Is Currency Depreciation Always Good for Improving Trade Balance? An Empirical Analysis of Selected Asian Economies

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Abstract

The aim of the present study is to investigate how depreciation could affect the export sector in selected Asian countries. The current economic environment makes it difficult to sustain trade balance among developing countries with a flexible exchange rate system among emerging economies. Theoretically, depreciation will bring positive impact on trade balance. However, it is only possible when the sum of the elasticities of demand for export and import goods is greater than unity. Accordingly, the present study first analyzed the effect of depreciation on trade balance among 14 Asian economies and found no evidence that depreciation improves trade balance. This was perhaps due to the fact that exports did not respond as expected, mainly due to the decrease in primary exports as well as manufactured products. An increase in import burden may also affect trade balance. However, the above result was challenged when we focused only on eight Asian countries that are relatively bigger, industrialized, and stable economies, and eventually we found that depreciation improved trade balance among the second group of countries.

Keywords: **devaluation, trade balance, export, Marshall-Lerner condition, J-curve effect**

JEL Classification: F14, F31, F32

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Theoretically, depreciation of a local currency is good for the export sector, *ceteris paribus*, as it would increase the competitiveness of export goods in foreign markets. On the other hand, depreciation would cause higher level of import prices. The higher prices of import goods could bring inflationary pressure in countries importing a lot of their industrial needs, energy resources, and consumer goods. Hence, the overall economic impact of depreciation will not be easy to ascertain. Many Asian economies are importing oil, gas, natural resources, and various industrial raw materials. Therefore, it is worthwhile to analyze the consequences of devaluation.

It is known that emerging economies have contributed to around 60%-70% of global economic growth since 2008. After the financial crisis, developed countries decreased the demand for import goods from emerging economies that has affected the export oriented emerging economies in Asia. The U.S. and other leading economies brought in quantitative easing to stimulate economies during the last five years or so. Quantitative easing brought down the interest rates in many developed economies, and induced a large amount of capital outflows to emerging economies, especially in Asia [1]. Emerging economies in Asia had massive inflows of

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[1] Capital flows are induced by the expectation of high rate of return on portfolio investment in the Asian markets.

foreign capital that brought positive impacts on the capital account. Some Asian countries experienced the so called 'the fear of appreciation' (Bunda, Subir, & Sharma, 2011 ; Rajan, 2012). With appreciation pressure, emerging economies were able to import goods at lower prices and were losing export competitiveness in external markets. Some Asian economies were stagnated due to reduced exports and increased imports. However, China has a large domestic demand, and managed to sustain high economic growth after the financial crisis, but the annual growth rates were lower than what they were in the precious decades. In the middle of 2013, the U.S. Federal Reserve announced that they would taper quantitative easing, which affected the financial markets both in developed and emerging economies. The emerging economies were affected more seriously than others as investment capital tends to outflow, and it resulted in the shortage of hard currency. The Indian Rupee has devalued more than 25% since September 2013. However, the Chinese yuan has been stable as China has a large amount of hard currency reserves.

The exchange rate in a given economy often plays a pivotal role than the interest rate in the transmission mechanism of monetary policy (Vitale, 2003). In developing countries, it has been assumed that depreciation is an appropriate macroeconomic fundamental to support the export sector [2]. In this regard, higher exports and lower imports will increase the trade surplus and will also increase the aggregate demand (AD) that would allow the real GDP to grow. This shows that there are two elements that need to be kept in mind regarding devaluation and the impact of trade balance. Firstly, we suppose that a country has export potential, and depreciation has the price elastic for export goods in external markets. Secondly, we also assume that depreciation is supported by sound macroeconomic fundamentals and can maintain competitiveness in foreign markets, that is, the economy has the capacity to produce more goods for export.

Although economic theory suggests the above assumptions with respect to the impact of devaluation on trade balance and economic growth, the results from empirical research are inconclusive, and sometimes, devaluation can also have a negative impact on trade balance. There should be a set of necessary conditions on the size of import demand, export demand, and supply elasticities of devaluation. This can be interpreted from two different aspects. Firstly, the elasticity of demand for exports and imports is price inelastic, and the reduced price of export goods abroad would only lead to a small increase in the quantity sold. Hence, the total amount of exports may be reduced, and the devaluation may require some time to adjust in the real economy. In the short run, the demand for export goods in foreign markets may be inelastic, but the demand for goods becomes price elastic in the long run, and hence, has a greater impact on the export sector. Secondly, the state of the global economy could affect the export sector. When the global economy is in recession, depreciation may not have much impact on the demand for export goods abroad and vice versa.

