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## **Trade Liberalization and International Migration: The Philippine Case**

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PASCN Discussion Paper No. 2000-04

**Trade Liberalization and International Migration:  
The Philippine Case**

*Fernando T. Aldaba*



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*Fernando T. Aldaba*

Ateneo Center for Social Policy and Public Affairs

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## **Abstract**

The paper examines the determinants of international migration in the Philippines. Specifically, it looks at the relationship of trade and migration. It proposes an eclectic migration model and shows by regression analysis that goods and labor mobility are substitutes in the medium and long terms. In the short run, as economies expand due to market reforms, migration may still continue. Other determinants of international migration include the economic growth of the country and specific factors related to the destination countries like wage rates and the existence of networks. Political stability in the Philippines did not turn out to be significant. The key policy prescription is to continue with the economic reforms such as improving trade openness to increase the employment and income possibilities of the Filipino people. In the short run, government needs to ensure the protection and welfare of the overseas contract workers.

## Executive Summary

The paper tried to ascertain the determinants of international migration in the Philippines including its relation with trade variables. Through data and regression analyses, the following conclusions were drawn:

1. The growth of the economy still proved to be a major determinant of migration though this conclusion was derived without controlling for external factors. When the external factors were included, only the trade variables and country-specific factors became relatively significant. The unique factors in each country may affect overseas labor migration like the existence of networks or the implicit policy of foreign labor accommodation.
2. The financing constraint related to migration costs may not be binding in the Philippines, as various mechanisms are present to facilitate overseas migration. These include employer's advances for travel costs or support from networks both here and abroad.
3. Trade and migration are substitutes but only with accelerated export growth. The ratio of trade to GDP showed a negative sign, implying that goods and labor mobility are substitutes. However, in both the aggregate and panel data regression analyses, a positive relationship between exports and the number of OCWs was derived, although squaring the volume of exports yielded a coefficient with a negative sign. This suggests that only through accelerated export expansion would migration slow down. It is clearly possible that trade and migration are complements during the adjustment phase of liberalization. The variable exports of OCW destination countries to the Philippines or imports by the Philippines from such countries was also found to be significant, with a negative sign. Increasing imports are usually associated with economic expansion and thus with the slowing down of international migration.
4. An alarming percentage of our OCWs are highly skilled workers. The adequate supply of such workers is key to our "competitiveness" in inducing both foreign and domestic capital to invest within our shores. They are also important in expanding and sustaining economic growth. Unless government is able to reverse the tide, our labor market for high skilled labor may soon become tight.

The key policy prescription is to continue with the economic reforms such as improving trade openness so as to increase the employment and income possibilities of the Filipino workers. However in the short run, government has to rely on both commodity and labor exports to provide the impetus to growth and alleviate employment pressures. In this regard, government during this phase must be able to craft policies that will maintain certain types of skilled labor (e.g. engineers, software programmers and specialists) which are also needed for catalyzing economic expansion. At the same time, government should also establish support and protective mechanisms for OCWs

susceptible to onerous labor contracts as migration continues during the early stages of economic expansion.

## **Trade Liberalization and International Migration: The Philippine Case ·**

Fernando T. Aldaba<sup>1</sup>

### **I. Introduction**

The long years of protectionism in the country had long been cited by various studies as a major factor for the country's slow growth path in the past three decades. Trade liberalization was seen as an agent of growth and structural change leading to higher incomes and reallocation of production and consumption. Since the '80s, the Philippines has embarked on trade reforms through the elimination of quantitative restrictions and tariff reduction. These series of reforms had significantly reduced the average level of effective protection from 44% in 1983 to 24% in 1995. During the same period, however, an increasing number of Filipino workers left the country to seek better employment and higher wages in various parts of the world. Overseas contract workers officially deployed rose from 36,035 in 1976 to 747,696 in 1997.

