



Graduate School of Development Studies

**Exchange Rate Overvaluation and Its Impact  
to Manufactures Export Performance in the  
Philippines**

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## List of Acronyms

ADB	-	Asian Development Bank
BSP	-	Bangko Sentral ng Pilipinas
CPI	-	Consumer Price Index
DBCC	-	Development and Budget Coordination Committee
GDP	-	Gross Domestic Product
IMF	-	International Monetary Fund
LRER	-	Long-run Equilibrium Exchange Rate
MENA	-	Middle East and North Africa
MFA	-	Multi-Fiber Agreement
NSO	-	National Statistics Office
PHILEXPORT	-	Philippine Exporters Confederation, Inc.
RER	-	Real Exchange Rate
SEPO	-	Senate Economic Planning Office
WBDI	-	World Bank Development Indicators
WPI	-	Wholesale Price Index
WTO	-	World Trade Organization



# Chapter 1

## Introduction

### 1.1 Background of the Study

There is a strong reason to believe that rapid economic growth is associated with the adoption of a competitive exchange rate which promotes exports. Most of the successful experiences of East Asian and South East Asian economies in the last 30 years and more recently, of Chile, Uganda and Mauritius in the 1980s and India and China in the 1990s, emanated from their competitive real exchange rates, which fostered exports and output growth (Gala, 2007).

However, it is not only an export-promoting exchange rate that matters to growth. Equally important, are the type of commodities which a country exports. As Rodrik (2006) argues, successful East Asian countries experienced rapid growth by having a relatively broader manufacturing base than countries in Latin America, South Asia, Middle East, North and Sub-Saharan Africa. The emergence of China for instance, has become undisruptive because it is highly specialized in manufacturing (Hanson, 2008). From 2000 to 2005, manufacturing accounted for 32 percent of China's GDP and 89 percent of its merchandise exports.

Several reasons have been put by various researchers to support this claim. Soderling (2000) argues that income elasticity of demand is higher for manufactured goods than for primary goods. This means that foreign countries tend to devote their income increases to manufactured goods rather than on primary goods. On one hand, Rodrik (2006) elucidates that with the advent of economic globalization, the premium on manufacturing has greatly increased. The world markets provide nearly unlimited demand for manufactured goods from developing countries. Moreover, the expansion of manufacturing activities is fraught with externalities and learning spillovers. Entrepreneurs who invest on non-traditional economic activities provide valuable demonstration effects to prospective entrants, they train workers and managers who can work for other firms, they generate technological learning and they provide inputs or demand for other new activities (Rodrik, 2006).

While the Asian Development Bank (2006)<sup>1</sup>, provides two major reasons in justifying the manufacturing as the "engine of growth". The first reason points to the increasing returns to scale in the manufacturing sector which are of two types: 1) those derived from large-scale production which, induce lower average costs; and 2) those derived from the fact that output growth has an effect on capital accumulation and the embodiment of new technological progress in capital. The second one relates to the productivity of labor, i.e., "if activities outside industry are subject to diminishing returns and resources are drawn to the industrial sector as it expands then, the average product of labor will rise in non-industrial activities, ADB (2006)".

The sluggish performance of the manufactured exports of the Philippines may have been undermining the economic expansion of the

country. Since the 1970s, the country has been exhibiting relatively poor economic growth performance when compared to the successful Asian countries. In terms of the expansion of the country's output, the country has been consistently outperformed by the successful Asian economies from 1970 to 2007, except in relation to India in the 1970s, as illustrated in Table 1.1.

**Table 1.1**

<b>Average Annual Gross Domestic Product (GDP) Growth Rate, 1970-2007.</b>				
<b>Country</b>	<b>1970-1979</b>	<b>1980-1989</b>	<b>1990-1999</b>	<b>2000-2007</b>
Philippines	5.79	2.01	2.78	4.91
China	7.44	9.75	9.99	9.80
India	2.93	5.89	5.70	6.96
Malaysia	7.73	5.88	7.25	5.40
Thailand	7.51	7.29	5.28	5.02
Singapore	9.32	7.51	7.64	5.57

Source: WBDI

Historically, the country has failed to catch-up with the expansion of the manufacturing sector of the other successful and rapidly growing Asian economies. In terms of the average annual manufacturing value-added, the country has the smallest growth rate from 1970 to 2004, except in relation to India in the 1970s (as shown in Table 1.2). Although beginning in the 1980s, India managed to outperform the country on this term. Despite the huge rise in the share of manufactured exports to the country's total export of goods beginning in the 1980s<sup>2</sup>, following the implementation of a series of trade and incentive reforms, still the country has not managed to pull alongside the performance of the manufacturing industries of the other Asian economies. In fact, the share of manufacturing to the country's total output from 1980-2004 has stagnated, averaging only more than 20 percent throughout the whole period.

**Table 1.2**

<b>Average Annual Manufacturing Value Added, Philippines vis-à-vis Other Asian Countries, 1970-2004.</b>				
<b>Country</b>	<b>1970-1979</b>	<b>1980-1989</b>	<b>1990-1999</b>	<b>2000-2004</b>
Philippines	6.55	1.21	2.33	4.26
China	12.02	10.35	3.37	-
India	4.31	7.03	5.98	6.69
Malaysia	10.83	9.41	10.02	6.98
Thailand	11.46	8.76	8.54	6.68

Source: WBDI

Several factors may have been causing the relatively poor manufacturing export performance of the country, and this may include the country's exchange rate. Although, studies in the past have already established the negative relationship between an overvalued exchange rate and the export

performance of the other developing countries, in the case of the Philippines, this remains to be validated.

While most studies in the past have looked at how the overvaluation of an exchange rate impact on the export performance of a country as a whole or in particular, on a country's manufactured export performance, this study takes a different approach by looking not only, at the impact of overvaluation to the country's manufacturing export performance in general but also, its impact to different manufactured export types. The study argues that the different impact of the overvalued exchange rate to different export types may have an implication on the overall effect of overvaluation to the country's manufactured export performance.

This research paper aimed to assess the current level of the exchange rate of the country. Also, it aimed to provide empirical evidence on how the country's exchange rate has been affecting the country's manufacturing export performance. Specifically, it has the following two main objectives: 1) to analyze whether the Philippine peso has been overvalued and if so, determine the extent of its overvaluation; and, 2) to determine the impact of an overvalued peso on the performance of the country's manufacturing exports.

The study argues that the exchange rate of the country has been overvalued over a long period of time and has been negatively affecting the country's manufactured export performance. Its impact however, varies depending on the type of manufactured export.

The findings provide evidence on the arguments of the paper. The results of the calculation indicate that from 1981 to 2005, the country's exchange rate has been overvalued in relation to both its trading partners and competitors. Within the entire period, the country posted the highest overvaluation of its exchange rate in the 1990s. Among the three baskets of currencies with which the country's real exchange rate was calculated, it was in relation with the country's neighboring Southeast Asian countries where the country has posted the most significant overvaluation, followed by its industrialized Asian country competitors while the least was, in relation to its trading partners. The continuous overvaluation of the country's exchange rate provides an indication that the country has not been adopting a competitive exchange which could have promoted the country's exports over a long period of time.

In terms of the consequences of the overvalued currency to the country's export of manufactures, the following conclusion was drawn from the analysis: the overvalued exchange rate has contributed in inhibiting the promotion of the country's different manufactured exports while, it encouraged the promotion of imports in the country and discouraged the promotion of the country's import substituting industries. The results of the analysis indicate that the impact of overvaluation varies on different manufactured exports of the country. What appears to be vulnerable to the overvalued exchange rate are the manufactured exports of the country which are dependent on domestic inputs while the country's exports which are strongly dependent on imported inputs exhibited resilience to the overvalued exchange rate. The vulnerability of some of the country's manufactured exports to overvaluation has contributed in putting up a narrow export base in the country while the resilience of the

already strongly import-dependent leading exports of the country to overvaluation has further increased the dependence of the country's exports to imports. The narrow export base and increasing import dependence of the country poses negative implications to the manufactured export performance of the country.

The policy options that were drawn from the findings of the study are: the main policy aim of the country should be to broaden its narrow export base through export diversification. Devaluation of the exchange rate may not be an effective policy instrument to enhance the competitiveness of the country's exporters in the immediate term given the import-dependent export structure and the undeveloped stance of the import-substituting industry of the country. Instead, the government needs to push for policies which are geared towards improving the production efficiency or reducing the cost of doing business in the country, as a strategy to lower down domestic prices and hence, to enhance the competitiveness of the exporters. Also the government needs policies that will develop the country's import substituting industry and reduce the country's dependence on imports, to allow for an effective devaluation in the medium or long run. Incentives and subsidies for the producers of manufactured export types which are vulnerable to continuous appreciation of the peso need to be provided to promote export diversification in the immediate term. Devaluation however is inevitable, in the medium-run or long-run as the continuous overvaluation of the exchange rate will only sustain the strong import dependence of the country which can only lead to small value added from the country's manufactured exports and persistent trade imbalances in the country.

## **1.2 Research Questions**

Basically, this research study was guided by the following questions:

- 1) What is the extent of overvaluation of the Philippine peso?
- 2) What are the consequences of the overvaluation of the Philippine peso to the country's manufacturing export performance?

## **1.3 Limitation of the Study**

A number of important caveats should be noted in the analysis of this study. First, the analysis of the impact of the overvalued exchange rate mainly takes only the exchange rate as the determinant of the country's export performance. It is acknowledged though, that there are other non-price factors which can affect the export performance of the country such as the elasticity of the demand and supply of the country's exports, the competitiveness or quality of the workforce, access to credit facilities and other government support services, economic and political stability and other institutional factors, among others. However, it should be noted that to some extent the influence of such factors to exports is captured by the price movements of the domestic goods produced in the country. Second, the study was confined only on the calculation of the country's RER and its impact to the country's manufacturing

exports, which in the last 30 years have increasingly constituted the bulk of the country's export of goods. It excluded in the analysis the impact of the RER overvaluation to other types of exports of the country. Aside from the fact that, the share of the other exports of the country to its total exports of goods has already been dismal and declining during the period covered in the study, its exclusion in the analysis was mainly predicated on the argument that, the promotion of manufacturing exports in the country is the key towards its more rapid and sustained economic growth. And third, data constraints have to some extent limited the analysis of the study.

## **1.4 Organization of the Paper**

The study is organized as follows: The second chapter provides a review of relevant concepts and theories on a competitive exchange rate and the impact of an overvalued exchange rate to trade particularly on exports. It also presents the prevailing debates on the calculation of the RER and some empirical studies done in other developing countries. The third chapter presents some trends and the recent performance of the country's manufacturing exports, its composition and also its contribution to the country's total output. Also, it provides a brief history of the country's exchange rate regimes and an analysis of the country's exchange rate movements. The fourth and fifth chapters present the major findings of the study: the fourth chapter provides the measure of the extent of overvaluation of the country's exchange rate in relation to its trading partners and competitors while, the fifth chapter analyzes the consequences of an overvalued exchange rate to the country's manufacturing exports. The last chapter gives the conclusion of the study and some policy implications.

## **1.5 Research Methodology**

Using the Purchasing Power Parity Approach (PPP) the study has calculated the overvaluation of the country's RER both in relation to its trading partners and competitors. Under this approach, it is assumed that in the long run the exchange rate will adjust to compensate for price differentials across countries. Generally, the sustained real appreciation of the exchange rate is interpreted as an overvaluation of the RER, while its sustained real depreciation implies undervaluation of the RER.

The RER calculated in relation to the country's trading partners provides a measure of the competitiveness of the home country's export relative to the domestically-produced goods of its trading partners. While the RER measured in relation to the country's competitors presents a measure of the competitiveness of the home country's exports relative to other countries' which may have been exporting similar goods or products or the so-called, "third-country effect".

In the analysis of the impact of the country's RER overvaluation to the country's manufactured exports, the study did not use any econometric or modeling technique as it is difficult to provide an exact quantification of the

impact of the exchange rate to the country's export performance considering that there are other factors which variably affect the export performance of a country. Instead, the consequences of the RER overvaluation were determined by looking at the elasticity of the country's manufactured export earnings to changes in the country's real exchange rate.

The study used secondary data which were sourced from the Bangko Sentral ng Pilipinas (BSP), National Statistics Office (NSO), International Monetary Fund (IMF) and World Bank Development Indicators (WBDI) Database. The study covered the period of 1981-2005. The start of the period coincides with the time when the country started to implement series of trade policy reforms which were aimed at promoting a more export-led growth. It was also during this time when there was a shift in the composition of the country's export of goods from a traditional-led towards a manufacture-led exports.

