest is increased, thereby adding to a fall in aggregate demand and spending. When gross domestic product (GDP) is increased due to devaluation, it can be said to be an unnecessary but sufficient condition to have expected a positive impact on the current account. This is because debt effects, terms of trade, and wealth all increase the success of devaluation to balance payment in the short run. The paper, however, fails to link devaluation to profitability, investment and even the effects on GNP was not checked over time as only the short-run was examined. The paper would have been richer if taxation, government spending and other monetary and fiscal variables were considered. However, the paper assumed every other thing to be equal, which is a very difficult condition to attain.

Edwards (1986) examined 12 developing economies and found devaluation to be negligibly contractionary in the first year while the situation changed the following year as traces of expansionary were seen. The study found that there were no significant effects of devaluation in the long run. No effect of terms of trade on output was found in developing economies. He noted that the findings on the effects of devaluation in the economy are contradictory. While some found it to have contractionary effects, others say it is expansionary. What this study did differently was to take account of other variables like fiscal and monetary policy and external disturbances. The study also used simulation models to carry out tests indirectly. Twelve developing economies were examined with data between 1965 and 1980. He modified the formulations of Khan and Knight (1981) in conformity with the proposition of Rational Expectation (RATEX). Empirically from the study, it is difficult to check the effects of devaluation when there are intra-year fluctuations or changes in output. The study could not identify which of the policies proposed by the theoretical models is more important.

The three means by which depreciation have a negative effect on aggregate supply directly were further highlighted by Wijinbergen (1986), and these are;

i. The costs of intermediate imports in domestic currency: the cost of import into developing countries will increase since most of their imports are intermediate products denominated in foreign currency. This, however, have contractionary effects.

ii. Indexation of real wage: real wages are usually raised by a rise in consumer price index (CPI) due to foreign price increase because of devaluation. This rise in wages can result in the high cost of labour and high working capital, thereby causing contraction.

iii. Size of firms real credit: since prices will change domestically in proportion to the exchange rate. Therefore, the supply of loans will fall as the monetary base reduces, leading to a high rate of interest because of the high demand for credit. Therefore, this does not imply only a fall in aggregate demand, but the aggregate supply also falls due to the high capital required for production. This practically completed the work of (Alejandro (1963); and Krugman and Taylor (1978)).

The effects devaluation have on small open economies with foreign capital was further examined by Barbone and Rivera-Batiz (1987). The paper exposes the fact that devaluation can still be contractionary when the economy has high foreign direct investment (FDI), and the study further applied its findings to Jamaica. According to the study, the rate of

contraction is subject to the level of domestic income the foreigners get in the form of profits after showing how foreign capital influences the effects of devaluation using the Krugman-Taylor framework revealing that additional contraction mechanism on the gross domestic product (GDP) is added by foreign ownership. However, the real gross national product (RGNP) is reduced because income is redistributed to foreign residents from the domestic residents. The study, however, shows that the presence of foreign capital makes the contractionary effect of devaluation more pronounced on GNP than on GDP. The study, however, explained that devaluation could be expansionary if, in the traditional export sector, the foreign ownership is widely dominated by the impact of elasticity effects of devaluation and the effects of any preliminary deficit in the current account. The study concluded by applying its analysis to Jamaica, a small open economy with bauxite and alumina as main export, which has provided more than 66% of its visible export earnings and more than 50% of total exports of goods and services. This is applicable since foreigners own the industry, this tallies with the study as Jamaica put a taxation system in place in the bauxite sector in proportion to the level of exports. It states that the volume of supply elasticity of non-mineral exports will relatively determine the expansionary effect of devaluation. The findings are in line with (Krugman and Taylor, 1978). However, the study is applicable based on short-run assumptions of Keynes and not applicable in the medium or long run. The work also assumed the same input for other sectors in the country under study, leaving out the possibility of different inputs and variables in the other sectors.

Johri and Miller (1988), in Devaluation of the rupee: A tale of two years, 1966 and 1991, looked at the causes of Indian crises and consequent devaluation of the rupee. It explains the importance of foreign exchange reserve and balance of payment. It also stresses how foreign debts influences the strength of local currencies from the story of Indian rupees. It explains how India used foreign reserves and foreign aid to maintain its economic situation for years before its budget deficit became higher than both the reserves and aids. The paper also stresses how high inflation and the inability to finance even three weeks' worth of imports made devaluation unavoidable. The country already explored other monetary and fiscal measures, such as giving the exporters liberty to import 30% of export made products. It is evident from the tale of the Indian rupee that international confidence was a major factor in rupee crises, even though Indian policies also contributed to its problem as its policies made it lose out on the comparative advantage. This is because it saw export as unavoidable evil at that time and gave low incentive to it, not until 1991 when it relaxed its policies. It is, however, clear that the huge budget deficit India adopted for several years after independence contributed to its crises, and the access to foreign aid did not help their situation as this did not motivate them to put in place proper measures or policies to strengthen the rupee. When there was no foreign aid due to the Indian war with Pakistan, their condition became worse. This was not unrelated to the fact that the countries giving aids were on the side of Pakistan. It is, however, evident that the aid was just a way of postponing the evil day from the onset.

4. Currency devaluation and Economic growth

This section presents a survey of studies on the relationship between currency devaluation and economic growth and development.