This trend appears to contradict the expected movements from theory. In his classic article *International Trade and Factor Mobility*, Nobel prize winner Robert Mundell proposed that "Commodity movements are at least to some extent a substitute for factor movements." Theoretically he showed that an increase in trade impediments encouraged factor movements under certain assumptions. In view of current developments, this paper aims to examine empirically whether trade and international migration are complements or substitutes using Philippine data. It also reviews the major factors for overseas migration in the Philippines using econometric analyses. Finally, it examines the role of trade liberalization—whether it helped to reduce or decrease international migration during the past ten years.

The research is significant given the important role overseas contract workers (OCWs) play in the Philippine economy. Recent studies have shown that in the developing world, international labor mobility will continue to increase as a response to increasing income differentials globally. For a developing country like the Philippines, remittances have provided the much-needed dollars to the economy. On the other hand, continued increases in overseas workers deployed may have deleterious effects on the local labor market. This may result in the shortage of a skilled workforce needed to sustain economic growth. The study hopes to enlighten policy makers on the relationship of exports and the migration of workers. The current focus of government intervention necessary in creating and maintaining the level of human resources drastically can be determined.

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The paper is organized as follows: Section II provides an overview of the literature tackling trade and international migration; Section III discusses the theoretical underpinnings of the determinants of migration and of the “substitutability” of goods and labor exports; Section IV examines Philippine data on international migration; Section V focuses on the various regression analyses conducted to determine the significant factors affecting international migration; Section VI tackles the labor market effects of continued international migration; and, finally, Section VII summarizes the findings and elaborates on the policy implication of the study.

Jurado and Sanchez (1998) discuss the importance of “temporary labor migration” (TLM) or international migration to the country’s employment levels. In their study, migration and labor data was reorganized, resulting in an increase of 0.2 percentage points in the employment rate. The study also estimated that every TLM family or household would be receiving P80,000 per annum from a relative working abroad, increasing average real wages for the Philippines. According to the study, “the only way to deal with TLM is to decisively improve the economy so that TLMs can persuade themselves that it is in their interest to come home.” Presumably, trade liberalization, as it expands the economy and increases employment and wages, would be able to reduce the number of TLMs.

Albuero (1993) analyzes the relationships between trade, remittances from OCWs, and the domestic economy. He cites the previous protectionist policies and weakness of the domestic economy as the driving force for international migration. Remittances from OCWs are used only in a limited manner for real and productive investments. He concludes that the Philippines is still far from turning points in trade and labor migration unlike South Korea and Thailand. Amjad (1996), who likewise does a comparative analysis of the Philippines and Indonesia, also comes up with a similar conclusion for both countries, basically because of the domestic economies’ failure to generate sufficient jobs for their respective populace. Albuero (1998) computes the ratio of merchandise exports to remittances for the Philippines, Thailand and South Korea. The estimates he gathered for the latter two countries tend to support the argument that there is substitution between goods exports and labor exports, because as trade accelerates, the apparent social returns (the ratio) from exports rise relative to migration. However, in the case of the Philippines, the ratio even fell from 11.7 in 1978 to 5.1 in 1993, the latest year of his estimation.

Nevertheless, there are clearly other factors affecting international migration. Gonzales (1998) provides an integrated and comprehensive evaluation of Philippine labor migration from the following dimensions: historical, demographic, social, psycho-social, economic and political. In his book he also discusses policy implementation challenges and areas for further Philippine transmigration policy research. He presents both qualitative and quantitative information gathered from a wide array of primary and secondary resources.

Bohning (1998) also identifies the factors that reduce Filipinos’ employment opportunities in countries affected by the current crisis and then carries out two rounds of simulation to estimate the orders of magnitude involved. The first round consists of simple employment elasticity exercise while the second accounts for



anticipated sectoral, occupational, and other impacts. According to the estimates, some 45,600 Filipinos working abroad will be affected because of the crisis, most of whom will come from Malaysia (32,500). Lim (1998), in his paper on the social impact of the crisis in the Philippines, notes that there is increasing pressure among OCWs to send bigger remittances due to the declining household incomes in the local economy.