With these uncertain consequences of devaluation, the present study attempts to analyze the effects of devaluation on trade balance among 14 Asian economies between 1990 and 2012. The first group of economies consists of large economies and export driven relatively small economies [3]. For the second group of countries, we excluded the relatively small economies and considered only 8 countries [4].

The Figure 1 shows the annual average trade balance of 14 Asian economies since 1990. China, Republic of Korea, Indonesia, Malaysia, and Singapore had trade surplus, while countries such as Bangladesh, India, Pakistan, Philippines, Sri Lanka, Vietnam, Thailand, and Hong Kong China had large trade deficits, regardless of depreciation. The openness of Hong Kong's economy stimulated the free movement of portfolio investment. Tuan and Linda (1998) studied the manufacturing evolution in Hong Kong and revealed that the growing financial sector brought about the restructuring of the manufacturing sector. It was due to the outward movement of capital to China for direct investments. Hong Kong has experienced trade deficit since a long time. The Indonesian

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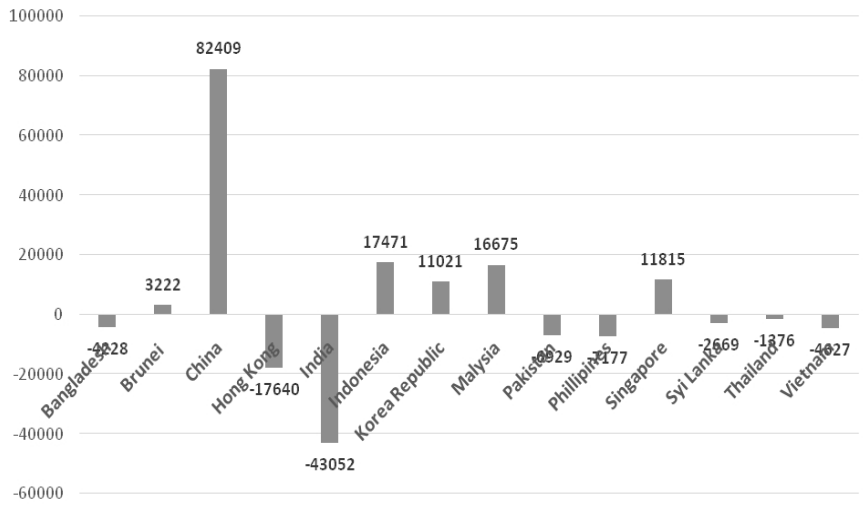
[2] Depreciation with the floating exchange rate system and devaluation in a fixed exchange rate system mean a fall in the value of the domestic currency against foreign hard currencies.

[3] This group of countries includes China, Republic of Korea, Hong Kong China, Vietnam, Philippines, Indonesia, Singapore, Brunei, Malaysia, Thailand, Sri Lanka, Bangladesh, India, and Pakistan.

[4] The second group includes China, Republic of Korea, Hong Kong China, Vietnam, Singapore, India, Malaysia, and Indonesia.

Figure 1. The Average Trade Balance of Asian Economies (1990-2012) in Millions of US$



Source: Author's research using data from the UNCTAD Hand Book of Statistics (2013)

merchandise exports have not been competitive in external markets, and depreciation brought benefits to their trade balance with large-scale export of minerals and primary goods. However, Pakistan has been deficit during the last 30 years. Devaluation had an adverse effect on trade balance and increased its debt burden (Aurangzeb & Haq, 2012).

After the Chinese government started its open door policy in the late 1970s, China focused on the promotion of manufacturing exports and also encouraged foreign direct investment. The Chinese yuan has been kept relatively low against foreign hard currencies, though it had appreciation pressures from other countries. In case of India, as shown in the Figure 1, the Indian rupee has been fluctuating, and this has not been beneficial for the export sector. This is because the Indian economy is heavily dependent upon imported energy and industrial goods. Indian export products are not competitive and are price inelastic in foreign markets. Raza, Larik, and Tariq (2013) showed that among the five South Asian countries, India had the least devaluation impact on exports as compared with Pakistan, Bangladesh, Sri Lanka, Nepal, and Bhutan. Other countries such as Indonesia, Malaysia, and Brunei largely focused on primary exports and have limited demand for imports. Korea has achieved technology progress and has focused on exporting industrial products. The exchange rate of Korea has been very sensitive to the export industries. Though Korea imports almost all industrial raw materials and energy, the country has experienced elastic demand for export goods with a strong manufacturing capacity. Other countries have experienced export promotion, but with limited export commodities, focusing on labor intensive and lower technology products. These products are less price elastic as compared with the more sophisticated, high-technology products.