## Chapter 2

### Review of Related Theories/Concepts and Researches

This chapter reviews literature on exchange rate particularly, on the competing views about the competitive exchange rate, the issue about overvaluation and its consequences to trade performance of a country particularly, on exports. It also outlines the prevailing debates around the appropriate calculation of the real exchange rate and the extent of its misalignment as well as relevant studies on the exchange rates of some countries.

The importance of the real exchange rate (RER) emanates from the fact that it can be used as an indicator of trade competitiveness of a country (Kipici & Kesriyeli, 1997). As Krugman & Obstfeld (2003) puts, “the RER is a broad measure of the prices of one country’s goods and services relative to the others”. Edwards (1987) on the other hand, defines it as, “a real concept which measures the relative prices between two goods - tradables and non-tradable goods”. Hence, the RER measures the price competitiveness of the country’s export and import and therefore, it is an important determinant of a country’s trade performance.

#### 2.1 The Competitive Exchange Rates

The Neoclassical view of a competitive exchange rate provides a maximum play to the market in determining the exchange rate level. Generally, this view takes the competitive exchange rate as a market determined exchange rate which ensures that there is no deficit in the balance of payments of a country. However, an important issue which can emerge in adopting this market-determined competitive exchange rate is that it can deviate substantially to its “equilibrium values” (Hyder & Mahboob, 2006) or it can lead to exchange rate misalignment or overvaluation which can be damaging to economic growth.

In the literature, several reasons were put on why an overvalued exchange rate can slow down the economic expansion of a country. According to Hyder and Mahboob (2006), real exchange rate can undermine exports and weaken the country’s external position. As the overvalued exchange rate impedes the growth of exports and import-substituting sectors, this results to less rapid productivity advances as these where rapid productivity advances can be derived (Shatz and Tarr). Moreover, Gala (2007) points out that exchange rate overvaluation can affect the allocation of resources in the domestic economy. As the overvalued exchange rate results to the lowering down of the prices of tradable goods relative to non-tradables, there will be a shift of resources from the former to the latter. This affect the productivity dynamics of the economy as the resources are shifted to non-tradable activities and commodity production where there are decreasing returns (Gala, 2007).

An alternative view which has become more relevant especially among developing countries in recent years is the Post-Keynesian view of a competitive exchange rate which takes it as one that is managed and ensures the promotion of the country's exports (most especially, the manufactured types) and import substituting products while it discourages the promotion of imports. This view pushes for an exchange rate that will ensure positive trade balances in a country. A competitive exchange rate according to the Post-Keynesians is one that is aligned to the "appropriate level" or the equilibrium value of the real exchange rate and which avoids episodes of appreciation or overvaluation of the exchange rate.

The importance of maintaining an exchange rate that is aligned to its equilibrium value has been underscored in various studies and even in policy discussion of the performance of less developed countries. According to Edwards (1988), much of the success of the more "successful" developing countries emanated from maintaining a real exchange rate that is at its "appropriate" level. The slow growth in Africa and Latin America has been hugely attributed to the misalignment of their exchange rates while the success of Asian countries has been the result of prudent macroeconomic, trade and exchange rate policies (Sawada & Yotopoulos, 2005).

Given the successful experiences of the countries which adopted an exchange rate that is properly aligned to its equilibrium value and the pitfalls in adopting an overvalued exchange rate, a broad consensus has been reached by the developing countries that, the overriding objective of an exchange rate policy is to avoid episodes of prolonged and substantial misalignment, that is, situations in which the actual real exchange rate deviates significantly from its long-run equilibrium value (Montiel & Hinkle, 1999). Hence, "*getting the exchange rate right!*" has become the mantra among developing economies.

## 2.2 Consequences of Overvaluation to Export Performance

'The sustained departure of the REER to its equilibrium value is referred to as RER misalignment' (Hyder & Mahboob, 2006). There is an important caveat though, to this definition, that is, the movement of the RER away from its equilibrium value cannot always be interpreted as a misalignment. As Edwards (1987) puts, RER movements maybe "justified" by real events in the economy, such as productivity gains (*a la* Balassa-Samuelson effect), changes in external terms of trade, changes in taxation, and so on. Such "justified" change in the RER is termed as "equilibrium phenomenon". On the other hand, there are instances when movements in the RER are "unjustified", which imply that the RER deviates from its equilibrium value. In this event, there is an RER disequilibrium or commonly termed as RER misalignment (Edwards, 1987).

An RER misalignment can be either of two ways – an undervaluation or an overvaluation. To put it in simple terms, an RER that is below its equilibrium value can be interpreted as an undervaluation while an RER that is above its equilibrium value implies an overvaluation (Di Bella, et al., 2007). Although, it is acknowledged that both conditions have repercussions on a country's trade performance, the literature presented below focuses only on the



consequences of an overvalued currency to a country's trade (export) performance, as this has been the interest of the study.

The theoretical literature presents two different strands of thought or views as to how the overvaluation of the exchange rate impacts on the country's trade performance particularly, exports. The first and the most conventional view posits a strong notion of the impact of the RER overvaluation to trade, particularly on export performance. According to this view, the exchange rate overvaluation results into the decline in the external competitiveness of a country which leads into the increase in the country's imports and a decrease on its exports and import substituting goods. As Dornbusch (1988) states, "An overvalued currency makes import artificially cheaper for consumers while it makes exports relatively more expensive for the producers". Considering that a significant portion of the costs of production is paid in domestic currency, the overvalued exchange rate results in the reduction of incentives and the ability of exporters to compete in the foreign markets (Takaendesa, 2006). When firms could no longer compete with imports or produce exports for the world market profitably, first, they will cut production and if overvaluation persists they will stop producing (Dornbusch, 1988).

An alternative view which is the second strand of literature presents a weaker notion on the impact of an overvalued currency to export performance. According to this view, the relationship between an overvalued exchange rate and export performance is not straightforward. As Madho (2006), argued in her paper, the impact of an overvalued currency to exports varies for different export types. Manufactured exports are assumed to be more responsive to exchange rate changes than raw materials or traditional exports as the demand and supply of this type of export are more price-responsive and have higher income elasticity. On one hand, the responsiveness of traditional exports to exchange rate changes is somehow limited as these are mostly bought by few multi-nationals which control prices and the demand for this type of export is not price elastic (Madho, 2006). This view was actually reinforced by the finding of the study of Nabli & Varoudakis (2002) on MENA countries. Their study showed that the elasticity of manufactured exports to exchange rate overvaluation was higher relative to total exports. This indicates that manufactured exports are more sensitive to the currency overvaluation than the other types of exports such as primary products.

Moreover, it is also argued that the impact of an appreciated currency to different exporting industries depends on a number of factors and the two most important factors are: '1) the pricing strength which encapsulates the size of margin an industry/business works with; and, 2) the degree to which the industry is protected or hedge, both naturally and via forward contracts'<sup>3</sup>. These two factors correspond to the pricing power of the country's exports or profit margins, the elasticity of demand for these exports in the international market and also the level of import content. Accordingly, the least affected during periods of overvaluation are those exports which have high pricing power, which imply higher profit margin, high demand overseas, and those which have higher import content. This argument was enshrined in the study of Abeyasinghe & Yeok (1998) on Singapore. In their study they argued that the

degree of dependence of exports to imported materials for inputs determines the extent of impact of the exchange rate overvaluation and this was supported by the findings of their study that the manufactured exports of Singapore which have high import content have been less affected by the overvaluation while the other exports (service and primary exports) which are relatively less intensive in imported inputs were most affected by the overvaluation.

These two strands of literature underlie the analysis of the study on the impact of overvaluation to the country's manufactured export performance.

## **2.3 Estimation of the RER Overvaluation**

Although, the method of calculating the RER overvaluation appears to be straightforward, which is done simply by taking the difference between the observed RER and the equilibrium RER (Di Bella, et.al, 2007), there are a number of calculation issues which arise as a consequence of the different conceptualizations or theories regarding the RER and its long-run equilibrium value. These estimation issues which led into different measures of the RER can be summarized into: 1) the choice of method of calculating the RER (choice of price index and country weights), and; 2) the method of calculating the equilibrium value of the RER

### **2.2.1 Estimation of the RER**

In the exchange rate literature, there are two ways in which the RER is defined. The first one defines the RER as the nominal exchange rate that is adjusted for price level differences between countries (expressed as the ratio of the foreign price or cost level to the home country's aggregate price or cost level measured using the same currency). This is commonly termed as the external RER (Hinkle & Nsengiyumva, 1999). The second one defines the RER as the ratio of the domestic price of tradables to non tradables goods within a single country and this is commonly referred to as the internal RER (Hinkle & Nsengiyumva, 1999). Consequently, within this two different RER definitions, different methodological approaches or formulations in calculating the RER has emerged which will be discussed below:

#### **The External RER**

The external RER is the most conventional conceptualization of the RER and it draws mainly from the Purchasing Power Parity (PPP) theory that compares the relative prices of basket of goods produced or consumed in different countries (Afari, 2004). Mathematically, this is given as:

$$\text{RER} = \text{NER} \frac{P_f}{P_d} \quad (1)$$

where :

- NER = the nominal exchange rate expressed as the unit of domestic currency per one unit of foreign currency
- $P_f$  = Foreign price or cost level represented by a price/cost index
- $P_d$  = Domestic price or cost level represented by a price or cost index

When expressed in domestic terms, an increase (decrease) in the RER corresponds to its depreciation (appreciation). A real exchange rate depreciation (appreciation) connotes a gain (loss) in the country's competitiveness (Edwards, 1987).

Under this approach, there are three different measures of the RER which emerged namely: the PPP-based RER, the Mundell-Fleming or aggregate production cost RER and the traded goods RER (Montiel & Hinkle, 1999). Although all of these three different measures adopt the same computational formula (as presented above) they differ however, in terms of price indices used in the calculation of the RER.

Hinkle & Nsengiyumva (1999) defined these three RER measures as follows:

- The *PPP-based RER* is an expenditure-based measure of the RER and it mainly uses the domestic and partner country's CPIs as price indicator.
- The *Mundell-Fleming-based RER* measures competitiveness of a country in the aggregate production of all goods, both traded and non-traded. It is an output price index or production cost index for the economy, which is composed of exports and goods produced and sold domestically by a country. It mainly uses the GDP deflator as the price or cost index.
- The *RER for Traded Goods* measures competitiveness only of goods that are produced in the home and foreign countries which are traded internationally. This measure of external RER uses output prices, production costs, or factor costs indices for traded goods (unit labor costs in manufacturing, wholesale prices, manufacturing-sector deflators or export unit values).

## The Internal RER

In contrast to the external RER, the internal RER represents the relative domestic form of the RER and does not include the rate of exchange between currencies (Dwyer & Lowe, 1993). Instead, it provides a measure of the relative price incentive of producing or consuming tradable as opposed to non-tradable goods within an economy, and hence; it is an indicator of domestic resource allocation incentives in the home economy (Hinkle & Nsengiyumva, 1999).

Mathematically, this is given as:

$$\text{RER} = \frac{P_t}{P_n} = \text{NER} \times \frac{P_t}{P_n} \quad (2)$$

where:

- NER = the nominal exchange rate expressed as the unit of domestic currency per one unit of foreign currency
- $P_t$  = Price of tradable goods in the home country
- $P_n$  = Price of non-tradable goods in the home country

Using the same computational formula, the internal RER can be expanded from two-good to three-good or multi-good macroeconomic model. As Hinkle and Nsengiyumva (1999) explained, under the two-good model, it is assumed that the terms of trade between exportables and importables are fixed such that these can be aggregated into a single composite tradable good. With the three-good or multi-good model, the variations in the terms of trade are captured in the analysis. In this case, there will no longer be a single measure of the internal RER but there could be multiple internal RERs or a representative average of them (Hinkle and Nsengiyumva, 1999).

Although the internal approach in calculating the RER underlies most of the modern theoretical works done in the calculation of the RER (Bella, et.al, 2007), a problem arises in the actual computation of the RER using this approach. In theory, the internal RER should be measured by using appropriate price indices for both tradable and non-tradables goods (Hinkle & Nsengiyumva, 1999) however, in the actual computation this is constrained by the difficulty in distinguishing between tradable and non-tradable goods. As Di Bella, et al (2007) articulates, specifically, “there is some endogeneity in the composition of these two categories, as the degree of tradability depends on the RER”. Moreover, price data is usually available only for exports and imports but not for tradables and non-tradables. Thus, under these circumstances, special price indices which reflect the differences between the two commodity groups are used as proxies. These proxies usually include foreign price index such as the WPI for the tradable prices and the home

country's CPI for the non-tradable prices (Edwards, 1987). The use of foreign price index as proxy for the price of country's traded goods is premised by the assumption that the prices of imports and exports of the home country are determined by the law of one price (Hinkle & Nsengiyumva, 1999). In some cases also, the external RER have been used as proxy for the internal RER.