Upadhyaya and Upadhyay (1999) evaluated how devaluation affects output in six Asia countries empirically with the inclusion of fiscal, monetary and external variables using more recent econometric tools than its earlier studies as at then. The study stretched the fact that most countries dropped the fixed exchange regime on the collapse of the Bretton woods system. The studies also follow Khan and Knight (1981) and Edwards (1986) but dropped the excess money supply used by Khan and Knight (1981).

The paper went further in his research by using real exchange rate and nominal rate of exchange and price level using a time series data for 31 years "1962-1992". The outcome of the cointegration test made the use of the error correction model (ECM) unnecessary as there was no cointegrating vector in the result. His overall finding, however, shows that real devaluation has no positive effects on output in the short or medium-term in the countries under study except in Philippines, while none showed an effect in the long run. When the study was further examined with the nominal rate, only Malaysia showed little but insignificant effects. It was concluded that any impact of devaluation on the output must have been due to a change in domestic prices against foreign prices. The study, however, found that an increase in domestic price against foreign price exert a positive impact on three of the countries. However, by the following year, two countries were already experiencing negative impact while only one still showed positive in the third year. The study, however, did not find any of the countries to continually experience a positive or negative effect significantly after three years. This led to the final analysis that the direct effects of devaluation, be it contractionary or expansionary, were probably influenced by other monetary or fiscal policies that accompanied it as terms of trade changes. Devaluation also affects private spending and government revenue, government expenditure, GDP, money growth, and terms of trade. However, the result may be too generalised, seeing that only 6 Asian countries were examined and the intermediate channels that connect devaluation to output in each country were not individually identified; investigating these would have further enriched the research.

Upadhyaya (1999) in currency devaluation, aggregate output and the long run, an empirical study used the methodology of Wickens et' al on six Asian Countries between 1963 and 1993, the methodology has an advantage over methods used by previous studies. It starts with the Autoregressive Distributed Lag (ARDL) model, which can be used to estimate long-run parameters and standard errors. The study used 6 Asian countries, India, Malaysia, Pakistan, Philippines, Sri-Lanka and Thailand. The variables used are real GDP and real exchange rate. The absence of cointegration made the error correction model unnecessary, as planned. The study found a positive effect of devaluation in India and the Philippines but negative in Pakistan in the short run, while it was insignificant in others. In the long run, contractionary effects were seen in Pakistan and Thailand, while there were no significant effects on the other four countries. However, the extension of sample size may shed more light on what the effects will be in the long run.

Bird and Rajan (2000) asserted that devaluation would most likely have a positive impact when the purpose is to restore confidence. However, when devaluation does not boost confidence or where it even reduces the confidence, it cannot also be of benefit to the outflow of capital. When devaluation is adopted as one of the macroeconomic strategies and other relevant fiscal and monetary measures, resulting in a new rate of exchange that is seen to be too far away from the equilibrium rate or lower than it, the effect on creditworthiness and capital flows will be positive. On the contrary, if it is used as a measure due to panic, combined with expansionary monetary and fiscal measures, resulting in a rate reflecting overvaluation, then further outflow of capital is expected.

Chou and Chao (2001) employed a Panel unit root test to evaluate the effectiveness of currency devaluation. This study tests the effect of devaluation on output in 5 of the countries hit by the crisis, namely; Indonesia, Malaysia, Philippines, South Korea, and Thailand, using the IM et' al 1997 IPS for unit root test. The study used exchange rate volatility in addition to the just exchange rate as usually employed by previous studies in the model, and the study deduced that the effect of devaluation on output is better explained by the volatility of the exchange rate than the real exchange rate level. The ARDL test and volatility of real exchange rate measured revealed that devaluation results in a contractionary effect on the economies under study in the short run. In the long run, only Indonesia show evidence of the

devaluation effect on output. This indicates that currency devaluation can cause a negative effect in the short run and may not work in the long run. According to the study, the contractionary effect may be due to a fall in demand as a result of an increase in the level of price. If the export sector is, however, expanded, this can adjust the contractionary effect. Therefore, it is paramount to enact policies that will boost export, which shows why china adopted an export tax rebate policy to aid the export sector during the period.

Krugman and Taylor (1978) and Edwards (1986), as cited in Christopoulos (2004), acknowledged that even though the role of devaluation as an important tool for ensuring equilibrium in the trade balance is established in many underdeveloped countries, it is now theoretically evident that it can result in a fall in aggregate output, which reduces the rate of growth in the economy. The study noted the weaknesses of earlier studies, including basing cointegration inference on the Engle-granger residual test that does not consider the fact that residuals are estimated but not known and the short life span of the studies. The study of Christopoulos (2004) used 11 Asian economies for 1968-1999 because of the Asian crises of 1997. The result of FMOLS shows that 5 of 11 countries experienced the negative effect of the devaluation of currency on output. The countries are; India, Nepal, Pakistan, Singapore, and South Korea, and in three, the relationship tends to be positive, namely Indonesia, Myanmar and Philippines. From the error correction model used to estimate the short-run effect, Negative impact can be attributed to four countries, Philippines, Singapore, South Korea and Thailand, while others had no effect. The study identified the choice of method as the reason for the disparity in many studies.