Theoretical Background

Devaluation could remedy trade deficit that entails domestic expenditure as imported goods tend to become more expensive than domestic products, and domestic products will be cheaper abroad. Hence, devaluation could reduce the domestic absorption that could improve the trade balance in the long-run (Agbola, 2004; Bahmani-Oskooee & Ratha, 2004 ; Musila & Newark, 2003 ; Rawlins & Praveen, 1993). Another theory of devaluation states that trade balance is also rooted in a particular solution of the Bickerdike-Robinson-Metzler (BRM) and the Marshall-Lerner conditions (Bahmani-Oskooee & Niroomand, 1998 ; Lerner, 1944; Marshall, 1923). These conditions state that devaluation has a positive impact on trade when the sum of the demand elasticities for exports

and imports exceeds unity. More specifically, the Marshal-Lerner condition assumes that if e_x and e_m denote the elasticities of export and import respectively, then we reach the following propositions :

(1) If $e_x + e_m > 1$, the devaluation of the home currency would improve the trade balance,

(2) If $e_x + e_m = 1$, the devaluation of the home currency will make no difference to the trade balance,

(3) If $e_x + e_m < 1$, the devaluation of the home currency will deteriorate the trade balance.

Similarly, empirical studies, like the one conducted by Junz and Rhomberg (1973) showed that devaluation may have a negative impact on trade balance in the short run, but improves in the long run, that is, the trade balance follows a time path which looks like the letter "J". Nguyen (1993) and Bahmani-Oskoeee and Xu (2013) also proved that depreciation has adverse effects on trade balance in the short run. The J-curve would adjust the exchange rate instantaneously, but there is a time lag, as consumers and producers need to adjust to changes in demand and supply of commodities. However, Rose and Yellen (1989) revealed that the J-curve was not statistically significant in the case of the U.S.

Kwalingana, Simwaka, Munthali, and Chiumia (2012) explored the long run and short run responsiveness of Malawi's trade balance to exchange rate changes. The study revealed that exchange rate depreciation had no significant impact on changes in trade balance. Additional studies, such as the one conducted by Rawlins (2011) indicated that devaluation deteriorates trade balance in the short and medium terms. Likewise, Chiu, Lee, and Sun (2010) applied the heterogeneous panel cointegration method to examine the long-run relationship between the real exchange rate and bilateral trade balance of the United States and its 97 trading partners for the period from 1973 - 2006 using annual data. The empirical results indicated that devaluation of the U.S. dollar deteriorated its bilateral trade balance with 13 trading partners, but improved it with 37 trading partners, including China.

Depreciation can raise the domestic price of import goods. This will induce domestic consumers to buy domestic products rather than go in for the more expensive import goods. However, this substitution relies on the availability of domestically produced goods as well as the time period subsequent to depreciation (Raza et al., 2013). Many developing economies import intermediate goods such as oil and capital goods. These economies have limited capacity to produce goods that could substitute import goods. Hence, there is a highly inelastic demand function for import goods. Even if substitutes are available, Magee (1973) said that there are time lags to recognize the changes in market situations. There will be an inelastic demand curve in the short run. Raza et al. (2013) analyzed the impact of currency depreciation on trade balance among six South Asian countries, including India, Pakistan, Bangladesh, Sri Lanka, Nepal, and Bhutan. They found that depreciation in these countries had a detrimental impact on trade balance. However, as the strongest economy in the world, in the case of the U.S., the depreciation of the U.S. dollar against other currencies brought insignificant impact to remedy the American trade deficits (Engel & Rogers, 2006). As per these results, devaluation could raise import prices, and may persist even in the long run.

Abeysinghe and Yeok (1998) carried out an empirical study on the impact of currency appreciation on exports in the case of Singapore. They found that with the presence of high level of imports and exports, currency appreciation did not adversely affect trade balance. Appreciation lowers the price of import goods, and reduces the cost of export production. This implies that the cushioning effect outweighs the effect of productivity gains on the competitiveness of export goods. Accordingly, Singapore is an interesting case study as the country has been experiencing sustained export growth and trade surplus despite currency appreciation.