### **Choice of Price Index**

The various measures of the external and internal RER discussed above differ in terms of the domestic and foreign price indexes used in the calculation. The differences in the price indexes used result to different estimations of the RER, unless these price indexes exhibit parallel movements (Hinkle & Nsengiyumva, 1999).

Ideally, the choice of the price index should depend on the objective of the study, (Afari 2004). For instance, to capture the impact of a productivity shock, the GDP index could be used as this incorporates productivity changes. While if the objective is to measure the impact of capital inflows on the national economy and the international competitiveness of the home country, the CPI can be used, as the capital inflows are assumed to be distributed both to tradables and non-tradables and the CPI captures the price movements in both groups (Afari 2004). Likewise, Ellis (2001) noted three important conditions in deciding which price index to use: 1) the price index should be comparable across countries, 2) it should be representative of price conditions in the countries included in the calculation, and; 3) it should be free from measurement error.

The importance of choosing the appropriate price index was underscored in the studies of Motlaleng (2004) in Botswana and Afari (2004) in Ghana. In their studies they calculated the real exchange rate of the two countries using different price indices and compared the results.

In Botswana, Motlaleng (2004), calculated and compared the real exchange rate (RER) of the country for the period 1976-1999 to assess the country's competitiveness relative to its major trading partners using the Consumer Price Index (CPI), GDP deflator and EXPVs. Based on his results, the CPI and GDP deflator – adjusted RERs indicate a gain in the competitiveness of Botswana while EXPs – adjusted RER indicate the opposite. Likewise, in Ghana, Afari (2004) calculated the country's RER using two different price indices namely: the CPI and the GDP deflator. The findings of his study indicate that Ghana seems to be highly competitive based on the GDP-deflator RER index (depreciating) in recent years but much less competitive based on the CPI-based RER index (appreciating). He explained the difference as due to the non-uniform impact of the changes in certain fundamentals (such as capital inflows, openness and government consumption of tradables and nontradables) to different price indices. In their conclusion they pointed out that the different values of the RER for different alternative RER measures highlight the importance of choosing the appropriate RER measure for different policy objectives.

However, often the choice of the appropriate price index is limited by the availability of price data. In most cases, studies are using the CPI because it has the advantage of being timely and available for a wide array of countries (Ellis, 2001). Although, the other price indices such as the GDP deflator, WPI, export unit values and others can provide better estimates of a country's competitiveness, these are available at much lower frequencies especially for developing countries (Hinkle & Nsengiyumva, 1999). For instance, in the calculation of the real effective exchange rate (REER) of Japan relative to its trading partners, in order to determine the competitiveness of its exports, the Bank of Japan uses the CPI. In principle the Producer Price Index (PPI) or WPI should be used but as there were no data for these price indices in several countries, the bank used the CPI instead (Bank of Japan, 2008). On the other hand, in the calculation of the euro REER, the European Central Bank used the CPI as the price index owing to the lack of timely and available data on the other price indices (European Central Bank, 2004).

In this study, the WPI, CPI and GDP deflator have been used in the calculation of the RER of the country. Although, it is recognized that the CPI-based RER has its shortcomings as a representative measure of the competitiveness of tradable goods (in this case the country's exports) as this index is calculated using a basket of goods consisting both of tradable and non-tradable goods, its availability over a long period of time and in almost all of the country's trading partners and competitors of the country compelled the use of this price index.

In fact, the literature indicates that the use of the Wholesale Price Index (WPI) in calculating the country's RER could provide a better estimate of the competitiveness of traded goods (including exports) as these price index is heavily weighted with traded goods and therefore, it is generally more representative of traded goods prices than any other aggregate indices (Hinkle & Nsengiyumva, 1999). However, the study was constrained by the limited or non-availability of data on this price index in some of the country's trading partners and competitors. In fact, even in the Philippines the oldest data on the country's WPI provided by the National Statistics Office (NSO) was for 1994.

### **Choice of Country Weights**

The above discussion on the calculation of the RER focuses only on the "bilateral RER", that is, the price competitiveness of a country relative to a single country. However, in real terms a country trades not only with a single country but with multiple countries. Therefore, a more relevant measure of competitiveness of a country is an RER that takes into account the country's different trading partners. Such RER which measures the competitiveness of the country relative to a basket of currencies is termed as the "multilateral RER". The multilateral RER is a weighted index that takes into account the country's competitiveness relative to its multiple trading partners (Motlaleng, 2004) .

A major concern in computing the multiple RER is the choice of weights that will be assigned for each trading partner. The literature has

established a number of weighting schemes or criteria which can be used as basis in calculating the multilateral RER, which are as follows:

### **Trade, Import and Export Weights**

This scheme uses the bilateral trade share, that is, the trading partners' share to the home country's share to total exports and imports (or export/import share alone) as criterion in determining the country's trading partner weight (Hinkle & Nsengiyumva, 1999). The weights are derived using annual or rolling averages of trade share. Although, this scheme has been the most commonly used weighting scheme (Ha & Fan, 2004), even in published series such as those published by the Reserve Bank of Australia, Bank of Japan, European Central Bank, Reserve Bank of India and others, it has also its drawbacks. It does not account for the competition which a country faces as this only considers the trade share and excludes the "third-country effect" or the competition which the home country gets from the foreign countries who are exporting similar goods (Hinkle & Nsengiyumva, 1999).

An alternative approach was the use of the multilateral trade share which uses the countries' shares of world trade rather than only bilateral trade with the home country (Ellis, 2001). Although, this approach has the strength of better capturing the competition pressure faced by the home-country's exporters from the other countries, it however, has the weakness of ignoring the competitive effect of the importing country's producers and also it enlarges the problem of collecting timely and accurate data as it includes countries which are neither competitors or trading partner of the home country (Ellis, 2001).

### **Third-Country Weights**

This scheme addresses the problem of the bilateral trade share scheme of not taking into account the competition which the country gets from other countries producing similar goods. Under this scheme, the countries with similar export composition tend to get more weight (Hinkle & Nsengiyumva, 1999). The problem though in calculating this is the difficulty in getting data as this relies on the trade statistics published in the other countries.

### **GDP Weights & Capital Account Weights**

The GDP weighting scheme takes into account the countries' share in the world production and hence, their influence on world prices while the capital account weighting scheme is based on capital market quantities which capture the 'effects of exchange rate movements on the domestic-currency value of (unhedged) foreign debt or holdings of foreign equity assets' (Ellis, 2001). The former scheme addresses the problem with the use of bilateral trade weights of excluding countries with a large influence on prices and the problem of overweighing small open economies which only trade with a small set of open

economies and thus have little influence on world prices with multilateral trade weights (Ellis, 2001).

The different weighting schemes presented above generates different results and hence, different RER. However, the decision on which weighting scheme to use depends on the purpose in computing the RER (Ellis, 2001). For instance, the export-weighted index is generally the most appropriate in measuring the price competitiveness of the country's exports.

As this study assesses the competitiveness of the country's export prices, the study uses the export share of the country's major trading partners in determining the country weights. Likewise, it also takes into account the "third-country effect" by measuring the country's competitiveness relative to the other export competing Asian countries.

### **2.2.2 Estimation of the Equilibrium RER**

The different conceptualizations about the determinants of the exchange rate have led into different approaches in estimating the long run equilibrium value of the RER (LRER). In this particular study, the traditional Purchasing Power Parity (PPP) approach was used in estimating the long run equilibrium value of the RER.

The PPP approach was derived from the PPP theory which states that, "in the long run, nominal exchange rates should move in line with inflation differentials so that their real values remain constant" (Cassel (1918); Officer (1976), In: Dwyer & Lowe, 1993). This approach takes the difference between the domestic rate of inflation and inflation rates in the rest of the world as the determinants of the movement of the exchange rate. Under this approach, the equilibrium real exchange rate is determined by identifying a suitable base year which will represent the equilibrium value of the RER. The nominal exchange rate that is consistent with the long run equilibrium value of the RER is calculated by simply adjusting the nominal exchange rate for the cumulative difference between domestic and foreign inflation (Montiel & Hinkle, 1999). Generally, the criteria used in selecting the base year is that both internal and external equilibrium are met on that particular chosen year (Kipici & Kesriyeli, 1997).

Though there are criticisms on the plausibility of this approach, this has remained to be an influential way of thinking about the exchange rate. In fact, when looked at the literature, most studies and even most Central Banks are still adopting this approach to calculate the competitiveness of the exchange rates of different countries. Although, there were studies which show that the theory on PPP does not hold in the short run (see de Jong, 1997), researches done on this approach provide indication that there does seem to be long-run convergence to PPP (see Froot & Rogoff, 1995).



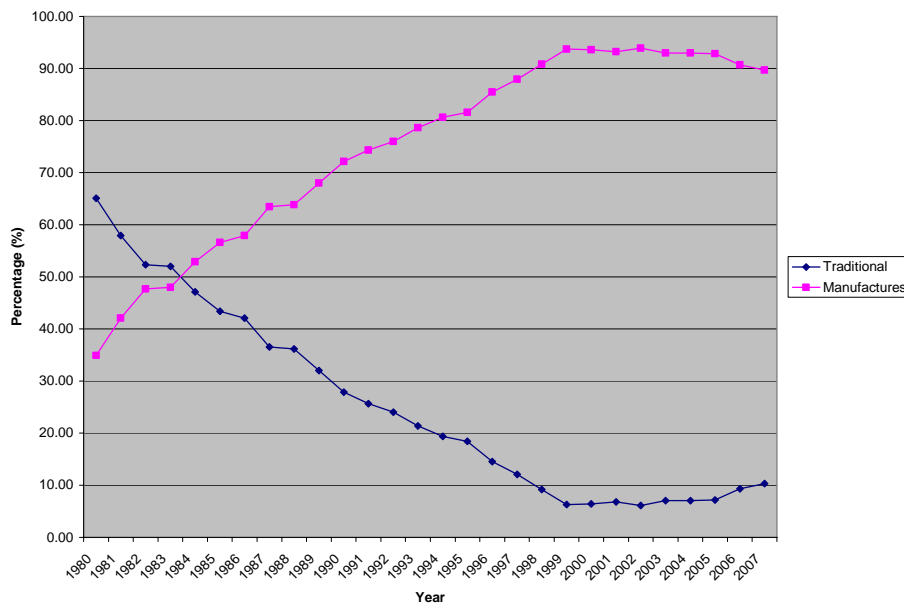
## Chapter 3 Background

This chapter provides a discussion on the evolution of the country's exports as well as the composition and growth trends of the country's export of manufactures. It also provides a discussion on the extent of contribution of the manufactured exports to the country's total output and cross country comparisons relative to the other Asian countries. The chapter ends with a brief history of the country's exchange rate policies and regimes and an analysis of the movements in the country's exchange rates and some final remarks.

### 3.1 The Importance of the Country's Manufactured Exports

The country's export of goods has evolved from a traditional commodity led to manufacture led exports. Until 1983, traditional commodities dominated the composition of the country's exports. Among the major contributors to this type of exports included agriculture-based products which include coconut products, sugar and products and fruits/vegetables and also mineral products. However, beginning 1984, the share of traditional exports started to decline while manufactured exports began to shoot up. This has coincided with the time when the country has implemented a series of trade policy and incentive reforms which was aimed at promoting a more export-led or outward oriented growth. These reforms involved reduction of tariffs, lifting of import controls and restrictions and the provision of better trade incentives.

**Figure 3.1**  
**Annual Traditional and Manufactures Export Share, Philippines, 1980-2007**



Source: NSO-Philippines

Since then, the share of manufactured exports accelerated rapidly from its level in the 1980s. Its share to the total exports has almost doubled in 1990 from its 34 percent level in 1980. In 1999, it went to a high of 90.45 percent and, from 2000 to 2007 it posted an average annual share of 88.41 percent. On one hand, the traditional exports decelerated rapidly from its annual average share of 45 percent in the 1980s, it went down to 16.5 percent in the 1990s and eventually, to 7.19 percent in 2000 (as illustrated in Figure 3.1).

Apparently, the country's export of manufactures has become the backbone of its exports of goods.