Bahmani-Oskooee and Miteza (2006) used Panel Cointegration to check if devaluation is contractionary. The study examined 42 countries comprising 18 organisations for economic cooperation and development (OECD) and 24 non-OECD economies using Panel Unit root with annual data. Panel cointegration techniques were also employed. The study went further than earlier studies by using the real bilateral exchange rate for analysing the paper to reflect the situation where a currency appreciate in relation to one country's currency but depreciates against another. The study divided the countries into developed and less developed while pooling data making the study robust. The study found that in the long run, devaluation tends to be contractionary following specifications for non-OECD economies as against OECD economies where most of the results were sensitive to the specification of the model.

Kim and Ying (2007) did an empirical assessment of currency devaluation in East Asia countries; the paper looked at seven East Asian economies of Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan and Thailand and made a comparison with Mexico and Chile using VAR model with pre-1997 crises data. The study shows that devaluation is not contractionary as it was discovered that depreciation of currency tends to be expansionary to a great extent in many countries, contrary to the situation of Chile and Mexico, where devaluation is persistently contractionary. The sample period varied for the countries studied using quarterly data. The paper noted that devaluation is historically linked with recession in the group of countries under study. Nevertheless, a deeper examination shows that the negative correlation could be due to reverse causality, especially in East Asia countries, as high growth in income was recorded before exchange rate appreciation using the data for the pre-crisis period alone. There is no sign of contraction, while output improved in many cases. This is a significant contrast to the record of Mexico and slightly to Chile, where a temporary reduction in output is recorded after devaluation.

Saibene and Sicouri (2012) assert that when there is a sudden shift in the local currency, there will be a rise in the real cost of external debt when the firms have credit constraints in their capacity to borrow with rigidities in nominal price. Therefore, the profit of firms and the capacity to borrow falls, leading to a fall in output and investment in the future. The paper states that the expectations on future output can instigate a devaluation, reaffirming initial

expectations in a self-fulfilling manner. The paper used five countries to analyse the effects devaluation has on economic growth empirically. The model investigated new features that influence current accounts like world demand for tradeable products, price elasticity, the effects of supply shocks resulting from raw materials and intermediate inputs taking oil which can cause inflationary pressures, as an example. The change in real exchange also results in significant balance sheet effects. The paper identified that the inability of the government to push its foreign currency-denominated debt to its inhabitants and having to use reserves to service its debts could cause a problem for its external balance of payments. The paper states that currency crises can occur both in countries with a flexible and fixed exchange rate. The paper assessed the effects for Thailand, Indonesia, Mexico, India, and South Africa. It concluded that devaluations are contractionary for economies with high debts in foreign currency, but the result tends to differ in countries whose debts are in their home currency.

Kalyoncu, Artan, Tezekici, and Ozturk (2008) used the unit root and cointegration test to check the effects of depreciation in 23 OECD economies using quarterly data with a different time frame. The study found a long-run relationship between real effective exchange rate and output for nine countries. While there is a negative effect of devaluation on output growth in 6, it found a positive effect of devaluation in three countries: Finland, Germany, and Sweden. For the short run, three countries, Finland, Germany and Turkey, showed a negative effect while two, Hungry and Switzerland, showed positive effects in the short run.

G. Kim, An, and Kim (2015) examined both developed and developing economies with a vector autoregressive model to check how the exchange rate and flow of capital affect output. The finding shows that developed countries are more likely to experience expansionary devaluation while developing nations tend to experience contractionary devaluation. The change in the current account may not have any significant effect on increment in output following real devaluation while capital flow improves output in developing countries. It is usually ineffective in developed countries. The study adopted different panel VARs for both developed and developing economies to ascertain whether there are similarities in how they respond to fluctuation in exchange and capital flow rate by using three key variables. The study suggests that developing economies are unlikely to achieve a viable balance of payment position and high growth in output by depreciating exchange rates. However, overvaluation must also be avoided as exchange rate correction can have profound effects. Therefore, it is better to look at policies that can maintain the rate of exchange around the equilibrium level. Having noted that output in developing economies will improve with the capital flow, countries should work on their financial markets to boost the weakening capital controls and open the way for more open capital markets.

Gebregziabher (2015) studied the performance of 18 African countries, in the long run, looking at the link between international monetary fund stabilisation and structural adjustment programmes for 1960-2009 on a country-specific basis. The structural break approach was used to check the effects of the adjustment programmes on growth. The study used macroeconomic variables such as GDP, gross investment, private and public outlays, export of goods and services, import of goods and services, government consumption, expenditure, and official development assistance net disbursement, using constant market prices to represent all. The analysis shows that very few economies have positive and sustained growth. Only two countries, namely; Ghana and Uganda, experienced a sustained increase in GDP, export, and investment growth rates due to the traditional fund bank adjustment package. Most of the other countries maintained their conditions as they were before the reforms, whereas some witnessed deceleration in growth even with the over ten years adjustment. Countries in the France currency zone, i.e. CFA, performed worse than the non-CFA economies due to the diversity in adjustment strategies adopted.