Massey et al. (1993) provides a more comprehensive view of migration in his review of the various theories of international migration which include the micro- and macro-explanations of neo-classical economics (e.g., Lewis, 1954, Ranis and Fei, 1961, Harris and Todaro, 1970 Todaro, 1976 and Borjas, 1990), the “new economics of migration” (e.g., Stark, 1991; Taylor, 1986; Lauby and Stark, 1988; Katz and Stark, 1988), dual labor market theory (e.g., Piore, 1979), world systems theory (e.g., Wallerstein, 1974), network theory, and institutions theory.

Neo-classical economics focuses on an individual’s decision to migrate based on differentials in wages and employment conditions between countries and on migration costs. The “new economics of migration,” on the other hand, factors in the situation in various markets, not only labor markets. It looks at migration as a household decision to minimize risks to family income or to overcome capital constraints. Dual labor market theory and world systems theory do not consider such micro-level decision processes but emphasize the forces working at higher levels of aggregation. The former links immigration to the structural requirements of modern industrial economies while the latter views it as a natural consequence of economic globalization and market penetration across national boundaries. Network and institutions theory describes the role of relatives, friends, and institutions in facilitating and maintaining the flow of migrants from one country to another.

Nevertheless, Schiff (1994) shows that trade liberalization in either the sending or receiving country is likely to increase migration in the long run, although in the short term the effect is ambiguous. This varies from the typical Heckscher-Ohlin (H-O) conclusion that trade is a substitute for migration. In such a framework, trade liberalization by reducing price differentials between factors leads to a decline in international migration. Schiff (1994) utilizes the same H-O framework but adds migration costs and financing constraints to the model, causing divergence as a result.

Martin (1993) proposes that there is a migration analog to the well-known demographic transition. Just as a country’s population temporarily grows faster when death rates fall before birth rates, so an established labor migration swells temporarily as a country restructures for accelerated economic growth. In economies that fail to adopt outward-oriented and market-driven economic policies, economic growth will slow down and emigration pressures will be accentuated by increasing demographic trends. In addition, Martin (1993) also looks at the trade-enhancing effects of migration, aside from being substitutes or complements. For example, he discusses that the U.S., as the world’s first “universal nation,” will be able to use diverse immigrants to forge trade links to their countries of origin. Thus, immigration is able to increase trade possibilities. Also, a portion of all remittances by these workers are spent on imports, thereby increasing trade.

Schiff (1996) studied particular cases to determine the relationship between trade and South-North migration. Opening markets in the North and providing foreign investment and foreign aid to sending countries are more likely to slow down migration from Eastern Europe to the European Union than from Africa to the European Union, or from Latin America to the United States. According to Schiff, two results hold irrespective of the degree of internalization of migration externalities: the South gains from trade liberalization in either the North or South and the North gains from imposing an immigration tax.

Schiff and Lopez (1995) add four factors to the standard H-O model—labor skill levels (skilled or unskilled), international labor mobility, migration costs and financing constraints. They examined two types of simulation—case 1 to countries in the post-demographic transition stage with a stable population (e.g., Eastern Europe and the former Soviet Union) and case 2 to countries with rapidly growing populations (e.g., Egypt, El Salvador, Mexico and Morocco). In case 1, trade liberalization raises emigration of the unskilled while protection raises emigration of the skilled. Thus, trade liberalization improves the average skill level of the labor force and increased protection lowers it. In case 2, trade liberalization raises emigration of the unskilled and reduces emigration of the skilled. The average skill level rises though the net effect on total emigration is ambiguous.

Albuero (1994) examines the relationship between trade and migration for three Asian countries—Philippines, South Korea, and Thailand, utilizing three methodologies: (1) a comparison of graphic representations of trade and migration flows; (2) testing a statistical relationship between trade and migration; (3) a comparison of revealed comparative advantage for goods with that of services. His conclusions show the existence of turning points where a country shifts from being an exporter to an importer of labor.