## **3.2 The Country's Manufacturing Exports**

### **3.2.1 Composition**

The composition of the country's major manufacturing exports can be categorized into five major groups, namely: 1) electronic products; 2) garments, 3) chemicals, 4) machinery and transport equipment; and 5) processed food and beverages. Among these major groups, electronic products and garments constituted the bulk of the country's manufactured exports.

The contribution of each of the manufactured export groups to the country's total manufactured exports earnings from 1981 until 2007 is discussed below:

#### **Electronics**

The electronic exports of the country have been consistently the largest contributor to the country's manufactured export earnings. In fact, this type of export has been the major driver of the country's total export of goods earnings in the last five years contributing more than 60 percent. Except in 1981, when there was a sharp decline of almost 50 percent in the country's export of this type from the previous year, the electronics industry has contributed an average of 38 percent of the country's total manufactured exports in the 1980s until mid-1990s. From 1995 to 1997, it rose to more than 50 percent and then in the following years, its share has more than doubled from its level in the 1980s, contributing more than one-third of the country's manufactured export earnings. Its constantly large contribution to the country's exports earnings in the last 27 years can be attributed to its high growth in a number of years. Its highest growth was posted in 1982 when it recovered from its huge decline during the previous year, posting a growth rate of around 195 percent. High growth rates were also posted in 1988, 1994, 1995, 1997, 1998 and 1999 reaching an average of 42 percent. However, in recent years, starting 2000 until 2007, the growth of the country's export of electronics products has slowed down.

## **Garments**

The garments industry has been the second largest contributor to the country's manufactured exports. Since 1980 to 1986, the export of garments consistently constituted more than 20 percent of the country's total manufactured export earnings. In 1987 until 1992, the garments industry of the country has boomed, managing to pull alongside with the performance of the leading electronics industry. In 1987, it managed to grow by more 20 percent from its 3.3 percent growth level in the previous year. In the following year, the growth level has more than doubled while in 1988 to 1989, it grew by more than 19 percent. In 1991, the growth level has gone down to 4.8 percent but it rose again to 15 percent in 1992. During this period, the garments industry contributed an average of more than 30 percent of the country's total manufactured export earnings which is almost equal to that of the electronic products. However, unlike in the electronic industry, the growth level of the garments exports was not sustained. After its water years, the growth pattern of the garment industry became sluggish from 1993 until 2007. Its growth has gradually declined from 15.6 percent in 1995 to 7.1 percent in 1999 and eventually, to 5.4 percent in 2007. Consequently, its share to the country's manufactured export earnings has dropped rapidly from its 20 percent level in the 1990s to a merely 6 percent during the recent decade.

## **Chemical Products**

The country's export of chemical products has consistently contributed relatively dismal share to the country's total manufactured export earnings. In the 1980s, its contribution reached only an annual average of 5.38 percent to the country's total manufactured exports, while, in the 1990s, it further went down to only 2.9 percent. The decline was due to the negative export growth rate posted by this type of export in the 1990s. During the recent decade, its share was further down to 1.43 percent.

## **Machinery & Transport Equipment**

The country's export of machinery and transport equipment also has been consistently contributing a relatively small share to the country's total manufactured export earnings. In the 1980s, it contributed merely 1.78 percent while in the 1990s it further declined to only 1.68 percent. Although from 2000-2007, it managed to double its contribution from that of the 1980s, which was around 3.72 percent. During the entire period (1980-2007), it managed to grow at an average rate of 19 percent.

## Processed Food & Beverages

Like its export of chemical products, the country's exports of processed food and beverages posted a relatively small and declining share to the country's total manufactured export earnings. Despite its annual average growth rate of 10 percent since the 1980s, its annual average share declined from 4.71 percent in the 1980s, to 2.53 percent in the 1990s, and in recent years to 1.32 percent.

The average annual share of the country's different manufactured exports to its total manufactured export earnings from 1981-2007 is summarized in Table 3.1.

**Table 3.1**  
**Average Percentage Share to Total Manufacturing Exports in the Philippines, 1981-2007.**

Commodity	1981-1989	1990-1999	2000-2007
Elec/Elec Eqpt/Parts & Telecom	35.9	53.36	77.82
Garments	26.42	20.88	6.84
Chemicals	5.38	2.9	1.43
Machinery & Transport Equipment	1.77	1.68	3.72
Processed food and Beverages	4.71	2.53	1.34
Others	25.81	18.65	8.85

Source: NSO-Philippines

### 3.2.2 Growth Performance

Over the years, the performance of the country's export of manufactured export products has been on a roller coaster. In 1981, it grew by 18.7 percent and then it went down by -0.7 in 1983. In 1984, it managed to recover posting a 17.7 percent growth however, the following year it went to a slump again. In the 1990s, the country has managed to sustain a consistent positive growth on this type of export all throughout the period. The highest growth was posted in 1995 and 1999 when it grew by no less than 30 percent. However, starting 2000, its performance has consistently decelerated posting a slowed growth rate of 8.3 percent in 2000 to 1.3 percent in 2003 and 5.6 percent in 2007.

The average growth rate of the country's exports of manufactures is shown in Table 3.2. Evidently, the country was not able to sustain the growth of its manufacturing exports from 1981 up to 2007. Although the country's total manufactured exports grew in the 1990s, there was a huge decline from 2000-2007.

**Table 3.2**  
**Average Annual Growth Rate of Manufacturing Exports in the Philippines, 1981-2007.**

Commodity	1981-1989	1990-1999	2000-2007
Manufactures (Total)	11.91	20.15	4.23
Elec/Elec Eqpt/Parts & Telecom	24.06	31.83	3.21
Garments	14.63	3.92	0.59
Chemicals	15.51	1.17	17.55
Machinery & Transport Equipment	18.53	23.23	16.19
Processed food and Beverages	12.06	3.15	14.07
Others	14.72	6.85	9.86

Source: NSO-Philippines

The country's export of electronics shoot up in the 1990s, however from 2000 to 2007 it went to a sharp decline. On one hand, the country's export of garments posted consistent decline from 1990 until 2007 while the export of chemicals and processed food and beverages dropped drastically in the 1990s but again, it grew sizeably in 2000 up to 2007, while the country's export of machinery went up in the 1990s while it went to a slight drop in 2000 up to 2007.

When compared to its neighboring Asian countries, the country has exhibited a relatively slower expansion of its manufactured exports Both in the 1980s and from 2000 to 2005, the country has on the average posted the slowest annual percentage growth on its export earnings from manufactures (see Table 3.3).

**Table 3.3**  
**Average Annual Manufactured Export Earnings Growth, 1981-2005**

Country	1981-1989	1990-1999	2000-2005
Philippines	11.91	20.15	4.23
China	38.22	17.24	26.27
India	10.06	9.73	14.64
Korea, Rep.	15.44	8.85	13.24
Malaysia	12.27	19.46	7.66
Singapore	34.59	12.67	12.14
Indonesia	35.95	15.57	9.04
Thailand	14.80	15.02	11.66
Hong Kong	16.41	9.78	9.04

Source: Author's Own Calculation based on NSO, WBDI & IMF Data

Although in the 1990s it exhibited a relatively faster growth in percentage terms than the other Asian countries, in absolute terms, the country still lagged behind in terms of its manufactured export earnings (as shown in Table 3.4). In fact, during the entire period (from 1981 to 2005), the country generated the smallest average annual manufactured export earnings from among the Asian countries.

**Table 3.4**  
**Average Annual Manufactured Export Earnings (in million US dollars), 1981-2005.**

Country	1981-1989	1990-1999	2000-2005
Philippines	1,562.78	12,985.77	30,832.74
China	11,820.01	108,040.16	337,445.88
India	6,370.23	20,090.83	40,626.44
Korea, Rep.	2,801.48	20,044.64	34,558.63
Malaysia	33,139.30	137,306.19	206,456.26
Singapore	30,564.76	97,754.22	171,228.98
Indonesia	6,216.73	43,963.86	79,089.33
Thailand	15,023.44	76,892.94	123,164.87
Hong Kong	3,898.39	31,982.76	57,118.70

Source: Author's Own Calculation based on NSO, WBDI & IMF Data

### 3.2.3 Contribution to the Country's Output

Given its low level of development in the past years, the contribution of the manufacturing sector to the country's output or Gross Domestic Product (GDP) in the last 35 years has stagnated. From the 1980s and up to 2004, its contribution to GDP was on the average around 23 percent to 25 percent as shown in Table 3.5.

**Table 3.5**  
**Average Percentage of Manufacturing Value Added to GDP, 1980-2004.**

Country	1980-1989	1990-1999	2000-2004
Philippines	25.03	23.29	23.07
China	36.26	32.9	-
India	16.43	16.58	15.71
Indonesia	15.35	23.72	28.94
Malaysia	20.42	27.05	31.21
Thailand	23.32	29.55	34.00
Vietnam	9.85	15.23	19.94
Singapore	-	12.33	27.56

Source: WBDI

When compared to the other Asian countries, the country managed to pull alongside the growth performance of the other Asian countries in the 1980s. In fact, it ranked second to China in terms of the percentage share of manufacturing value added to the country's output during the period. However, in the 1990s the country has stagnated and has lagged behind the growth performance of China, Indonesia, Malaysia and Thailand. From 2000 to 2004, again there was a further contraction in the country's manufacturing sector's performance, while the other Asian countries namely: Indonesia Malaysia, Singapore and Thailand have expanded.

### **3.3 The Country's Exchange Rate History and Movements**

#### **3.3.1 The Country's Exchange Rate Regimes**

Basically, the country has adopted two exchange rate regimes. The first regime was adopted until the 1970s, when the country, as one of the IMF-member countries had to maintain exchange parity with the rest of the Bank's member countries. During this period, the country was tied to the fixed exchange rate system. Beginning in the early 1970s, the country yielded to a new exchange rate regime. This was the time when the Bretton Wood system was halted which brought to an end the maintenance of exchange rate parities among IMF-member countries. The country has allowed the peso to float, which corresponds to the adoption of the flexible exchange rate system.

The floating exchange rate regime could have placed the country into a more active management of the exchange rate which no longer necessitates abrupt and huge devaluations which can be disruptive to the economy (Bautista, 2002). It would have allowed the government to undertake gradual and timely exchange rate adjustments. However, although the flexible exchange rate system has allowed the government to undertake periodic adjustments, still its preoccupation in maintaining the nominal peso-dollar exchange rate has prevented the adoption of full exchange rate flexibility. In effect, the system has become that of a limited flexibility which can be described precisely, as "crawling" rather than floating (Pante, 1983).

According to Pante (1983), the Central Bank intervenes in the foreign exchange market to exercise control over the peso-dollar exchange rate in three ways: 1) purchase or sale of foreign exchange where the Central Bank (or an agent acting in its behalf) stood ready to provide foreign exchange at the current rate to maintain the stability of the exchange rate; 2) maintenance of bands or margins around the guiding rate within which the peso-dollar rate is allowed to float; and 3) imposition of trade and exchange restrictions.

#### **3.3.2 The Country's Exchange Rate Movements**

Exchange rate movements under the fixed exchange rate regime have been limited. The need to maintain parity with the other currencies has prevented the monetary authorities to allow the peso to devalue when it was needed. What happened, therefore, was that huge and untimely devaluations were undertaken when monetary authorities could no longer defend the exchange rate. During this period, the country undertook two hefty and abrupt devaluations. In 1962, the peso was allowed to devalue by 84 percent from its previous year's level and in 1970 the peso was again allowed to devalue by 60 percent.

The adoption of the floating exchange rate system in the early 1970s has given the country more flexibility in undertaking gradual and timely exchange rate adjustments. However, apparently, the country's pre-occupation in maintaining the nominal peso-dollar exchange rate in pursuit of other political and economic interests resulted to the limited flexibility of the exchange rate.

The movements in the exchange rate during the period of “limited flexibility and/or managed regime” is summarized in Table 3.6 below.

**Table 3.6**  
**Exchange Rate Movements During the “Floating (Managed) Exchange Rate Regime” in the Philippines, 1971-2007.**

Period	ER Change*	Events
1971-1976	3.62	
1977-1978	-0.47	
1979-1982	5.02	
1983-1986	25.34	severe political & economic crisis in the country
1987-1989	2.17	
1990-1991	12.44	Gulf Crisis
1992-1996	-0.83	
1997-1998	25.59	Asian Financial crisis
1999-2001	14.22	Internal Insurgencies in the southern part of the country
2002-2004	3.21	
2005-2007	-6.21	

\*(+/-) Depreciation/Appreciation  
Source: BSP & WBDI

In the 1980s, when the country moved to an export-oriented and outward-looking growth strategy, the expected significant devaluation of the peso to promote exports did not happen. Except in 1983 to 1985, when the monetary authorities undertook huge devaluations in response to external and internal shocks, the peso was allowed to devalue only on the average by 5 percent in the 1980s. What was observed during this period was that, devaluation became part and parcel, not of a trade and industrial policy, but an austerity program design to stem the foreign reserves and the balance of payment hemorrhage (Lim, 1992). As a result, this only led to decline in output and rising prices (Lim, 1992). During the Asian Crisis in 1998, the peso was again allowed to undergo significant devaluation and also, in 2001, when there was a global economic slowdown and insurgencies in the country.