It has been proved that trade in goods tends to be inelastic in the short term, and it takes time to change consumption patterns and trade contracts resulting from devaluation (Bahmani-Oskooee & Ratha, 2004). This condition will be fulfilled if import and export demand curves are inelastic. However, in the long run, the volume of exports may start to rise because the export goods would be competitive in foreign markets and domestic consumers may buy domestic products. Eventually, the trade balance will improve and can have a positive impact on the real economy. If there is a currency appreciation, there could be an inverted J-curve. In fact, it is obvious that following devaluation, the volume of imports and exports may remain largely unchanged due to pre-existing trade contracts that have to be honored. Moreover, in the short run, demand for expensive import goods and supply of

export goods remain price inelastic. This is due to time lags in the consumers' choice for alternative goods.

By the same token, Bahmani-Oskooee and Hegerty (2011) examined the importance of the U.S. - Mexico partnership, and attributed the finding - that only a tenth of all industries showed a significant improvement after devaluation - to the fact that intra-industry trade allows large firms to protect themselves against currency fluctuations. They also found that devaluation had a relatively limited impact on Mexico and Canada. On the other hand, Hsing and Sergi (2010) stated that there is a strong evidence of cointegration between the countries' overall trade balance and real exchange rate. However, the authors also reported that there is a long-run relationship between variables, and the impulse-response functions revealed that a shock to the exchange rate could have a detrimental impact on trade balance, which remains negative up to 20 months after the shock. As revealed by Hooy and Chan (2008), devaluation induced price of import goods increasing could be overruled by lowering export prices, resulting in an increase in the volume of exports. Hence, these results prove that the Marshal-Lerner condition is valid.

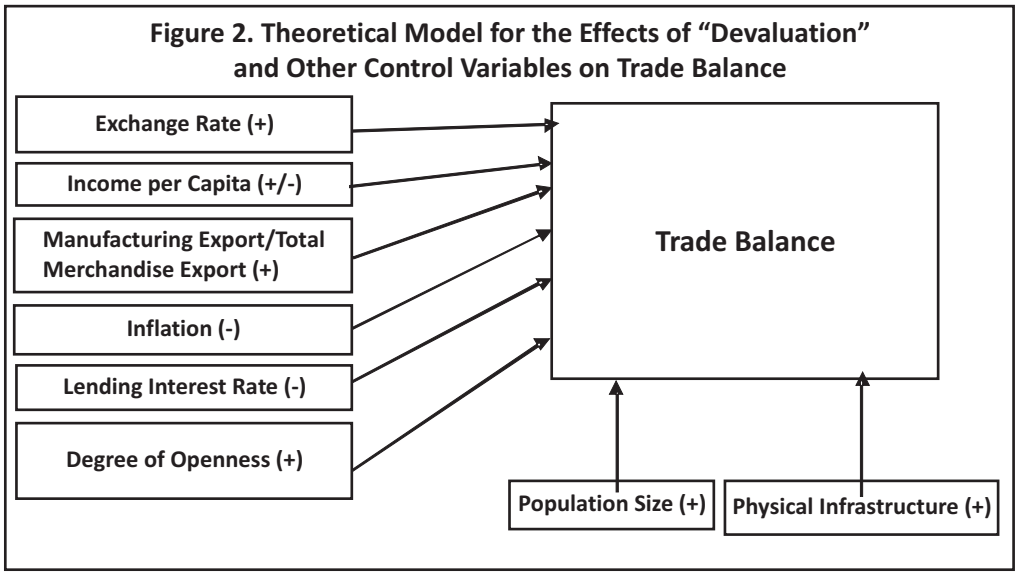
Hsing (2008) examined U.S. trade with seven South American trading partners over the last 20 or 30 years and showed that the J-curve conditions existed in Chile, Ecuador, and Uruguay, while the J-curve conditions were not really proved in Argentina, Brazil, Colombia, and Peru. Similarly, Hsing (2008) and Kalyoncu, Ozturk, Artan, and Kalyoncu (2009) also investigated the effect of real depreciation on trade balance for Brazil and three other Latin American countries. For Brazil, they indicated that there was no co-integration relationship between real deprecation and trade balance, and the J-curve conditions were not fulfilled. These findings, therefore, suggest that the conventional wisdom of pursuing real exchange depreciation in order to improve the trade balance may not apply in some countries.