## **II. Theoretical Underpinnings**

### ***Substitution between Migration and Trade in the H-O Framework***

From the 2X2X2 Hecksher-Ohlin Framework, trade and international factor mobility are substitutes in the sense that either achieves the same world equilibrium and that an increase in one lowers the other. The H-O model, coupled with the assumption of the North (South) being abundant in capital (labor), provides a useful analytical framework for explaining North-South trade. If international labor mobility is assumed further, substitution between trade and migration occurs as trade liberalization in either countries leads to more trade and as the North-South wage differential is reduced to less migration (Schiff, 1997).

Decreasing restrictions in the trading of goods (i.e., commodity liberalization in either the sending or destination country or both) will no longer make labor mobility necessary, since the demand for goods and prices increase in the sending economy. The economic expansion resulting from this situation eventually leads to increase in employment and incomes, thereby decreasing international migration. However, liberalization in the sending country may increase unemployment in the short run, as uncompetitive sectors are weeded out during the adjustment phase,

triggering more human resource outflows. This is consistent with the “migration transition” of Martin (1993). Thus, at a certain stage in a country’s economic history, trade and migration may become temporary complements. This period of adjustment may be long or short depending on whether a country is able to implement the necessary trade reforms. In the long run, though, the economic expansion brought about by liberalization will decrease migration as nationals begin to find better jobs and higher wages in their own country.

### ***Complementarity Under Certain Assumptions***

Schiff (1997) nevertheless contends that if some of the assumptions underlying the H-O model are changed, trade and migration may be complements. Complementarity between migration and trade obtains if one imposes identical factor endowments in both countries but relaxes one of the following assumptions: a) constant returns to scale, b) identical technologies, c) perfect competition, d) absence of domestic distortions. As such, free trade does not result in factor price equalization. For example, several studies have obtained varying results when an economies of scale assumption is utilized. Some exhibit complementarity while others show ambiguity, depending on the specific model used.

In addition, when one considers migration costs and financing constraints, complementarity may again be shown. Migration costs may be prohibitive and difficult to finance for new migrants in developing countries like the Philippines. According to Schiff (1997), migration costs include: a) travel costs; b) information costs on the safest and cheapest routes, jobs and housing opportunities; c) cost of obtaining various documents (passport, visa, work permits); d) cost of living in the destination country; e) costs paid to agents or brokers who bring the migrants from their origins to the destination country; and f) social and emotional costs. Potential migrants, according to Schiff, also have little or no collateral to access credit to finance the migration costs mentioned above. They usually have to rely on their savings or through other means to be able to migrate. These include subsidies from relatives or friends who are already in the destination countries or advance payments from which are deductible their future wages. The latter, though, are a major source of onerous and exploitative arrangements for the migrants.

### ***An H-O Model with Migration Costs and Financing Constraints***

Schiff (1998) proposes a one-period framework, assuming identical individuals in the South with the following wage relations:

- 1)  $W_o < W_s < W_o + C$
- 2)  $W_s < W_n - C$

Where  $W_s$  is the actual wage in the South,  $W_o$  is the subsistence wage,  $C$  is the cost of migration, and  $W_n$  is the wage in the North. The South is relatively labor-abundant.  $W_s < W_n$  because of protection in one or both countries. Equation 2 suggests that labor in the South would like to migrate because their wage is less than that of the North, less migration cost. Equation 1 implies that the wage in the South is less than

the subsistence wage, plus the migration cost. This indicates that people cannot pay for migration costs, and thus migration cannot take place.

If trade liberalization occurs in the South,  $W_s$  increases to  $W_s'$ . If the South is small,  $W_n$  is unaffected. As long as trade is not fully liberalized in the South or, protection exists in the North,  $W_s'$  remains less than  $W_n$ . There are three possibilities:

- 1)  $W_s' < W_o + C$
- 2)  $W_o + C < W_s' < W_n - C$
- 3)  $W_n - C < W_s' < W_n$

Under 1), the financing constraint continues to be binding and migration does not take place. In 2), migration can be financed and thus it occurs. And in 3), there is no incentive to migrate, as local wage is already high enough. Thus according to Schiff, in a developing economy, skilled workers are constrained by the North-South wage differential while the unskilled ones by migration costs.