### **3.4 Final Remarks**

This chapter provided a review of the current composition and performance of the country's manufactured exports as well as the manufacturing sector's contribution to the country's total output. Also, it presented a brief history of the country's exchange rate regimes and provided an analysis of the movements of the country's exchange rate. The data showed that the country's export of manufactures which have become the country's backbone of its export of goods beginning in the early 1980s, has exhibited a sluggish performance from the 1980s up to present. When compared to its neighboring Asian the country has exhibited a relatively slower expansion of its manufacturing exports. This has resulted to the stagnation of its contribution to the country's total output. On the other hand, it was apparent from the analysis of the country's exchange rate movements that the management of the country's exchange rate was not done as part of the country's outward-oriented or export-led growth strategy.

## Chapter 4

### Extent of Real Exchange Rate Overvaluation

This chapter provides the calculation of the real exchange rate (RER) of the country and it provides a measure of the extent of overvaluation of the country's RER which determines the country's level of competitiveness. Likewise, the movements of the country's nominal exchange rate and prices (inflation) which determine the country's real exchange rate were analyzed in relation to the country's competitors and trading-partners. A persistent real appreciation of the country's exchange rate denotes an overvaluation of the RER and hence, a decline or loss in the country's external competitiveness.

#### 4.1 The RER Calculation

This section presents some of the important assumptions which the study has used in the calculation of the country's RER. It should be noted that such assumptions were mainly derived from the theoretical and analytical considerations presented in Chapter 2 of the paper.

**Price Index & Period Covered.** The study used the Wholesale Price Index (WPI), Consumer Price Index (CPI), and GDP deflator as price indices. Initially, the study intended to use the WPI during the entire period of the study however, due to the incompleteness of the data on this index, the author used the CPI and GDP deflator during the period or years when data on WPI was missing. From 1981 to 1993, the CPI was used in the calculation of the RER as there has been no available data on WPI in most of the country's trading partners and competing countries during this period while, from 1994 to 2005, the WPI was used. Due to the unavailability of WPI and CPI data, the GDP deflator was used as price index for Germany, China, and Hong Kong in a number of years. The period covered was 1981-2005. This coincides with the time when the country adopted a more outward-oriented growth strategy by implementing series of trade and incentive reforms.

**Base Year.** The author has arbitrarily chosen the year 2000 as the base year when the economy has been perceived to have posted relative stability for the following reasons: 1) the economy exhibited a relatively high growth during the year; 2) inflation was maintained to a relatively low level and 3) the trade performance of the country during the year has fairly improved when compared to the previous years (particularly in the 1990s) and during the recent decade. It is noted though, that the estimated RER can vary depending on the base year chosen in the calculation of the RER.

**RER Index & Country Weights.** The RER was calculated in relation to the country's major trading partners and competitors. The former provides a measure of the competitiveness of the home country's export relative to the

domestically-produced goods of its trading partners. While the later provides a measure of the competitiveness of the home country's exports relative to other countries' which may have been exporting similar goods or products or the so-called, "third-country effect".

In the calculation of the country's RER relative to its competitors, the study calculated separate RERs for the competing neighboring Southeast Asian countries and for the industrialized Asian countries. The rationale behind calculating separate RERs draws from the fact that the home country is facing different forms of competition in relation to these two groups of countries. It would be interesting to determine how the country is fairing in terms of competitiveness in relation to the industrialized Asian economies which capture a large portion of the world market for manufactures. As past studies have already established the negative impact of an overvalued exchange rate, it may be that the current level of exchange rate of the country contributes to the relatively dismal market share of the country to the export of manufactures relative to these Asian industrialized countries. At the same time, it is also interesting to analyze how the country is fairing relative to its neighboring Southeast Asian countries which more or less produce the same types of manufactured exports as the country.

The weights of the trading partners were determined based on the export share of the country's trading partners to the country's total exports. As there has been not much variations in the composition of the country's export partners over the period covered, the export share of the country's trading partners was determined based on the country's total export in the last three years (2005-2007).

On the other hand, in determining the weights of the country's competitors the study used the manufactured export share to merchandise exports as an indicator of the country's competitors' share to total manufactured export in the country's trading partners as there was no available data on the later. It is assumed that the home country faces greater competition with the countries which have higher manufactures in the composition of their merchandise exports.

## **4.2 Extent of Overvaluation in Relation to the Country's Major Trading Partners and Competitors**

Indeed, an effective management of the exchange rate requires changes or movements in the home country's real exchange rate which are consistent with the movements of the country's trading partners' and competitors' RERs. However, in real terms a country trades and competes not only with a single country but with a number of countries. As such, it may not be plausible to maintain an exchange rate that is, competitive relative to all of the country's trading partners and competitors as each of these countries exhibits relatively different exchange rate and price movements from the others.

In this respect, the study begins the analysis of the country's RER with the determination of the extent of RER overvaluation of the country in relation to each of its trading partners and competitors, that is, using the

country's bilateral exchange rates. It might be interesting to determine, with whom the country has been losing its competitiveness from among its trading partners and competitors. This may have been explaining the relatively sluggish manufactured export performance of the country, especially in relation to its Asian competitors.

The analysis proceeds with the calculation of the country's multilateral RER which presents the weighted bilateral exchange rates of the country relative to its trading partners and competitors and its extent of overvaluation. The importance of the multilateral RER comes along with the fact that it provides a composite measure of the country's competitiveness using the country's bilateral RERs. This measure takes into account the relative importance of the country's trading partners and competitors.

#### 4.2.1 The Country's Bilateral RERs

##### Major Trading Partners

Based on the country's export data from 2005 to 2007, the major contributors to the country's export earnings include the US and Japan constituting no less than one-third of the country's total exports. These are followed by the Netherlands, Germany, Belgium, Australia and UK, respectively as shown in Table 4.1:

**Table 4.1**  
**Percentage Share of Major Trading Partners to Total Exports, Philippines, 2005-2007.**

Country	Percentage
United States	17.67
Japan	16.12
Netherlands	9.31
Germany	3.79
Belgium	1.2
Australia	1.06
United Kingdom & N. Ireland	1.01

Source: Author's Own calculation based on NSO-Philippines Data

As illustrated in Table 4.2, the results of the bilateral RER calculation indicate that the country's RER has been consistently overvalued in relation to the Netherlands from 1981 to 2005. While from 1990 to 1999, it was overvalued in relation to Belgium, Germany and Australia and in 2000 to 2005 in relation to UK, Belgium, Germany and Japan. Over the entire period (2005 to 2007), the country posted a decline on its competitiveness in relation to the Netherlands and Germany.

Interestingly, the country's RER has been consistently undervalued in relation to the US and except during the period of 2000-2005 to Japan. The undervaluation of the country's RER relative to these two major trading partners implies that the country has managed to maintain its competitiveness in relation to its two major trading partners over the period. This may be partly

explaining the fact why the US remains to be the largest contributor to the country's total manufactured export earnings followed by Japan.

**Table 4.2**  
**Bilateral RER Overvaluation/Undervaluation, Philippines vis-à-vis Major Trading Partners, 1981-2005 (2000=100)**

Country	1981-1989	1990-1999	2000-2005	1981-2005
Netherlands	4.02	24.96	12.06	41.04
United States	-32.49	-8.10	-0.99	-41.57
United Kingdom	-5.50	-15.11	4.17	-16.44
Belgium	-30.77	15.83	10.06	-4.88
Germany	-2.72	43.73	14.99	56.00
Japan	-49.27	-3.97	22.89	-30.35
Australia	-8.98	14.16	-21.53	-16.35

(+/-) Overvaluation/Undervaluation

Source: Author's Calculation based on WBDI Data

The overvaluation of the country's RER relative to some of its trading partners during the period can be explained by the relatively high inflation rates posted by the country. As shown in Table 4.3, the home country's price levels have accelerated more rapidly than its trading partners. In 1981 to 1989, the peso was allowed to depreciate on the average by 14.36 percent while in 1990 to 1999 by 6.75 percent and 6.06 percent in 2000 to 2005, but from the table below, it is evident that the corresponding rise in the domestic price level during these periods was higher than the level of depreciation of the exchange rate.

**Table 4.3**  
**Inflation, Philippines and Its Major Trading Partners, 1981-2005.**

Country	1981-1989	1990-1999	2000-2005
Philippines	14.52	8.05	9.80
Netherlands	2.46	1.89	2.80
United States	4.67	2.11	3.91
United Kingdom	6.26	3.11	1.34
Belgium	4.71	2.07	3.13
Germany	2.82	1.71	2.31
Japan	1.95	0.28	-0.37
Australia	8.22	1.49	3.47

Source: WBDI

### Competing Countries

From Table 4.4, it is evident that from 1981 to 2005 the country's RER has been overvalued in relation to almost all of its Asian competitors, except in relation to South Korea, Singapore and Hong Kong. The most significant overvaluation was posted in relation to Indonesia, China, and India, respectively. This implies that there has been a significant competitiveness loss

of the country's exports in the world market in relation to these three countries during the entire period.

**Table 4.4**  
**Bilateral RER Overvaluation/Undervaluation, Philippines vis-à-vis Competitors (Industrialized Countries), 1981-2005 (2000=100)**

Country	1981-1989	1990-1999	2000-2005	1981-2005
China	42.12	27.50	14.51	84.13
India	5.38	39.21	-5.35	39.24
South Korea	-33.08	28.61	-2.26	-6.74
Malaysia	2.10	16.13	0.78	19.01
Singapore	-18.92	-8.21	-2.99	-30.12
Indonesia	46.47	108.13	-8.81	145.79
Thailand	-4.71	13.07	1.56	9.92
Hong Kong	-23.05	-28.48	24.11	-27.41

(+/-) Overvaluation/Undervaluation

Source: Author's Calculation based on WBDI Data

The overvaluation of the country's RER in relation to these countries was mainly driven by the relatively higher inflation rates posted by the country relative to the other Asian competing countries (see Table 4.5).

**Table 4.5**  
**Inflation, Philippines and Its Competitors, 1981-2005.**

Country	1981-1989	1990-1999	2000-2005
Philippines	14.52	8.05	9.80
China	7.46	7.75	1.15
India	8.92	7.92	5.10
South Korea	6.15	5.35	1.95
Malaysia	3.32	3.81	3.55
Singapore	2.15	0.91	3.97
Indonesia	8.70	18.03	9.33
Thailand	4.27	4.56	4.66
Hong Kong	7.84	4.10	-0.24

Source: WBDI

Although, the country undertook more significant nominal depreciation than these countries in most of the period (see Table 4.6), its effect on the country's competitiveness position was eroded by the rapid inflation or rise in the country's domestic price level relative to its Asian competitors.

**Table 4.6****Nominal Exchange Rate, Philippines vis-à-vis Competitors, 1981-2005**

Country	1981-1989	1990-1999	2000-2005
Philippines	13.46	6.75	6.06
China	11.08	9.20	-0.17
India	8.47	10.54	0.47
South Korea	1.42	6.91	-2.17
Malaysia	2.49	4.12	-0.06
Singapore	-1.01	-1.22	-0.27
Indonesia	12.80	27.54	4.12
Thailand	2.69	4.57	1.18
Hong Kong	5.33	-0.05	0.04

Source: WBDI

The overvalued exchange rate of the country in relation to most of its Asian competitors may be partly explaining the poor manufactured export performance of the country relative to these countries. As shown in Chapter 3 Section 3.2.2 of the paper, among the Asian countries, the country has generated the least manufactured export earnings from 1981 to 2005.

#### 4.2.2 The Country's Multilateral RER

Using the calculated trading partner and competing-country weights, the results of the computation of the weighted or multilateral RER are presented below.

As indicated in Table 4.7, the country's RER relative to its trading partners has appreciated from 1990 to 2005. While during the entire period the country posted a slight decline on its competitiveness posting an appreciation of the RER of about 2.47 percent.