Ojuolape, Yusuf, Alabi and Oladipupo (2015) looked at the impact of devaluation in the long and short-run using panel data for seven countries with a history of currency crises. The study used cointegration to test for long-run effect and fully modified ordinary least square (FMOLS) and error correction model (ECM) to check for short-run using data from 1981-2010. The study found that the relationship between currency depreciation and output growth is not significant in the short run and is negative in the long run. The FMOLS shows a significant negative effect of real effective exchange rate (REER) on real gross domestic product (RGDP) in five of the seven countries under study and the panel. In Mexico, it was positive and inconclusive in Singapore as it was insignificantly negative. On the other hand, from the ECM model, six of the countries individually and the panel show no effects of REER on RGDP except in South Africa, where a positive relationship exists in the short run; the effect is neutral in others.

Kohler (2017) revealed that aggregate demand and growth are affected by several mechanisms induced by devaluation and the result is not something that can be concluded apriori. Devaluation will probably cause income redistribution, which may then have a separate impact on domestic absorption based on if the economic regime at the time is wage-led or profit-led. Whereas, if Marshall Lerner's condition is not met, the impact of devaluation on export may not be positive. The study suggests that in the long-run perspective, countries with foreign debt should endeavour to bring down illiquidity and domestic rate of interest to sustain their debt and reduce their foreign currency-denominated debt. This can be achieved by having a strong regulatory financial institution, i.e. the Central Bank, which should act as a last resort. The study, however, suggests that income will move to the government from private. Consequently, it will also move to high savers, thereby resulting in high savings in the long term leading to a fall in output as the investment is reduced.

Ribeiro, McCombie, and Lima (2016) examined how currency devaluation impacts the economic structure and how it further affects output growth in the long run. The paper identified that a real effective exchange rate does not only have an effect on technological progress but also affects the distribution of income, thereby leading to a change in non-price competitiveness, hence growth rate in the long run. The study developed a theoretical framework believed to be general to see how devaluation can promote or reduce growth in the long run. We must, however, note that the institutional framework of the economy is of significant determinant to the effects. The model assumed a situation with a developed foreign economy and a home country. It further assumed that the home country has the capitalists and the workers when the economy imports both intermediate and consumption goods, but not only exports consumer goods. The study follows the Max and Kalecki (1971) tradition that workers only receive salaries/wages and use all for consumption, while capitalists save some of their profits. The paper rests on assumptions that domestic products can stand out and be more marketable if there are higher technological capabilities as it will increase the quantity of their products. Furthermore, the more there is inequality, the more there is the acquisition of luxury products in the economy. It is also assumed that only profit can go into technology, which will bring down savings. The paper concluded that a rise in the rate of innovation in technology promotes the non-price competitiveness of home goods. A rise in the share of wages changes the pattern of consumption for both the workers and capitalists, which also affects the non-price competitiveness of the economy. The paper noted that the effect of currency devaluation on growth is debatable as the study identified several adverse effects that have been neglected in the earlier studies, which adequately explain why the earlier studies show that the effect of exchange rate on growth is positive. The model shows a different situation where devaluation can either be a blessing or a curse in the long run. This revealed that with high wages, devaluation is ineffective in promoting technical change, economic growth and wage share of income. In contrast, a low wage share with other

things being equal, an appreciation in currency is more likely to promote technological change and lead to economic growth.

Nawaz and Ghani (2017) in currency depreciation and output Nexus: Evidence from Pakistan. This study used the ISLM framework and ARDL to investigate the impact of currency depreciation on output in an open economy. The exchange rate is contractionary in both the ARDL estimation of the long run and the ISLM framework. The cause of this was associated with the joining of demand and supply-side factors together. In the short run, currency devaluation led to a rise in output. The study results reveal that output level is favourably affected by terms of trade in the short run, but in the long run, it tends to be negative, unlike other studies. This study used surprise money on the monetary side, and it found surprise money to be insignificant in the determination of output in both the short-run and long run. A significant finding is that currency devaluation is not the best option to raise output in the long term while government expenditure reduces output; this can be linked to the crowding-out effect of the spending in private sector. The paper, therefore, suggests that non-development spending should be toned down by the government and thereby improve more on development expenditure to boost employment.

5. Currency devaluation and trade

Aghion, Bacchetta and Banerjee (2001), in currency crisis and monetary policy in an economy with currency constraints, stated that the economy would have to shift the IPLM curve by raising the interest rate. The study further suggests that variation in the exchange rate should not distort the capability to invest when credit is unavailable. The level of profit made by firms also should not change the output. The paper, however, advocates for a stiff monetary policy when there are currency crises. The paper identified local private firms balance sheet and commercial bank problems as the major source of the currency crisis in Asia rather than the usual belief that government deficit budgeting is the major cause.

Sgard (2003) found that the imposed depreciation of Argentina and Brazilian currency has adverse effects. Argentina ran into a severe economic problem while Brazil failed to follow the devaluation with a good inflationary policy; instead, a textbook J-Curve pattern of adjustment was adopted. While the foreign exchange is a tool for regulating relative prices, in Argentina, there was a good defence in 1995 against the Tequila crisis by the currency board for which they were credited. However, it did not survive the 1999 Brazilian devaluation. The board became redundant, thereby dashing all the hopes of survival of the peso as it was just as bad as before the 1995 tequila crises.