### ***Alburo's Turning Point Hypothesis***

The turning point hypothesis of Alburo (1996) states that trade and migration are substitutes as economic growth is sustained over the long run. As accelerated export expansion fuels economic growth, migration rates and actual remittances decrease. A country reaches a turning point where it is transformed from a labor-exporting country to a labor-importing one. Alburo determines such turning points through a computed ratio of remittances and exports. However, implicit also in this hypothesis is the fact that in the short and medium run, a developing country like the Philippines may find its exports and remittances growing relatively at parallel rates as its growth strategy maximizes all opportunities to earn foreign exchange to cover its import and capital requirements. Martin (1993) also suggests that increased migration catalyzes human linkage and network among various sectors of the different countries, triggering more trade and foreign direct investments. He adds that a portion of remittances are used to pay for imports or to finance export-oriented activities. In this sense, there is a stage in a developing economy where trade and migration are complements rather than substitutes.

### ***An Eclectic Migration Model***

From existing studies in the Philippines, the following are the key determinants of international migration:

- a) Expected income differential. Following the new economics of migration, as discussed in the survey of literature, expected income differentials play an important role in a worker's decision to migrate from one geographical area to another. Thus, the key variables affecting international migration will be the Philippines' employment rates, wage rates, and economic growth rates as compared to those of the destination countries.
- b) Travel and related costs. These refer to the required expenditures of a migrant worker to be able to work in another country such as application

and processing fees, plane fares, and possibly start-up costs. Recent changes in technology and greater competitiveness in the transport industry would have decreased these costs while inflation or the cost of money (and even exchange rate adjustments) automatically increases the cost of such expenditures. However, government policies (e.g., improved regulation of overseas employment agencies) may also affect these costs.

- c) Existence of networks. According to the literature, networks are defined as possible support systems provided by relatives, friends, or other institutions in the destination countries. The wider the network, the bigger the possibility of labor migrating to such a country.
- d) Political stability of a sending country. This is another important factor in migration. Various episodes in the country's history showed migration rates increased as the political situation deteriorated. The 1983 crisis was a primary example, especially where it concerned the exit of the middle class and highly skilled labor during that segment of our history.
- e) Immigration rules in destination countries. The number of migrants is also determined by the openness of a certain country, whether explicit or implicit, to accept foreign labor. Countries with inadequate labor stock will tend to be more lenient with regard to working visas while others with excess supply will be relatively more strict. Albuero (1993) notes that in Asia, while many countries have strict migration policies, implicitly they allow undocumented workers to enter, as this type of labor is cheap and needed for the competitiveness of their industries.

However, for the purpose of this study, an eclectic migration model is proposed. Several determinants of international migration in the Philippines may be lumped together in the following variables.

- a) *Income variable*. Given Schiff's exposition on migration costs, this variable will tell us whether the financing constraint is binding or not. According to Schiff (1998), a positive sign is proof of the existence of this constraint.
- b) *Economic condition variables*. These are typical "push" factors that catalyze migration decisions. They may refer to a country's economic growth, cost of living and unemployment situation. These variables are typically compared with those of the destination countries as inputs to the final decision making of an individual.
- c) *Trade variables*. Assuming these factors are fixed, these variables verify whether traded goods are substitutes or complements to international labor mobility.
- d) *Political variables*. These include political stability in the sending country, peace and order, and possibly immigration rules of host countries. Most of the time, they are very difficult to measure.

- e) Social and cultural factor. These include the existence of networks in the receiving countries and the support mechanisms for the migrant in both the sending and destination countries. These variables typically cannot be measured.

### **III. Data Analysis**

#### ***Data Sources***

Only available data on migration in the Philippines was utilized in the study. Data was gathered from the National Statistics Office (NSO), the Philippine Overseas Employment Agency (POEA), and other agencies dealing with international migration. An aggregate time series data was compiled from 1975 to 1998. Aside from using aggregate statistics, the study was also able to assemble disaggregated data particularly those relating to the number of overseas workers and their remittances from the top 11 destination countries (including the United States) from 1990 to 1998. These countries absorbed approximately 80% of all OCWs deployed in 1997 and 1998. This study is therefore the first to analyze econometrically a panel data of migration statistics.