**Table 4.7**  
**Multilateral RER Overvaluation/Undervaluation, Philippines vis-à-vis Trading Partners, 1981-2005**  
**(2000=100)**

Period	RER
1981-1989	-10.83
1990-1999	10.17
2000-2005	3.13
1981-2005	2.47

(+/-) Overvaluation/Undervaluation

Source: Author's Calculation based on WBDI Data

Similarly, in relation to the competing industrialized Asian countries, the country's RER has been overvalued from 1990 to 2005. Over the entire period (1981-2005), the country's RER has appreciated by 9.57 percent, relatively higher than the appreciated of the country's RER relative to its trading partners as shown in Table 4.8.

**Table 4.8**  
**Multilateral RER Overvaluation/Undervaluation, Philippines vis-à-vis Competitors**  
**(Industrialized Asian Countries), 1981-2005 (2000=100)**

Period	RER
1981-1989	-13.86
1990-1999	19.09
2000-2005	4.33
1981-2005	9.57

(+/-) Overvaluation/Undervaluation

Source: Author's Calculation based on WBDI Data

In relation to the country's neighboring competing Southeast Asian countries, the country's RER has appreciated from 1990 to 2005 (see Table 4.9). Among the three baskets of currencies, the most significant loss in the country's competitiveness was posted in relation to this basket of currencies, registering a huge appreciation of 53.86 percent during the entire period.

**Table 4.9**  
**Multilateral RER Overvaluation/Undervaluation, Philippines vis-à-vis Competitors**  
**(Neighboring Southeast Asian Countries), 1981-2005 (2000=1000)**

Period	RER
1981-1989	13.03
1990-1999	42.66
2000-2005	-1.82
1981-2005	53.86

Source: Author's Calculation based on WBDI Data

Evidently, over the entire period, the country's RER has been overvalued in relation to both its trading partners and its competing neighboring and industrialized Asian countries. The highest overvaluation of the RER was posted during the period 1990 to 1999.

A composite RER index was also calculated in relation to the country's trading partners and competitors. The weights used in the study have been arbitrarily determined by the author of the study based on the importance given to each basket of currencies. Using this RER index, it is evident that the country's RER has appreciated during the period of 1990 to 2005, which signifies a decline in the competitiveness of the country's exports in the international market during the period (see Table 4.10).



**Table 4.10**  
**Multilateral RER Overvaluation/Undervaluation, Philippines vis-à-vis Trading Partners and Competitors, 1981-2005 (2000=100)**

Period	RER
1981-1989	-3.54
1990-1999	24.67
2000-2005	1.82
1981-2005	22.94

Source: Author's Calculation based on WBDI Data

### 4.3 Final Remarks

This chapter presents the results of the calculation of the extent of the overvaluation of the country's RER relative to its trading partners and competitors. The findings of the study support the hypothesis that the peso has been overvalued over a long period of time. The peso has appreciated in real terms both in relation to the country's trading partners and competitors from 1981 to 2005. The highest appreciation of the peso was posted during the period of 1990 to 1999. The sustained appreciation of the peso was mainly driven by the relatively more rapid rise in the country's price level compared to both its trading partners and competitors which was not compensated by the needed adjustments in the country's exchange rate.

Among the three baskets of currencies used in the calculation of the country's RER, namely: trading partners, competing industrialized Asian countries and competing neighboring Southeast Asian countries, the highest overvaluation of the peso was posted in relation to the country's competing neighboring Asian countries followed by the competing industrialized Asian countries while, it was least in relation to its trading partners. This implies that the country has exhibited more significant competitiveness loss in relation to its competitors than to its trading partners.

The overvaluation of the country's RER over a long period of time signifies that the country has failed to adopt a competitive exchange rate which could have promoted its exports. This provides an indication that the monetary authorities had been intervening in the foreign exchange market only at a limited terms and has been giving more "lee way" to market forces in determining the exchange rate level in pursuit of other economic aims. Such limited intervention in the foreign exchange market has led into the continuous strengthening of the country's currency. This was actually underscored in the reports of the Senate Economic Planning Office (SEPO) and the Bangko Sentral ng Pilipinas (BSP). As the SEPO (2008) puts, "there are perks and perils of a strong peso". Though, it may harm the revenue generation of the economy from exports and imports, on the expenditure side, "it has a positive effect on debt servicing since about half of the national government debt are from foreign sources" As the DBCC notes, the government saves P2.2 billion on interest payments for every Php1 peso appreciation (as cited in SEPO Report, 2008). Moreover, the BSP has enumerated the following benefits of an appreciated peso to the economy: "A stronger peso helps ease inflationary pressures from increase international prices of imported commodities...prepay

foreign exchange obligations including all its outstanding obligations...enhanced the possibility of credit ratings upgraded and helped lower the borrowing costs of both the government and the private sector... enabled the BSP to build up its international reserves to a more comfortable level... (BSP,2008)".

## Chapter 5

### Consequences of the RER Overvaluation to Manufactured Exports

This chapter evaluates the impact of an overvalued REER to the country's manufactured export performance. As discussed in Chapter 2 of this paper, it is argued that the export of manufactures are sensitive to the overvaluation of the exchange rate, however, the extent of the impact of the overvaluation of the RER to exports depends on a number of factors such as the pricing power of the country's exports or the profit margins, the elasticity of demand for these exports and also the level of import content.

The analysis of the study builds on the above argument. It starts with the analysis of the impact of the currency overvaluation on the country's different manufactured exports types and then it proceeds with the analysis on how the variable impacts of the overvalued exchange rate to different manufactured export types impinge on the overall performance of the country's manufactured exports.

An important caveat on the analysis of the study is that, as the study focuses only on the determination of the possible impact of the overvaluation to the country's manufactured export performance, it should be clear that any correlation found between the overvalued exchange rate and the performance of the manufactured exports of the country in the study is only suggestive of the existence of an impact of the overvaluation since more definitive conclusions would require consideration of the other relevant factors affecting the country's exports, other than the exchange rate.

#### 5.1 Consequences on Different Manufactured Export Types

This section provides a discussion of the impact of the overvaluation of the exchange rate to the growth performance of the country's major manufactured exports, namely: electronics, garments, chemical products, machinery and transport equipment, and, processed food and beverages. It is argued in the study that the impact of the overvaluation differs depending on the type of manufactured exports.

##### *a. Electronics Exports*

The results of the calculation indicate that the country's export of electronic products have exhibited less vulnerability to an overvalued exchange rate. In fact, this type of export posted a more consistent positive and more significant growth during the period of overvaluation than during periods of undervaluation.

**Table 5.1**  
**RER Overvaluation/Undervaluation and Electronics Export Earnings Growth, Philippines, 1981-2005.**

Period	Overvaluation/Undervaluation	Average Growth Rate
1981-1989	-3.54	24.06
1990-1999	24.67	31.83
2000-2005	1.82	2.16

Source: Author's Own Calculation based on NSO, WBDI & IMF Data

As shown in Table 5.1, it is apparent that the country's export of electronics attained its highest growth in the 1990s, when the peso posted the highest overvaluation. In fact, during this period, the country also posted most of the highest growth rates reaching a high of 59 percent, 42 percent and 41 percent, in 1995, 1997 and 1999, respectively. On the other hand, in the 1980s when the exchange rate was undervalued, the country posted negative growth rates of 49 percent, 20 percent and 13 percent in 1981, 1985 and 1986, respectively.

The overvalued currency contributed to the consistent and high growth rates of this type of exports in the 1990s due to its strong dependence on imports for inputs. In fact, according to Lall (2000), the major electronics export of the country, which are the semiconductors has a local component of only 20 percent. The overvaluation of the peso has led to relatively cheaper imported products in domestic terms and hence, to lower production cost which helped boost the country's export earnings from this type. This finding of the study is actually supported by the report of the SEPO-Philippines. In their analysis of the impact of the recent continuous appreciation of the peso to the country's export performance, they argued that the country's export of electronics is not harmed by the appreciation of the peso as these types of export are naturally hedged as these have high import content. Although, during the recent period (2000-2005), when the peso has been continuously appreciating, there has been a decline in the growth in the country's earnings from this export type, this according to the SEPO is, largely attributed to the declining or weakening demand for electronics overseas.

*b. Garments Exports*

As presented in Table 5.2, the country's earnings from this type of exports posted higher growth in the 1980s during the period when the peso was undervalued reaching a high of more than 14 percent while it slowed down in the 1990s during the period of overvaluation. During this period, the country's export of garments posted a decline on its earnings from a 12.76 percent increase in 1990 to a low of negative 3.78 percent in 1999. During this period, the country registered only an average growth of 3.92 percent.

**Table 5.2**  
**RER Overvaluation/Undervaluation and Garments Export**  
**Earnings Growth, Philippines, 1981-2005.**

Period	Overvaluation/Undervaluation	Average Growth Rate
1981-1989	-3.54	14.63
1990-1999	24.67	3.92
2000-2005	1.82	0.54

Source: Author's Own Calculation based on NSO, WBDI & IMF Data

Though the country's export of this type also relies heavily on imports for raw materials<sup>4</sup> (particularly, textiles as raw material for producing garments), like the country's export of electronics, it however, presents a different case. Albeit, this type of export benefits from cheaper imported raw materials with the continuous appreciation of the peso, this can only do much in improving the competitiveness of the country, as the country hardly can compete with the other garment producing countries which have an efficiently integrated textile and garments industry. Likewise, even the country can't compete with the other importing countries due to higher import charges imposed in the country. Based on the study of Antonio & Rodolfo (2006), import charges in the country are higher than in Vietnam, Indonesia and China. For instance, non-transport related cost in the country is about US\$403 while in Indonesia it is only about US\$300 and in Vietnam, only US\$ 333. Additionally, other domestic-related costs such as the high labor and power cost in the country have contributed in rendering this type of export uncompetitive. The continuous appreciation of the peso pushes the cost of labor and power up in dollar terms in the country. Given the large share of labor to the total cost of producing this export in the country which is around 20 percent and the share of power cost which is about 10 to 15 percent to the total cost<sup>5</sup>, the rise in costs contributes to the higher prices of the country's produce compared to the other garment producing countries. The hourly labor cost in the Philippines is already around US\$ 1.10 while in Vietnam and Bangladesh it is only half and it is also higher relative to China and India while in terms of power cost, the country has the second highest in Asia (Antonio & Rodolfo, 2006).

In fact, what may have sustained the growth of this type of export of the country, despite its declining competitiveness during the period was the fact that the country's trade of this type with the United States, European Union and Canada has been governed by the quota system under the MultiFiber Agreement (MFA)<sup>6</sup>. According to Antonio and Rodolfo (2006), under this system, 89 percent of all garments and textile exports of the country are bound to quota countries. As can be seen in Table 5.3, the impact of the declining competitiveness of the country on this type of export seemed to take effect beginning in the mid 1990s and it went on even during the succeeding years. This actually came at the time when the Uruguay Round in 1995 under the World Trade Organization (WTO) took effect and decided to eliminate the quotas over a ten-year phase-out plan. Evidently, during this period, the country's earnings from this export type has been decelerating

rapidly as it faces more stiff competition in a quota-free environment with the low-cost garments producing countries.

*c. Chemical Products Exports*

Similar with the garments exports of the country, its export of chemical products seemed to have been vulnerable to the overvaluation of the exchange rate. The continuous appreciation of the peso in the 1990s, have resulted into the decline in the country’s export earnings from exports of this type (see Table 5.3). From a negative growth rate of 6.45 percent in 1990, it was further down by negative 13.43 percent in 1999.

On the other hand, the undervaluation of the peso in the 1980s appears to have enhanced the competitiveness of the country’s exports. In the 1980s, the country posted an average growth rate of 15.51 percent on this type of export. During this period, the country also posted high growth reaching a high of 42 percent in 1985 and 62 percent in 1986, respectively.

**Table 5.3**  
**RER Overvaluation/Undervaluation and Chemical Products Export Earnings Growth, Philippines, 1981-2005.**

<b>Period</b>	<b>Overvaluation/Undervaluation</b>	<b>Average Growth Rate</b>
1981-1989	-3.54	15.51
1990-1999	24.67	1.17
2000-2005	1.82	11.09

Source: Author’s Own Calculation based on NSO, WBDI & IMF Data

While the overvalued exchange rate could have brought positive effect to the country’s export of chemicals due to its dependence on imports, for a net importer chemical industry with local exporters operating at a small scale, the country may not have been able to expand its operation during the period of overvaluation. In fact, as the PhilExport<sup>7</sup> cites, one of the main challenges identified by the key players in the chemical industry was the conservative position of banks towards lending due in part to high non-performing loans. As the overvaluation of the exchange rate could lead to stronger demand for domestic capital or currency this could have aggravated the difficulty of this small local exporters in accessing the needed capital to expand.