With these different consequences of devaluation, opponents of the classical view are not optimistic about the effects of currency devaluation to improve trade balance. Thus, the economic impact of devaluation would be ambiguous, and policy makers in developing countries may find it difficult to decide the exchange rate regime.

Model Specification, Estimation Methods, and Data Sources

Trade imbalances may be driven by factors other than the exchange rate as there are many other factors that affect trade. For instance, the degree of openness of an economy could influence foreign trade. Foreign capital flows will affect the balance of payment as it is related to capital account. The level of industrial development matters to the export sector. If a country has an advanced industrial capacity, there would be a tendency of high level of elasticity

Figure 2. Theoretical Model for the Effects of "Devaluation" and Other Control Variables on Trade Balance



of demand for export goods in external markets. There are some other factors that would affect trade balance - these factors are - inflation, lending interest rate, population size, and physical infrastructure. As is shown in the Figure 2, exchange rate devaluation could positively affect trade balance. Other variables such as inflation and lending interest rate could have a negative impact on trade balance. The Figure 2 summarizes a theoretical model for the effects of devaluation and other control variables on trade balance.

Model Specification and Estimation Methods

Based on earlier studies and theoretical views, the effect of devaluation (*CD*) along with other control variables on trade balance (*TB*) in a given economy can be specified as follows:

$$TB_{it}=\beta_0+\beta_1 CD_{it}+\beta_2 Open_{it}+\beta_3 IPC_{it}+Z_{it}+\varepsilon_{it} \quad .....(1)$$

Where,

TB refers to trade balance,

CD refers to devaluation,

Open refers to the openness,

IPC refers to income per capita which captures the level of development of the country,

Z_{it} represents the set of other control variables including physical infrastructure, and so forth, as mentioned in the Table 1,

i indexes the country under study, *t* denotes the year, and ε_{it} is the idiosyncratic errors.

Thus, the model takes both the cross-section dimension and the time-series dimension into consideration. In doing so, the test for heteroscedasticity was conducted by using the Breusch-Pagan test, and the null-hypothesis of homoscedasticity was rejected at the 1% level of significance. There is a strong evidence of heteroskedasticity, and the error variance is not constant and needs to be corrected by using robust standard errors. Likewise, the test for serial correlation for the error terms was conducted by using the Wooldridge test for autocorrelation in panel data, and the result yielded a *p* - value of 0.5761, which implies that there is no evidence of serial correlation (first order autocorrelation), and hence, the error terms are not correlated.

A specification test was conducted to determine which estimation methods would be more appropriate for this study. According to Gujarati (2003), there is a formal test that will help to choose between the fixed effect model (FEM) and the random effect model (REM). Accordingly, the Hausman (1978) test was conducted, and the null hypothesis was not rejected. Hence, the REM is much appropriate for this study. In addition to the REM, this study also used the feasible general least square (FGLS) with corrected heteroscedasticity standard errors so as to check

Table 1. Variables, Their Expected Signs, and Data Sources

Variable	Indicator	+/-	Data Sources
Trade Balance	Trade Balance in Million USD$		UNCTAD Hand Book of Statistics
Exchange Rate	Official exchange rate of each country's currency against USD$	+	WDI
Income per Capita	Income per Capita (PPP)	+	WDI
MEX/TME	Ratio of MEX/TMEX	+	WDI
Inflation	Index (Based on CPI)	+	WDI
Lending Interest Rate	Lending Interest rate	+	WDI
Population Size (log)	Number of Population	+	WDI
Degree of Openness	Trade/GDP	+	WDI
Physical Infrastructure	Telephone/100 people	+	WDI

Notes: WDI stands for World Development Indicators. MEX refers to manufacturing exports, and TMX refers to merchandise exports. Trade balance is a dependent variable and we did not put a sign on it.