#### ***Growth Rates of Migrant Workers, Remittances and Exports***

Table 1 shows OCWs deployed, yearly remittances, exports, GNP and GDP data in absolute terms from 1975 to 1997. In terms of migrant workers deployed per year, they increased 1,975% from 36,036 in 1975 to 747,696 in 1997. Remittances, on the other hand, jumped 5,474% from US\$103,000.00 to US\$5,741,835,000.00. Goods exported from the Philippines grew only tenfold from around US\$2.2 billion in 1975 to US\$25 billion in 1997.

Table 3 shows the growth rates per year of OCWs deployed, remittances made and goods exported. The rate of OCW deployment peaked at around 56% in 1980 while the highest rate of increase in remittance (i.e., 78%) was recorded in 1978. Export growth registered 34% in 1979 and 29% in 1995. The average growth rate of migrant workers in 22 years is 16.5%, remittances 21.9%, and exports 12.2%. It is interesting to note that during the crisis years 1984, 1989, and 1990, the number of OCWs deployed even decreased. This may be due to the fact that travel and other migration costs had skyrocketed during those times. The only time remittances decreased was in 1984, the year after the Aquino assassination.

#### ***Destination Countries***

Table 4 shows the distribution of migrant workers among destination regions (i.e., Africa, Americas, Asia, Europe, etc.). From 1984 to 1996, OCWs deployed in Asia noticeably increased almost four times, in Europe three times and in the Americas less than double. Over time, the number of migrant workers to Africa, Oceania and other Trust territories remained almost the same. In terms of land- and sea-based workers, the former increased by 30% and the latter by 250% in 13 years. For land-based workers, the regions whose economies experienced relatively high or

moderate growth rates over the said period attracted an increasing number of migrant workers like Asia, Europe, and the Americas. In terms of composition in 1996, about 36% of land-based workers deployed went to Asia while 46% worked in the Middle East. In 1984, 84% went to the Middle East and only 12% landed jobs in Asia. Of the top ten destination countries, Saudi Arabia was still the top country of destination, followed by Hong Kong, Taiwan, Japan, and the United Arab Emirates.

### ***Exports/Remittances Ratio***

Table 2 shows that remittances per OCW deployed have increased over the years. In 1975 the average remittance was only US\$2,858 per worker deployed, increasing more than double to US\$7,679 in 1997. To determine whether we are approaching a turning point based on the analysis of Alburo (1998), we shall update his computations using his latest data in 1993. Table 2 shows that the ratio even decreased from 5.1 in 1993 to 4.39 in 1997. In the mid-70s, this ratio was already in the range of 19-23. Alburo (1998) argues that turning points occur only with sustained and accelerated growth rates of exports. In the case of the Philippines, trade reforms were seriously implemented only during the Ramos years. Exports started growing at a faster rate only in the mid-90s only to slow down again during the crisis.

## **IV. Empirical Analysis**

### ***Extending the Alburo Regression***

To date Alburo (1998) is the only study in the Philippines that has tried to examine the trade-migration relationship via statistical analysis. He regressed the following equation to test his turning point hypothesis:

$$\text{OCW} = f(\text{exports}, \text{exports}^2) \text{ for the years 1978-1991.}$$

However, the regression was beset with positive autocorrelation. His results showed that the variable *exports squared* ( $\text{exports}^2$ ) correlated negatively with the number of migrant workers and was statistically significant. *Exports*, on the other hand, was directly related to the number of OCWs deployed but was insignificant. We tried to run a similar regression for an extended time period from 1975 to 1997 and obtained the following results:

### **Dependent Variable: OCWs Deployed**

**Ordinary Least Squares (OLS) N=23**

<b>Variable</b>	<b>Coefficient</b>	<b>t-statistics</b>
Constant	-159444.6	-2.450693
Exports	104.3544	7.661806
Exports <sup>2</sup>	-0.002878	-5.539408

$R^2 = .855540$       F-statistics = 59.223

Adj  $R^2 = .841094$       Durbin Watson = .856128

The above results are very similar to Alburo's regression. The export variables are again statistically significant, though coefficient estimates may not be accurate due to first-level autocorrelation. Alburo (1998) uses these results as proof that rapid increases in exports eventually decrease migration. However, the other variable,

actual exports have a positive sign, which means that exports and the number of international migrants moved in the same direction for the past 23 years.