The overvalued currency may have also discouraged the promotion of the country’s domestic industries or import substituting industries and the small-scale exporters due to relatively more expensive domestic inputs such as the relatively higher cost of labor. These industries could have supplied the needs of the various crucial downstream industries which can be vital sources of additional export earnings for the country. As the PhilExport puts, “with many downstream industries relying on chemicals, the enhancement of natural based products is expected to lift the industry’s position in the global trade. Through import substitution, the industry is able to supply various crucial downstream industries like paints, pharmaceuticals, soaps, detergents, plastics adhesives and foundry resins”.

*d. Machinery, Transport & Equipment Exports*

Like the country's export of electronic products, the country's export of machinery and transport equipment seemed to be not adversely affected by the overvaluation of the country's exchange rate. During the period of overvaluation in the 1990s, the country's export of this type grew to an average of 23.23 percent. Highest growths were posted in 1993 and 1999 reaching a high of more than 60 percent and 50 percent, respectively. In 2000 to 2005, the country posted consistent positive growth on this type of export (refer to Table 5.4).

**Table 5.4**  
**RER Overvaluation/Undervaluation and Machinery, Transport & Equipment Export Earnings Growth, Philippines, 1981-2005.**

<b>Period</b>	<b>Overvaluation/Undervaluation</b>	<b>Average Growth Rate</b>
1981-1989	-3.54	18.53
1990-1999	24.67	23.23
2000-2005	1.82	21.33

Source: Author's Own Calculation based on NSO, WBDI & IMF Data

On the other hand, during the period of undervaluation in the 1980s export earnings grew on the average by more than 18 percent relatively lower than during the period of overvaluation. Also, during this period the country posted negative growth rates in 1983, 1985 and 1988.

What may have contributed to the increase in the country's export earnings of this type even during periods of overvaluation aside from the other non-price factors can be its strong dependence to imports for raw materials. In fact, 80 percent of the raw materials used in automotive parts produced by the country are imported<sup>8</sup>.

*e. Processed Food and Beverages Exports*

The declining competitiveness of the country's exports brought about by the overvaluation of the peso seemed to have negatively affected the performance of the country's export of processed food and beverages. Despite the growing world demand for this type of export and the competitiveness of the country's produced in terms of quality, the country's export earnings from these exports grew only to an average of more than 3 percent in the 1990s during the period of overvaluation (see Table 5.5). On the other hand, when the peso was undervalued in the 1980s, the country's export earnings grew to an annual average of more than 12 percent. During this period, the country achieved its highest growth on this type of exports posting a growth rate of more than 67 percent and 46 percent in 1981 and 1988, respectively.

**Table 5.5**  
**RER Overvaluation/Undervaluation and Processed Food and**  
**Beverages Export Earnings Growth, Philippines, 1981-2005.**

Period	Overvaluation/Undervaluation	Average Growth Rate
1981-1989	-3.54	12.06
1990-1999	24.67	3.15
2000-2005	1.82	12.24

Source: Author's Own Calculation based on NSO, WBDI & IMF Data

Other than the non-price factors which could have been affecting the performance of this type of export, the overvaluation may have contributed to the decline in the export earnings in the 1990s due to its strong dependence for locally-produced products for raw materials and its little or no dependence on imports. In fact, based on the information gathered from the PhilExport, most of the raw materials used in the manufacturing of these goods are sourced in the domestic market, mostly, agricultural products produced locally except for the dairy products which are used for dairy processing which are imported abroad. The country's export of dairy products comprised only about an average of 5 percent<sup>9</sup> of the total annual export of the country of processed food. The overvaluation of the peso has led to relatively more expensive domestically-produced inputs, which increased the cost of producing this type of export. Likewise, the labor-intensive nature of this type of export of the country may have made it sensitive to the rise in the relative cost of domestic labor during the period of overvaluation.

## **5.2 Consequences on the Overall Manufactured Export Performance**

This section analyzes the implications of the different impacts of the overvalued exchange rate to different manufactured export types to the country's overall manufactured export performance.

The different impact of the overvalued exchange rate to different manufactured export types has the following two important implications on the overall performance of the country's manufactured exports: 1) this has contributed to the persistence of the narrow export base of the country; and 2) it only increased the country's dependence on imported inputs which discouraged the promotion of the country's domestic and/or import substituting goods or products where larger value added could have been generated.

The overvalued exchange rate seemed to have contributed to the continuous expansion of the leading import-dependent manufactured exports of the country while preventing the country's other manufactured exports from expanding. During the period of overvaluation, from 1990 to 2005 the share of the country's leading export of electronics which are strongly dependent on imported inputs to total manufactured exports rose rapidly from its level in the 1980s when there was an overvaluation of the exchange rate. The country's export of machinery and transport equipment also posted an



increasing share during the period of overvaluation although there was a slight contraction in the 1990s (see Table 5.6).

**Table 5.6**  
**Average Annual Share to Total Manufactured Export Earnings,**  
**Philippines, 1980-2005**  
*(in percentage)*

Commodity	1980-1989	1990-1999	2000-2005
Electronic Products	35.89	53.35	78.68
Garments	26.42	20.87	7.15
Chemicals	5.38	2.90	1.20
Machinery & Transport Equipment	1.78	1.68	3.55
Processed food and Beverages	4.71	2.53	1.25
Others	25.81	18.64	8.18

Source: NSO-Philippines

On the other hand, the other manufactured exports of the country which have less or no dependence on imported inputs namely; garments, chemicals and processed food and beverages exhibited a rapidly declining share to the total manufactured earnings of the country. This provides an indication that the overvalued exchange rate has contributed in discouraging the promotion of the different manufactured exports of the country and hence, contributed in sustaining the narrow export base of the country.

Although it appears that in general, the overvaluation of the exchange rate has not been adversely affecting the growth performance of the country's export of manufactures given the more consistent and higher growth rates of the country's export earnings during the period of overvaluation as shown in Table 5.7, there is an important caveat on this finding of the study.

**Table 5.7**  
**RER Overvaluation/Undervaluation and Total Manufactured Export**  
**Earnings Growth, Philippines, 1981-2005.**

Period	Overvaluation/Undervaluation	Average Growth Rate
1981-1989	-3.54	11.91
1990-1999	24.67	20.15
2000-2005	1.82	3.04

Source: Author's Own Calculation based on NSO, WBDI & IMF Data

From the trade data of the country, it appears that the increases in the country's export earnings during the period of overvaluation did not translate into the improvement of the country's trade position. In fact, as shown in Annex 3 of the paper, the country's trade balance has worsened from 1990 to 1997 during the period of overvaluation while from 1998 to 2005, there was slight improvement but still often the country's trade balance has remained in deficit. This implies that the overvaluation has only led to the increased dependence of the country's export to imported inputs.

The narrow export base and import dependent export structure of the country has important implications on the country's manufactured exports. The narrow export base of the country subjects its manufactured export

performance into a volatile position from possible external shocks such as the weakening of the world demand for its single booming manufactured export, i.e., electronics or movements in the world prices of the imported inputs. On the other hand, the strong dependence on imports of the country's leading exports leads into small net value added from the country's manufactured exports. As the data in Table 3.5 of the paper shows, the manufacturing value added of the country has exhibited a declining trend during the period of overvaluation when there has been an increase in the import dependence of the country's manufacturing exports. Likewise, it also inhibits the promotion of the country's export types which are strongly dependent on domestically produced inputs and also the promotion of the country's import substituting industry which could have provided additional export earnings for the country and which could have generated more domestic net value added.

### **5.3 Final Remarks**

This chapter analyzed the consequences of the overvalued exchange rate to the to different manufacturing export types of the country and to the manufacturing export performance of the country as a whole. The results of the analysis validate the argument on this paper that the impact of the overvalued exchange rate differs depending on the manufactured export type.

The findings of the study on the different impact of the overvalued exchange rate to different manufactured export types provide an indication that the overvalued exchange rate has contributed in inhibiting the promotion of the country's manufactured exports and hence, it contributed in putting up a narrow export base and in hindering export diversification in the country. Likewise, given the resilience of the import-dependent manufactured exports of the country to overvaluation, the overvalued currency has only led to the increase in the dependence of the country on imported inputs and hence, discouraged the promotion of the country's domestic and/or import substituting industries.

## **Chapter 6**

### **Conclusion and Policy Implication**

Even after the adoption of the country of a more export-led and outward-oriented growth strategy in the 1980s, the manufacturing exports of the country has remained stagnated. In fact, the sector's contribution to the country's total output over the last 35 years has remained to be only more than 20 percent. Even when compared to its successful Asian neighboring countries, the country's manufacturing export performance has consistently lagged behind.

Several factors may have been causing the relatively poor performance of the country's manufactured exports. But in this study, the author reflected only on the possible impact of the overvalued currency of the country to its manufactured export performance. The analysis of the study began with the estimation of the extent of overvaluation of the country's currency and then it proceeds with the assessment of its impact on different manufactured export types and then, on the country's manufactured exports as a whole. The study hypothesized that the exchange rate of the country has been overvalued over a long period of time, indicating a decline in the country's competitiveness and is, influencing the country's manufactured export performance. Its impact however, varies on the different types of manufactured exports of the country. The different impact of an overvalued exchange rate to different export types has an implication on the overall effect of overvaluation to the performance of the country's manufactured exports.

#### **6. 1 Conclusion**

The results of the analysis have led the study into the following conclusions:

- 1) The continuous overvaluation of the RER during the period indicates that the country has not been adopting a competitive exchange rate which could have promoted its exports. This signifies that the country has been losing its competitive position relative to its trading partners and competitors over a long period of time.

The results of the RER calculation indicate that the country's RER has been overvalued from 1981 to 2005 both in relation to the country's trading partners and competitors. Between the two, the country has posted more significant overvaluation in relation to its competitors than to its trading partners. The more significant loss of competitiveness of the country relative to its Asian competitors maybe partly explaining the relatively poor manufactured export performance of the country relative to these countries over the years.

2) The results of the analysis of the impact of overvaluation to the country's manufactured export performance provide an indication that: the overvalued exchange rate discriminates against some of the country's major manufactured exports; it encouraged the promotion of imports in the country; and, it discouraged the promotion of the country's domestic and/or import substituting industries.

What appeared to be vulnerable to the overvalued exchange rate are the manufactured exports which are dependent on domestic inputs while the country's exports which are strongly dependent on imported inputs exhibited resilience to the overvalued exchange rate. The vulnerability of some of the country's manufactured exports to overvaluation has contributed in putting up a narrow export base in the country while the resilience of the already strongly import-dependent leading exports of the country to overvaluation has further increased the dependence of the country's exports to imports.

The narrow export base and increasing import dependence of the country has negative implications to the manufactured export performance of the country. First, it makes the country's export performance vulnerable to external shocks such as the changes in the demand for the country's exports and movements in the prices of foreign inputs. And second, it inhibits the promotion of the country's exports which are dependent on domestic inputs and also the promotion of the country's import substituting industry which can be important sources of export earnings and where greater domestic value added can be generated.

## **6.2 Policy Implications**

As pointed out in the beginning of the paper, the key to the rapid and sustained growth of the successful East Asian economies has been through having a broader manufacturing export base or through export diversification. To emulate the success of these East Asian economies, the policy aim of the country therefore should be to expand its narrow manufacturing export base through export diversification.

Although, devaluing the exchange rate to correct for the misalignment (overvaluation) can be an effective policy instrument to enhance the competitiveness of the country's manufactured exports, the study puts two important reasons on why devaluation may not be an inevitable policy option for the country in the immediate term: 1) the import-intensive export structure of the country, and; 2) the undeveloped stance of the import substituting industry of the country. Given the strong dependence of the country's exports to imported inputs, devaluing the currency may discourage the promotion of the country's leading exports. While with the undeveloped import substituting industry of the country, devaluing the exchange rate can only lead to inflationary pressures as this can result to expenditure switch towards the non-tradable goods, as a result of the rise in the prices of the tradable goods.

From the findings of the study, the following policy stance can be drawn:

1. If devaluation will not work in the immediate term, the government can contribute in improving the competitiveness of the country's exports by pushing for policies which will address the major structural rigidities and production and post-production bottlenecks faced by the country's exporters. This will increase the production and marketing efficiency and/or reduce the cost of doing business in the country. Eventually, this will lead to lowering down of domestic prices, and hence, will enhance the competitiveness of the country's exporters;
2. The government needs to pursue policies that will aim to develop the import-substituting industry of the country and hence, will reduce the country's dependence on imported inputs. This can help in effecting an effective devaluation in the country;
3. The government needs to compensate the exporters who are penalized by the continuous appreciation of the peso in the immediate term by providing incentives to these exporters which may come in the form of tax incentives or subsidies. This can help promote export diversification in the country in the immediate term; and,
4. Although the study argues that devaluing the exchange rate may not work for the country in the immediate term, it nevertheless, poses a caveat on prolonging the needed devaluation in the country as this can also be costly to the economy. Devaluing the currency is inevitable as the continuous overvaluation of the currency can only lead to sustained import dependence of the country which will only sustain the small net value added from the country's manufactured exports and the persistent trade imbalances in the country.