Table 2. Regression Results Using RE and FGLS for the Whole Sample
Dependent Variable: Trade Balance

Explanatory Variables	REM	FGLS
Exchange Rate	.0903 (.1589)	.0371 (.1102)
Income per Capita	. 1376*** (.0437)	.7194*** (.0494)
MEX/TME	.7932*** (.2116)	.9242*** (.1796)
Inflation	-.4031* (.2169)	-.3624*** (.1354)
Lending Interest Rate	-.9986* (.5735)	-.2763*** (.0425)
Population Size (log)	.2945 (11.986)	.9807*** (.0992)
Degree of Openness	.3312*** (.0788)	.5591*** (.0664)
Physical Infrastructure	.2039*** (.0353)	.1901*** (.0430)
Constant	-.7252.22 (916.1)	-8246.7 (776.8)
Number of Observations	322	322
Number of Groups	14	14
Time Periods	23	23

the consistency of the results. In fact, heteroscedastic models are usually fitted with the FGLS regression, since the estimates assume that the disturbances are heteroscedastic. In line with this, the variables, their expected effects on trade balance, and data sources are shown in the Table 1. As it is shown, the necessary data were all taken from the world development indicators (World Bank, 2013).

Empirical Results and Main Findings

✍ **Results from the Whole Sample :** The empirical results obtained from the REM and the FGLS estimation methods with heteroscedasticity corrected standard errors are presented in the Table 2. The empirical results reveal that the effect of currency devaluation on trade balance in selected Asian economies was found to be statistically insignificant. In other words, no evidence was found for devaluation to boost trade balance. This was perhaps due to the fact that the export sector was not responding as per traditional economic theories. This is mainly due to a decline in terms of trade for primary commodities and manufactured products or due to heavy dependence on imported inputs. When trade volumes are not responding to exchange-rate changes, the trade balance worsens in the short term. Moreover, it is obvious that most of the Asian economies import industrial raw materials and energy, and devaluation would push up import prices of these goods. In addition, most of those countries are exporting manufactured goods as well as input materials for their industrial needs. The REM manufacturing export (0.7932) had a far greater impact than the other variables, whereas with the FGLS, the population size had the greatest impact as compared to the other variables.

Apart from China and India, most of the emerging Asian economies are relatively small, and there is no certainty to improve trade balance through devaluation. This study, using both the REM and the FGLS estimation methods, reveals that other control variables such as the country's level of development captured by the real GDP/capita of each country, the dependency of manufacturing exports, the degree of openness, and physical infrastructure were positively influencing trade balance. The openness of trade is highly expected as it can enhance productivity for the manufacturing sector. It provides greater opportunities to achieve economies of scale. The openness could play an important role in raising the long-run sustainable rate of productivity. Likewise, a good provision of infrastructure could decrease the cost of doing business and brings benefits to the export and import sectors. The significant effect of the ratio of manufacturing export to total merchandise trade implies that the manufactured products have price elasticity of demand. It could enhance trade surplus, whereas agricultural and primary exporting countries would face price inelasticity.

Table 3. Regression Results Using RE and FGLS for the Sub-Sample Dependent Variable: Trade Balance

Explanatory Variables	RE	FGLS
Exchange Rate	.8532*** (.2282)	.2213*** (.0830)
Income per Capita	. 7118** (.3728)	.3115* (.1897)
MEX/TME	.1401*** (.0529)	.1907* (.1058)
Inflation	-.1155 (.0864)	-.4426*** (.1724)
Lending Interest Rate	-.1853* (.1047)	-.8194 (3.7535)
Population Size (log)	..1893* (.0986)	.2082*** (.0375)
Degree of Openness	.3459*** (.1516)	.5439** (.2429)
Physical Infrastructure	.4353* (.2377)	.3431** (.1501)
Constant	-.2324.6 (893.4)	-1847.4 (328.6)
Number of observations	184	184
Number of groups	8	8
Time Periods	23	23

In addition, this study reveals that inflation and high lending interest rates may have a negative impact on trade balance. This is due to the fact that a high rate of inflation is generally harmful for economic growth and trade balance. This is due to the cost of borrowing, which discourages the rate of capital investment. A high lending interest rate may have adverse effects on investment and export activities.

✍ **Results from the Sub-Sample :** The next attempt is excluding relatively small and unstable economies from the first group. We excluded Bangladesh, Sri Lanka, Pakistan, Brunei, Philippines, and Thailand. We recalculated the effects of devaluation on trade balance for the remaining eight Asian economies, including China, Hong Kong China, India, Indonesia, Vietnam, Malaysia, Republic of Korea, and Singapore between 1990 and 2012. We found that devaluation had a strong positive effect on improving trade balance (Table 3). This is due to the fact that the above mentioned economies are relatively bigger and stable economies, and they produce competitive export goods. For example, countries like the Republic of Korea, Singapore, India, and China, are producing high-tech products like computers, various manufactured products, pharmaceutical, scientific, and medical equipments, and advanced ICT products. These products are price elastic, and the total demand for exports would increase more than what would be the decrease in price, and export revenue could increase. Similarly, these countries are also in a better position to produce substitute goods for domestic consumption, if imported goods become more expensive, as a result of devaluation. Accordingly, devaluation improved trade balance in the selected eight Asian economies.