### *Aggregate Determinants of International Migration in the Philippines*

The previous regression considered only the export variables as possible determinants of international migration. However, as was discussed in the eclectic model, there are various factors that tend to affect international labor mobility. The following empirical model tries to implement the eclectic model discussed above using aggregate data.

$$Y = \beta X + \epsilon,$$

where  $Y$  is the aggregate number of migrant workers deployed

$X$  is a matrix of determinants, which includes an income variable (real wage lagged one year), and economic situation variable (growth rate of GDP lagged one year; unemployment and inflation), trade variables (actual exports, ratio of total trade to GNP and effective protection rate), and political variables ( a dummy for political stability)

$\beta$  is a vector of coefficients and

$\epsilon$  is the error term.

The hypothesis is basically that “negative” economic indicators (i.e., low GDP growth rates and high unemployment and inflation rates) are correlated to decreases in migration. Trade variables (e.g., exports, exports squared, ratio of total trade to GDP, and effective protection rates) were included separately (the first regression included only the Alburo variables while the second regression used protection rates and the ratio of trade to GDP) to ascertain the relationship between trade and migration. A positive sign for the protection rate means that trade and migration are substitutes or that trade liberalization will result in less worker outflow. A negative sign for trade/GDP may also mean goods and labor are substitutes. For the variables exports and exports squared, the implication will rely on the signs and coefficients of both variables. For real wage, a positive sign means the financing constraint is binding, and therefore increased incomes may also increase migration. For the political dummy, a positive sign means political instability is correlated with greater migration.

The following shows the result of the best estimation<sup>2</sup>:

#### **Dependent Variable: OCWs Deployed**

**Ordinary Least Squares (OLS) N=22**

Variable	Coefficient	t-statistics
Constant	52065.05	.264574
GDP growth rate	-17179.29	-2.710617
Real wage (1-year lag)	13699.52	1.159348
Effective protection rate <sup>3</sup>	-3632.275	-1.476681

<sup>2</sup> Unemployment and inflation rates turned out to be statistically insignificant in previous runs.



Trade/GDP	-30881258	-2.339967
Exports	185.0708	3.601813
Exports squared	-.003054	-3.957992
Political stability Dummy	-29098.26	-.619146

$R^2 = .935$       F-statistics = 29.188  
Adj  $R^2 = .90$       Durbin Watson = 2.368

An increasing GDP growth rate is correlated with a decrease in the number of migrant workers leaving the country. This is logical given the increasing opportunities for employment during an expansion phase of the economy. Real wage has a positive sign but is statistically insignificant. Thus the financing constraint is not binding on the Philippines. This may be due to the fact that various mechanisms are present to assist the potential migrant in financing his or her migration costs. For example, employers usually advance travel costs to recruitment agencies, deductible from the future salary of the worker. Some of the costs may be financed by relatives, friends, and other benefactors in the informal network of the worker, both here and abroad.

Total trade/GNP and the export variables also turn out to be significant. Total trade/GDP has a negative sign, implying that increased trade may decrease migration. This clearly means that trade liberalization will reduce worker mobility to other countries. The effective protection rate variable is not significant. However, for the exports variables, we get similar signs as in the Alburo regression. This validates the assertion that accelerating export growth reduces international labor mobility. The political stability variable does not affect overseas migration.