Bahmani-Oskooee and Cheema (2009), in the short-run and long-run effects of currency depreciation on the Bilateral Trade balance between Pakistan and her major trading partners, used disaggregated data between Pakistan and her main trading partners numbering up to 13 at bilateral level to find which of the partners' trade balances respond to fluctuation in the real bilateral rate of exchange. Magee (1973), as cited in Bahmani-Oskooee and Cheema (2009), points out two different situations where the deteriorating balance of trade is paramount as a result of devaluation. He stated the first to be the fact that it takes time for contract rigidities to wear off and that domestic prices may not feel the effect of devaluation until after a while. Therefore, the positive effects of the devaluation may take time to manifest even if the long-run elasticity conform to the Marshall-Lerner condition. The study used the Johansen Cointegration and adopted Akaike Information and Schwarz Bayesian Information criteria. The study found a short-run effect of real exchange rate on the balance of trade though not consistent with the J-Curve hypothesis as customarily adopted. The study also found that a significant positive relationship was seen between the real exchange rate and the balance of trade in close to half of the partners in the long run.

Phan and Jeong (2015) in Vietnam Trade Balance and exchange rate; evidence from panel data analysis used the FMOLS and Dynamic Ordinary Least Square (DOLS) methodology which allows for country-specific effects to check the effects of real exchange rate on the balance of trade both for the country and based on bilateral trade using panel data. Panel Cointegration techniques were used to check the long-run relationship exchange rate and balance of trade between Vietnam and the country's 16 major partners. The economy's balance of trade with the western countries, namely; Germany, Italy, Netherland, UK, and the U.S, improved in terms of real exchange when the country's currency is depreciated, but the depreciation leads to a fall in Vietnam's balance of trade with Asian countries like Korea and Malaysia. This can be attributed to its high dependency on inputs for the production of these Asian trading partners when FMOLS was used. When the study further Used DOLS, currency devaluation would generally result in a deficit in its trade balance. Using individual cases show that real exchange rate depreciation has a negative effect on the balance of trade in France, Italy, Korea, South Africa, Switzerland and Thailand, whereas the trade balance with Germany and U.S improved. Therefore, it is advised that Vietnam should not devalue its currency as the balance of trade would worsen after a devaluation.

Bahmani-Oskooee and Fariditavana (2016), however, summarised the responses of a balance of trade to currency devaluation by the J-curve phenomenon, Magee (1973), as cited in Bahmani-Oskooee and Fariditavana (2016), argue that the depreciation of currency affects trade balance in the future. Furthermore, suppose there is deterioration when currency is devalued, in that case, there is a high chance of continuous deterioration after devaluation, and when lags are realised, the trade balance can then improve. According to this study, earlier studies used the aggregate flow of trade of one country with other world countries and the conventional VAR models. Rose and Yellen (1989), as cited in Bahmani-Oskooee and Fariditavana (2016), however, noted that those earlier studies were biased as they did not test for integrating or Cointegration properties of variables in the balance of trade model. This point was justified by using the flow of bilateral trade data between the U.S and six major partners and Engle and Granger 1987 Cointegration and error correction model. These gave J-Curve a new meaning which was a combination of short-run deterioration with long-run appreciation though evidence of J-Curve was not seen in any of their models. This study, however, used Cointegration and Linear ARDL approach, and in three of six models, there was evidence of J-Curve, but when non-linear ARDL was adopted, 5 of 6 models showed evidence of J-Curve. Therefore, using a non-linear adjustment process helps in finding more evidence of J-Curve. An asymmetric effect of the exchange rate is also seen in the non-linear approach.

According to Saibene and Sicouri (2012), in a case where a country has an initial trade deficit, such a country's real income will reduce if devaluation is carried out. The more the initial deficit, the more there will be a contraction, and there will also be an increase in the cost of import. The paper concluded that the value of foreign debt would increase, firms' profit will drop, and future investment will also drop.

Jayaraman (1999), as cited in Prakash and Maiti (2016), posited that existing works of literature do not support the effectiveness of depreciation of the currency. However, many countries still use a fixed exchange rate, mostly in small African, Caribbean, and Pacific region economies. The existing literature of such countries shows reservation on the move to the flexible regime as devaluation is believed and expected to be a tool that will boost aggregate demand when there is a recession. The study noted that external conditions strongly influence most of these economies because of high reliance on imports. The study used vector error correction model (VECM) with some other framework to check the long and short-run effects of real effective exchange rate on trade for Fiji and checked for the presence of the J-Curve phenomenon. The study found that a trade deficit is triggered by

currency depreciation after a short period when the currency appreciates. However, the service sector's balance of trade did not experience any significant effect of devaluation. The presence of the J-Curve phenomenon was also not seen.