The empirical evidence of the sub-sample analysis in the Table 3 confirms the variables (the level of development measured in GDP/capita, the ratio of manufactured products, population size - which captures the size of the domestic market), and found that devaluation enhances trade balance. With the REM, values of exchange rate (0.8523) and income level (0.7118) had a greater effect as compared to the other variables. The coefficients were positive for effects on inflation and lending interest rate. In the FGLS, the degree of openness (0.5439) and physical infrastructure (0.3431) affected trade balance the most. We found that there is a strong evidence that inflation and high lending interest rate may negatively affect trade balance, as they increase the cost of capital.

Concluding Remarks

This research shows how trade balance could be affected by the depreciation of domestic currencies against the U.S. dollar. The selected Asian countries had different experiences according to the economic environment

prevailing in the individual country. Some countries have abundant resources, whereas some of the countries have very limited resources, but have a large population. Devaluation was more effective in trade balance when there is an increase in demand for export goods in external markets.

Devaluation works through its expenditure switching and expenditure reducing effect. Expenditure switching works through changes in relative price of exportable and non-exportable goods. Devaluation is expected to increase the price of exportable goods relative to those of the non-tradable goods, thereby shifting the aggregate supply to the tradable and aggregate demand to the non-tradable. Therefore, export earnings would increase and would improve the current account and the balance of payment. In addition to the shift in production from domestic goods (non-tradable) to be tradable, the shift also occurs from import to import substitution (Matto & Subramanian, 2008). Although classical economic theory prescribes that devaluation improves trade balance, empirical evidence shows that the outcome can be ambiguous or inclusive. Accordingly, the Marshal-Lerner condition proposes that the ultimate outcome of currency devaluation depends upon the nation's price elasticities of demand for exports and imports.

Research Implications

This study attempted to analyze the effects of devaluation among 14 emerging Asian economies between 1990 and 2012. There was no strong evidence showing that devaluation has a positive impact on trade balance. From the Table 1, it is evident that most Asian countries were experiencing a trade deficit from time to time. Imports continued to grow more than exports after devaluation. This is because of the very strong demand for imported necessities and inelastic foreign demand for most of the exports, mainly from those relatively small Asian economies. This implies that with relatively inelastic demand for exports and imports, devaluation has little or no effect in changing trade balance.

For another discussion, we attempted to exclude the relatively small and unstable Asian economies such as Pakistan, Bangladesh, Sri Lanka, Brunei, Thailand, and Philippines from the sample, and we analyzed the effects of devaluation on trade balance for eight relatively bigger and stable economies. This group included the Republic of Korea, China, India, Hong Kong, Singapore, Malaysia, Indonesia, and Vietnam. With this group of countries, it was confirmed that devaluation significantly contributed to trade balance. The rationale behind the positive impact of devaluation might have been the relatively large and stable Asian economies with a competitive manufacturing sector. This is very different from those countries who are focusing on exporting agricultural and primary products, and import intermediate and capital goods. In addition to devaluation, this study also found that there is a strong evidence that the variables such as the level of development measured in GDP/capita, the ratio of manufactured products, and population levels also influence trade balance. Likewise, there is strong evidence that inflation and high lending interest rates have a negative impact on trade balance.

Limitations of the Study and Scope for Further Research

The present study has certain limitations which could provide opportunities for future research on the same theme. The study has extensively discussed the Marshall-Lerner conditions in the literature review - that currency depreciation/devaluation has a positive impact on trade when the sum of the demand elasticities for exports and imports exceeds unity. Thus, future researchers can conduct an elaborate study to verify whether the Marshal-Lerner conditions for the sample countries have been fulfilled by estimating the elasticity of exports (ε_x) and the elasticity of imports (ε_m) respectively, in order to reveal improved results. Similarly, empirical studies could be attempted among Latin American countries as well as African countries; especially African economies, as these are heavily engaged in primary exports, and import a lot of manufactured commodities. In this case, even the Marshall-Lerner conditions could be shown in a different way from the Asian countries.

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