## Endnote

<sup>1</sup> as quoted in the Policy Notes No. 2007-11 of the Philippine Institute for Development Studies (PIDS), “Can the Services Sector Be An Engine of Economic Growth for the Philippines?”

<sup>2</sup> Based on NSO-Philippine data, share of manufactured exports to total exports rose from an average of 50 percent in the 1980s to 75 percent in the 1990s and to a high of 88 percent from 2000-2007.

<sup>3</sup> Based from the study, “Currency Impact on Exports” conducted by the Infometrics Ltd. for the New Zealand Enterprises.

<sup>4</sup> Most garment firms import 100% of their raw materials (Antonio & Rodolfo,2006)

<sup>5</sup> Based on the calculation of Antonio & Rodolfo (2006)

<sup>6</sup>“The Multi Fibre Arrangement (MFA), also known as the Agreement on Textile and Clothing (ATC) governed the world trade in textiles and garments from 1974 through 2004, imposing quotas on the amount developing countries could export to developed countries. It expired on 1 January 2005.The MFA was introduced in 1974 as a short-term measure intended to allow developed countries to adjust to imports from the developing world. (WIKIPEDIA, 2008)”

<sup>7</sup> PhilExport is the umbrella organization of Philippine exporters accredited under the Export Development Act of 1994.

<sup>8</sup>According to the Philippine Exporters Confederation, Inc (PhilExport)

<sup>9</sup> Based on the 2000-2003 Export data from the National Statistics Office (NSO)

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### Annex 1

#### Annual Traditional and Manufactures Share to Total Exports, Philippines, 1980-2005

Year	Traditional	Manufactures	Others
1980	64.31	34.49	1.21
1981	57.55	41.40	1.05
1982	51.66	47.26	1.08
1983	51.37	46.82	1.81
1984	46.06	51.47	2.47
1985	42.06	54.85	3.09
1986	40.40	55.18	4.42
1987	34.98	59.97	5.05
1988	34.87	61.32	3.80
1989	31.36	66.39	2.25
1990	27.01	69.71	3.29
1991	23.75	68.71	7.54
1992	22.06	69.61	8.33
1993	19.64	72.29	8.06
1994	17.61	73.21	9.18
1995	17.13	75.69	7.18
1996	12.82	75.38	11.79
1997	10.60	77.26	12.14
1998	8.24	81.74	10.03
1999	6.07	90.59	3.35
2000	6.16	90.26	3.58
2001	6.52	89.04	4.44
2002	5.85	89.62	4.53
2003	6.67	88.38	4.94
2004	6.81	89.53	3.66
2005	6.92	89.58	3.50

Source: Author's Calculation based on NSO-Philippines Data

## Annex 2

### Annual Weighted RER Overvaluation/Undervaluation, Philippines, 1981-2005

Year	COMP1	COMP2	TP	COMP + TP
1981	0.98	1.52	10.22	3.94
1982	-0.83	0.53	1.53	0.35
1983	-15.20	-19.97	-15.31	-16.90
1984	0.43	0.11	4.15	1.43
1985	19.05	14.31	9.62	14.56
1986	-6.53	-10.41	-18.79	-11.56
1987	5.98	-0.93	-7.82	-0.58
1988	3.12	-2.03	-0.74	0.16
1989	6.03	3.02	6.31	5.06
1990	-3.48	3.60	-8.54	-2.52
1991	1.35	8.35	2.33	4.09
1992	8.88	11.40	9.60	9.98
1993	-3.64	-1.01	2.25	-0.95
1994	3.49	9.57	3.38	5.58
1995	-2.01	-3.47	-1.57	-2.39
1996	0.34	0.82	1.71	0.92
1997	5.45	-6.21	-3.39	-1.28
1998	31.76	-14.76	-17.72	0.63
1999	0.51	10.81	22.13	10.60
2000	-2.50	-3.32	-2.06	-2.65
2001	6.96	3.61	1.34	4.10
2002	-3.86	2.32	0.89	-0.27
2003	-4.50	-1.66	-1.64	-2.65
2004	-2.65	-2.59	-1.56	-2.30
2005	4.72	5.97	6.16	5.59

Comp1 – Neighboring Southeast Asian Countries

Comp2 – Industrialized Asian Countries

TP – Trading Partners

Comp + TP – Competitors + Trading Partner

Source: Author's Calculation based on BSP , WDI & IMF Data

**Annex 3**  
**Annual Manufactured Export Earnings Growth Rate, Philippines, 1981-2005**

Year	Total Manufac- tures	Elec	Gar	Chem	MTE	PFB
1981	18.69	-49.63	23.11	17.98	0	67.39
1982	0.17	195.86	-12.46	-9.52	2.13	-2.6
1983	-0.67	5.3	0.74	-7.37	-27.08	-15.33
1984	17.73	26.21	10.64	19.32	2.86	-14.17
1985	-8.5	-20.54	3.32	42.86	-16.67	-2.75
1986	5.24	-12.97	20.55	62	50	9.43
1987	28.37	21.76	46.21	0.82	73.33	8.62
1988	26.47	31.9	19.95	4.49	-30.77	46.03
1989	19.69	18.63	19.59	8.98	112.96	11.96
1990	9.92	12.16	12.76	-6.45	30.43	0.49
1991	6.43	5.7	4.76	16.61	-50.29	12.6
1992	12.6	21.31	15.03	-11.76	-5.81	-5.63
1993	20.24	29.31	6.15	-2.55	64.07	23.46
1994	20.04	39.86	4.52	16.89	40.39	11.43
1995	33.78	59.76	8.23	12	38.78	-3.69
1996	17.27	29.16	-5.72	3.07	27.89	14.63
1997	25.87	42.43	-3.1	8.54	28.8	3.46
1998	23.69	37.12	0.37	-11.2	2.65	-11.48
1999	31.65	41.44	-3.78	-13.43	55.36	-13.78
2000	8.28	6.93	13.02	11.43	21.06	5.36
2001	-16.7	-19.28	-6.22	-3.02	2.18	23.95
2002	10.22	11.83	-0.49	13.26	33.75	13.37
2003	1.48	-0.3	-5.27	9.14	33.01	21.76
2004	10.94	11.53	-4.15	13.7	23.51	4.61
2005	4.02	2.25	6.35	21.99	14.48	4.37

Elec – Electronics

Gar – Garments

Chem – Chemical Products

MTE – Machinery & Transport Equipment

PFB – Processed Food & Beverages

Source: Author's Calculation based on NSO-Philippines Data

**Annex 4**  
**Trade Balance, Philippines, 1981-2005**  
*(in percent)*

<b>Year</b>	<b>Percentage</b>
1981	-38.87
1982	-52.70
1983	-49.59
1984	-12.60
1985	-10.41
1986	-4.17
1987	-17.78
1988	-15.34
1989	-33.22
1990	-49.11
1991	-36.34
1992	-47.79
1993	-54.71
1994	-58.22
1995	-52.10
1996	-57.85
1997	-42.44
1998	-0.55
1999	12.26
2000	9.42
2001	-2.82
2002	-0.62
2003	-11.70
2004	-10.98
2005	-14.94

Source: Author's Calculation based on NSO-Philippines  
Data

**Annex 5a**  
**Annual Total Manufactured Export Earnings Share by Manufactured Export Type, Philippine, 1980-1992.**  
*(in percent)*

<b>Manufactured Export Type</b>	<b>1980</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>	<b>1986</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>
Electronic Products	33.6	14.3	42.1	44.7	47.9	41.6	34.4	32.6	34.0	33.7	34.4	34.2	36.8
Garments	25.2	26.1	22.8	23.1	21.7	24.5	28.1	32.0	30.4	30.3	31.1	30.6	31.3
Chemicals	4.5	4.4	4.0	3.7	3.8	5.9	9.1	7.1	5.9	5.4	4.6	5.0	3.9
Machinery & Transport Equipment	2.4	2.0	2.0	1.5	1.3	1.2	1.7	2.3	1.2	2.2	2.6	1.2	1.0
Processed food and Beverages	4.6	6.5	6.3	5.4	3.9	4.2	4.3	3.7	4.2	4.0	3.6	3.8	3.2
Others	29.8	46.7	22.7	21.6	21.4	22.6	22.4	22.3	24.2	24.4	23.6	25.1	23.7

Source: Author's Own Calculation based on NSO-Philippines Data

**Annex 5b**  
**Annual Total Manufactured Export Earnings Share by Manufactured Export Type, Philippine, 1993-2005.**  
*(in percent)*

<b>Manufactured Export Type</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
Electronic Products	39.6	46.1	55.1	60.7	68.7	76.1	81.8	80.8	78.3	79.4	78.0	78.5	77.1
Garments	27.6	24.1	19.5	15.6	12.0	9.8	7.1	7.5	8.4	7.6	7.1	6.1	6.2
Chemicals	3.2	3.1	2.6	2.3	2.0	1.4	0.9	1.0	1.1	1.1	1.2	1.3	1.5
Machinery & Transport Equipment	1.4	1.6	1.7	1.9	1.9	1.6	1.9	2.1	2.5	3.1	4.1	4.5	5.0
Processed food and Beverages	3.3	3.1	2.2	2.2	1.8	1.3	0.8	0.8	1.2	1.2	1.5	1.4	1.4
Others	24.9	22.0	18.9	17.4	13.6	9.8	7.4	7.9	8.5	7.5	8.1	8.3	8.8

Source: Author's Own Calculation based on NSO-Philippines Data

**Annex6a**  
**Annual Manufactured Export Growth Rate, Philippines, 1981-1993.**  
**(in percent)**

<b>Manufactured Export Type</b>	<b>1981</b>	<b>1982</b>	<b>1983</b>	<b>1984</b>	<b>1985</b>	<b>1986</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>
All Manufactures	18.7	0.2	-0.7	17.7	-8.5	5.2	28.4	26.5	19.7	9.9	6.4	12.6	20.2
Elec/Elec Eqpt/Parts & Telecom	-49.6	195.9	5.3	26.2	-20.5	-13	21.8	31.9	18.6	12.2	5.7	21.3	29.3
Garments	23.1	-12.5	0.7	10.6	3.3	20.5	46.2	19.9	19.6	12.8	4.8	15	6.1
Chemicals	18	-9.5	-7.4	19.3	42.9	62	0.8	4.5	9	-6.5	16.6	-11.8	-2.6
Machinery & Transport Equipment	0	2.1	-27.1	2.9	-16.7	50	73.3	-30.8	113	30.4	-50.3	-5.8	64.1
Processed food and Beverages	67.4	-2.6	-15.3	-14.2	-2.8	9.4	8.6	46	12	0.5	12.6	-5.6	23.5
Others	86.1	-51.3	-5.6	16.5	-3.2	4.2	27.8	37.6	20.5	6.6	13.1	6.3	26.2

Source: Author's Own Calculation based on NSO-Philippines Data

**Annex 6b**  
**Annual Manufactured Export Growth Rate, Philippine, 1994-2005.**  
**(in percent)**

<b>Manufactured Export Type</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
All Manufactures	20	33.8	17.3	25.9	23.7	31.7	8.3	-16.7	10.2	1.5	10.9	4
Elec/Elec Eqpt/Parts & Telecom	39.9	59.8	29.2	42.4	37.1	41.4	6.9	-19.3	11.8	-0.3	11.5	2.3
Garments	4.5	8.2	-5.7	-3.1	0.4	-3.8	13	-6.2	-0.5	-5.3	-4.1	6.3
Chemicals	16.9	12	3.1	8.5	-11.2	-13.4	11.4	-3	13.3	9.1	13.7	22
Machinery & Transport Equipment	40.4	38.8	27.9	28.8	2.6	55.4	21.1	2.2	33.7	33	23.5	14.5
Processed food and Beverages	11.4	-3.7	14.6	3.5	-11.5	-13.8	5.4	23.9	13.4	21.8	4.6	4.4
Others	6.1	15.1	7.6	-1.2	-10.9	-0.4	15.3	-11.1	-2	9.6	12.9	10.6

Source: Author's Own Calculation based on NSO-Philippines Data