One of the models in the study shows that while devaluation enhances trade balance immediately, domestic inflation also increases, on the other hand, which is detrimental as this results in a trade deficit. The rise in the cost of imports following devaluation is unhealthy for the economy. Even though the service sector helps the balance of trade because of tourism export, it has a very low sensitivity to the movement of the exchange rate. The high dependence on imports is the main factor that affects the trade balance. Though the relief on the burden of trade in the short run after devaluation cannot be ruled out, devaluation is not a permanent solution to overcome crisis. It can, however, be the last option to tackle recession while other measures are also explored and put in place (Prakash and Maiti, 2016)

Mahmood, Al Khateeb and Ahmad (2017) acknowledged that Saudi Arabia had been an oil-dependent economy as Oil was her major export until recently when the fall in oil prices led to non-oil production. The study used the non-linear ARDL technique to avoid aggregation bias, using annual data for 1970-2015 to check for effects of devaluation on industrial export of the economy. The study displayed evidence of Cointegration for individual exports and real exchange rates. World income was also used to represent Saudi's export demand globally, and it was found to exhibit a positive effect on industrial export. Overvaluation of Saudi riyal was seen to lead to depression in the exports of industrial products except for metal articles and foodstuff in the long-term, whereas, depreciation of the currency has been found to be of advantage in increasing the export of industrial products except for foodstuff, plastic product and a host of other products. However, the effect of appreciation and devaluation have been asymmetric for industrial export, according to the study, and the presence of J-Curve was evident for only electrical products. The study, however, concludes that devaluating the Saudi Riyal raises industrial export in the economy. The study also shows that the effect of devaluation is negative on all industrial exports except for foodstuff, plastic products, to mention a few. The appreciation of riyal led to the reduction in all industrial export categories in the short run except for plastic products. It helped to raise the performance of exports in the short run except for electrical products. While there was no significant effect on electrical products in the short-run, the long run showed a negative effect showing the presence of J-Curve looking at the overall result. The paper recommends the devaluation of riyal as the effect for most categories are desirable.

Statistically, the change in the exchange rate has no effect on GDP growth in Greece. However, Greece should focus more on reforms that will restore the economy and boost supply. Labour and capital productivity should be driven and enhance the economy's competitiveness to ensure that public finance is sustained not by reducing public spending but by raising tax enforcement, revenue on privatisation, and local businesses should be aggressively encouraged (Milučká & Horská, 2016).

Austin (2015) linked overvalued naira to the reason why Nigeria is more dependent on imports. The study discussed the purchasing power parity theory, the flow or balance of payments and the mint parity theory and also visited the history of the exchange rate in Nigeria from 1960-2010. Nigeria had the parity policy with pound sterling between 1959-1967, gold current approach between 1968-1970, the dollar peg approach of 1971-1974, the basket of currencies pegging of 1975-1977, import weight approach of 1978-1982, currency intervention system of 1983, crawling peg system 1984-1986; second-tier foreign exchange market of 1986, Dutch auction system 1987, parallel market 1985, interbank foreign exchange market 1989, Bureau De Change (BDC) 1989, Guided deregulation of foreign exchange market of 1995-2012 and autonomous foreign exchange market. The study found that the exchange rate regime does not influence Nigeria's economy. Gross Domestic

Products was not reduced; there was growth during the period as output improved due to diversification. The results, however, differ from government records since increased productivity is supposed to go hand in hand with the employment of labour, knowing fully well that Nigeria policy managers usually release figures showing that the economy is improving judging with growth rate. However, the economy cannot continue growing at such a high rate as 7% as claimed mostly and still has up to 40% unemployment rate. The government's effort to manage the exchange rate under the managed float system was not as successful as the naira continued to depreciate. The paper recommended that local technology should be improved, so as infrastructure facilities to boost GDP while also enhancing human resources efficiency. Specific efforts should be made to generate employment.

Ban and Pellegrini (2016) investigated the validity of the Marshall-Lerner condition in Romania to deduce whether there is justification for the devaluation of the currency. The study focused on the bilateral trade model using the autoregressive distributed Lag model to estimate Romania's main commercial partners in the Euro Area. The result shows that the Marshall Lerner condition is valid in the long run in Romania, and devaluation of currency positively affects external disparities in respect to Euro Area members. The study also indicated that an appreciation in Romania's Real GDP negatively affects trade balance as it stimulates imports. Domestic export is increased, and the balance of trade improves due to a rise in foreign income. The short-run estimates also show the validity of Marshall Lerner's condition. While the results indicate that there is a positive effect of currency devaluation in both the short and long run, the study acknowledged the difficulty in implementing it. This can be attributed to reasons such as the fact that a floating exchange rate is being adopted while the Romania National Bank only intervene when the volatility of the exchange rate is high. Another major reason is that the introduction of the Euro in Romania will amount to an inability to use the exchange rate policy at the national level as a monetary instrument to achieve economic goals. Finally, the devaluation of the currency has many shortcomings, including having a high price for the final product for countries relying heavily on imports. This reduces competitiveness at the international level as inflation will rise, and exported products become expensive for partners (Ban and Pellegrini, 2016).

The Chinese move to devalue its currency in 2015 has also impacted many economies because several African and Asian countries have a strong trade relationship with China. However, China's decision to devalue has been of great benefit to them as it was a deliberate business strategy to aid its sales of goods and boost the dominance of its products in the international market. This is, however, an easy step to take for china because china is a producing and fast-growing economy with standard infrastructure coupled with the availability of sophisticated technology (Okoyeuz, Igwe, and Ukpere, 2018). The positive result from china's devaluation attunes with the findings of most studies and suggestions on conditions for devaluation. It also conforms to theories and aligns with the Mundell-Fleming model.

Cerra (2019), in how can a strong currency or drop in oil prices raise inflation and the black-market premium, used Venezuela as a case study being an oil-exporting country with multiple exchange rate regimes. The paper found that a devaluation of currency can lead to a temporary fall in inflation. The study also found that the black-market exchange rate tends to rise more than inflation if driven by the prices of goods in a distorted market.

Okoyeuz, Igwe, and Ukpere (2018) posited that the Chinese devaluation had affected Nigeria positively because of the strong commercial relationship between the two countries. The paper, however, suggested that economies will have to boost their value-added output, limit the importation of some goods or completely prevent the importation, put high importance on technological transfer and try to remove the barriers such as some institutional factors that slow down the ease of transacting business. The paper reiterated that developing

economies with a high level of importation face the issue of high cost in bringing in goods, which leads to inflation if their currency is devalued. While it may be possible for a developed economy to respond to deliberate devaluation by another country by adjusting their terms of trade, it will be difficult for developing economies to do the same. The paper revealed how Nigeria imported goods worth $5.479billion from China and exported $0.897billion as of 2009, which is an evident trade unevenness. This, however, depicts Nigeria as one of the Chinese main business partners. Chinese devalued the currency to adjust the trade imbalance in their international trade as this will make them more competitive as it will lower the price of their export. Importation, on the other hand, will be discouraged as the cost is increased. However, this can be referred to as currency war, and such manipulation has a significant effect on Nigeria as an economy. This is so because Chinese manufactured goods dominate the Nigerian economy, and the trade imbalance between the two countries negatively impacts Nigeria. The low prices of these Chinese products have rippled many domestic industries, thereby leading to unemployment. The Chinese Yuan devaluation has made Chinese products cheap, thereby making Nigeria export expensive on the other hand and hence, reducing what Nigeria can supply of its product. The foreign reserve dropped from $34.49billion to $29.13 billion just after the devaluation. Unfortunately, most developing countries cannot respond to such competitive/political devaluation because of the colonial mentality that makes most 3rd world countries attached to their colonial masters. While Chinese products represent 23.41% of Nigeria's total import as of 2015, only 1.62% of Nigeria's export goes to China, which explains why their devaluation affects the Nigerian economy.

The paper further identified inadequate technology and technological knowledge to play trade politics among factors that inhibit competitive devaluation, so as inadequate infrastructure and agencies of restraints in the third world economies. The mismanagement of the boom in the 1970s in Nigeria specifically drew the economy backwards. African countries, in particular, have been negatively affected by Chinese devaluation as the Chinese have penetrated the markets. The devaluation has made it easy for the Chinese to export its products to them while it is difficult for them to export to china because of the cost and lower demand for their products, which greatly affects the trade balance of developing countries with high trade relationships with China. Instead of the economy to retaliate normally, they cannot retaliate because of the institutional rigidities as stated above. It is, however, necessary for developing economies to work towards raising their production as this will lead to not just economic development but also employment. In as much as we have vast arable lands in Africa, we have rendered them useless as we currently utilize less than 15%. We must, however, go back to the table to find a way forward. There is also a need for diversification, returns in policy and extremely high fiscal discipline to address the high volatility in price.

Rafindadi (2015) checked whether the misalignment in exchange rate had an impact on the currency crises and what damage has the period of crises done to the nation. The paper found that Nigeria had times of overvaluation and undervaluation at high levels, which contradicts many studies. This, however, led to the discovery that the performance of monetary policy has a positive impact on the real exchange rate (RER), Crude oil volatility index, terms of trade and net foreign assets. Contrary to expectations, the study found that the RER increases with fluctuations in terms of trade conditions, monetary policy, volatility in oil prices, and foreign assets changes but falls when foreign reserve depletes and when there is enormous government spending. It was, however, concluded that Nigeria was truly experiencing currency crises with the finding and the exchange rate misalignment is an early sign of crises. However, it was recommended that the country should endeavour to diversify its economy and produce more, which will lead to export even though this may be difficult in the short run for a developing economy. The exchange rate should also be made flexible to ease the pressure. Building up the foreign reserve is also an important strategy to reduce

the vulnerability of the economy and its currency to shock. Finally, the paper encourages the nation to try its best to attract foreign investors, invest in infrastructure and encourage export to ensure that the local currency is relevant and in demand in order to ensure international confidence. The paper used Edward (1988) theoretical model that states that the economic system is a constituent of the tradable and non-tradable sectors in his research and deduced that the tradable sector has aggregately importable and exportable sectors producible and consumable in a country. Behavioural equilibrium exchange rate and peek model derivation and estimation Procedure was adopted. A logit Probit model was also used, and the variables employed were real effective exchange rate, net foreign assets, terms of trade, index of crude oil price volatility, government fiscal stance, monetary policy, productivity, and Real GDP.

Khan, Ali, and Ali (2016), however, used real effective exchange rate (REER), external debt, the balance of trade (BOT) and foreign direct investment (FDI) and employed ARDL and ECM and found that there is a long-run relationship between the balance of trade and currency devaluation in Pakistan. There is a negative relationship between REER and BOT, i.e. devaluation has no economic benefit to the trade balance of Pakistan. A positive relationship exists between external debt and the balance of trade. In the short run, REER negatively affects BOT, while external debt positively affects BOT. Even though the study is good, it did not consider GDP and inflation at all. It will be difficult to work on devaluation and ignore economic growth during the period and, most importantly, leaving out inflation while discussing trade.

Momodu and Akani (2016) posited that currency devaluation leads to a rise in output and aids the balance of payment in the short run. However, in the long run, devaluation ensures that the price increase neutralizes the boost in the balance of payment and output. The study used Johansen co-integration, ARDL and ECM, and the variables used were; RGDP, exchange rate, money supply, inflation and devaluation with purchasing power parity theory.

Importers tend to push the increase in the cost of imported goods to consumers leading to high prices immediately after devaluation. The monetary authority should try to evade the temporary rise in price to avoid it from becoming permanent. Devaluation should be seen as the last option in a situation of economic/financial crisis. The author laid more emphasis on the BDC/black market exchange rate. The official exchange rate was ₦22 when BDC was ₦81.82 and ₦92, as stated by the author, even though the foreign currency was insufficient in supply at the official rate then.

Eke, Felix, Eke, and Obafemi (2015) checked the impact of exchange rate on the trade balance in Nigeria using real effective exchange rate, gross domestic product, world real industrial production index and trade balance. The study conducted a Cointegration test. There was no existence of unit root and then further found at least three Cointegration vectors showing a long-run relationship between exchange rate, GDP, World GDP, and trade balance in Nigeria. However, the error correction model depicts an inverse and significant relationship between exchange rate and trade balance in Nigeria. As devaluation is carried out, imports increased as there was an increase in real exchange rate leading to a fall in export, thereby worsening the trade situation. The outcome of GDP on trade balance coincide with the A-priori expectation as trade balance improved due to the increase in the country's income. However, as the world income rises, there is a fall in demand for Nigerian products, which lowers export, and hence, the trade balance is unfavourable. The study suggests that it is not desirable to depreciate the exchange rate as devaluation is not suitable for Nigeria. Suppose the economy is to have a favourable balance of trade. In that case, the economic team should develop policies that will make the exchange rate stable as they are also making policies that will make GDP grow faster. The foreign exchange market should be closely monitored to prevent an unexpected attack on the naira against U.S dollars and other major

currencies in the world, as frequent deterioration of Naira will result in a trade deficit in the long run.

Kohler (2017) explains that the terms of trade can be worse off due to price change as a result of depreciation as more transfer is made to foreigners. The paper deduced that Mexico must have had the long-run positive relationship between devaluation and trade due to its low foreign debts against other countries under study. The paper asserted that currency devaluation poses no economic advantage in the short run except for South Africa, which can be due to low external debt in foreign currency. The paper, therefore, attributed the long-run negative effect later seen to the instability in government policy. The paper, however, recommended that countries that have high foreign debts in foreign currency should avoid devaluation as it is going to have a contractionary effect. It should also be noted that there is a need for financial sector regulation as a full adjustment must be put on domestic prices due to the change in the exchange rate, failure to do this will lead to a rise in debt burden, thereby worsening the economic situation of the country.

Okaro (2017) found that Real GDP will decrease as the exchange rate remains constant by 1.49%, and external debt will decrease by 43.8% if the exchange rate is constant. The study shows no significant relationship between Private Direct Investment (PDI) and exchange rate. The study followed the Mundell-Fleming model and Balance of payment theory using OLS. The variables used are RGDP, External debt, Foreign exchange rate and private domestic investment. The study suggested that, firstly, Nigeria should not devalue. Secondly, the government should create incentives like loans and subsidies to encourage domestic production, leading to a trade balance. Thirdly, providing a conducive environment for foreign investors and strict foreign exchange control policies should be adopted. The paper, however, used external debt in Naira without considering the U.S. dollar value, and private domestic investment may not be affected by the exchange rate if import and export are not involved.

The exchange rate positively impacts growth, external reserve, and the balance of payment, while inflation, non-oil export, and trade openness are negatively affected (David and Oluseyi, 2017). The study used data from 1986-2016 for RGDP, exchange rate, money supply, external reserve, interest rate, the balance of payment (BOP), inflation, trade openness and non-oil export for Nigeria by using augmented dickey fuller (ADF), Phillip Perron, Johansen Co-integration and VECM. The paper concluded that, even though devaluation comes with its advantages, these advantages can only be of benefit when the economy can improve on production for both local consumptions and exportation.

The study of Ojuolape, Adeniyi, Gold, and Oshodi (2020) also emphasised the need to stabilise the exchange rate as the study examines the relationship between trade openness and industrialization. The study suggests that importation should be limited to ensure a positive relationship between trade openness and industrialization. This will protect the local currency and ensure the stability of the exchange rate. This will, in turn, encourage export. Exchange rate volatility reduces investors' confidence. Hence, if the exchange rate is stabilised and adequately regulated properly, investors will be attracted and willing to produce goods and services.

6. Conclusion and recommendation

It is evident from the study that the studies on currency devaluation are still hanging as it is neither here nor there. Having reviewed several articles, this study found that the discussion on currency devaluation is still inconclusive as even recent studies have been producing different results. This study has grouped similar studies to show what they opined. However, several studies still have to be carried out using several variables that may be applicable. Recent econometric techniques and also, descriptive analysis for several countries

to check the trend after previous devaluations in order to present clearer view of the performance of the common macro-economic variables.

However, this review recommends that only countries with the production of goods and services for both local consumption and exportation should devalue their currency when needed. Furthermore, countries on the verge of devaluation should endeavour to improve local technology and infrastructural facilities to improve GDP and enhance employment.

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