### *A Panel Data Estimation*

The previous regression may be criticized because it lacked the so-called “pull” factors, since we dealt only with the domestic factors affecting workers outflow. In the next estimation, the author included external economic factors (i.e., growth, unemployment, and inflation in destination countries) that might affect the outflow of workers from the Philippines. In the estimation these factors were integrated into the unemployment, inflation, and GDP differentials between the Philippines and the various host countries. Exports to and from the Philippines were also used as regressors to substitute for “trade openness.”<sup>4</sup> The following is the regression equation<sup>5</sup>:

$$Y = \beta X + \epsilon$$

where  $Y$  is the number of migrant workers deployed to a specific country;

$X$  is a matrix of determinants including dummy variables for each country;

$\beta$  is a vector of coefficients; and

$\epsilon$  is the error term

<sup>3</sup> This may be correlated with exports and trade/GDP. Dropping this variable does not alter the result.

<sup>4</sup> Another variable used was total trade of the Philippines to destination countries but turned out insignificant.

<sup>5</sup> The equation is constrained by the availability of data to represent key variables.

The differentials were computed as the Philippine rate less than the destination country rate. The following shows the results of the regression:

**Dependent Variable: Number of OCWs Deployed to the Destination Country**  
**Ordinary Least Squares (OLS) N = 70**

Variable	Coefficient	t-Statistic
Constant	-57314.7	-1.552932
RP exports-host country	44.59672	3.219715
RP-exports-host country <sup>2</sup>	-0.002076	-2.483718
Host-country exports-RP	-16.47850	-3.084225
GDP differential	-2.445356	-0.013405
Unemployment differential	5446.654	1.226742
Inflation differential	268.1701	.355509
D1 (KSArabia)	347744.3	6.905471
D2 (Hong Kong SAR)	161441.4	4.202924
D3 (Japan)	142945.7	4.138023
D4 (UAE)	153002.8	3.237907
D5 (Taiwan)	152795.9	3.693025
D6 (Kuwait)	139651.5	2.933501
D7 (Singapore)	114898.2	3.106225
D8 (Qatar)	139147.2	2.801667
D9 (Brunei)	112497.2	3.027774
D10 (Italy)	72962.83	1.890034
Time trend	-3525.715	-1.527219

$R^2 = .942001$       F-statistics = 49.68013  
 Adj  $R^2 = .923039$       Durbin Watson = 1.095549

Based on the above, all the “differential” variables turn out to be insignificant. However, the country-specific dummy variables controlling for fixed effects over time and across countries are all significant. This implies that other variables not explicitly specified in the model affecting movement toward these countries are relevant. One important variable is the average wage in these countries. In addition, immigration rules and the existence of networks are key factors that may affect migration to the eleven destination countries. These non-economic factors (e.g., political and cultural) have always been cited in the literature on OCWs in the Philippines. The Albuero variables (i.e., Philippine exports and exports squared to the destination countries) have similar signs as in the previous regression involving only internal variables. Both are statistically significant. The exports of destination countries to the Philippines also have significant coefficient and a negative sign. This means that increased imports by the Philippines tend to be correlated to decreases in migration. At first, this may seem to be the wrong sign. But upon further analysis, increased imports by the Philippines also mean economic expansion, as the destination countries include the United States and Japan, where most of our capital imports come from. From the results, one can conclude that greater trade openness that induces export and import growth may lead to reduced overseas migration. This is the same conclusion derived from the first regression.

### *A Household-Level Estimation*

The two previous regressions utilized aggregate and country-specific data on Philippine migration. In this estimation, the author used the Family Incomes Expenditure Survey household data to determine the effect of a trade liberalization regime on the migrant's contribution to household per capita income. This was implemented by comparing the results of two regressions based on the 1991 (the pre-liberalization regime) and the 1997 (the post-liberalization regime) data. The first regression was done by Edgard Rodriguez in an article entitled "International Migration and Income Distribution in the Philippines," published in the *Economic Development and Cultural Change*. The same empirical model was utilized for the 1997 data. The key variable to look at is a dummy for households with at least one remitting migrant.

The following is a summary of the results:

#### **Dependent Variable: Per Capita Household Income**

N = 24,782 (1991); 39,519 (1997)

<b>Variable</b>	<b>1991 FIES data (t-values)</b>	<b>1997 FIES data (t-values)</b>
Constant	8.543 (177.98)	9.302 (238.51)
Household head		
Age (years)	.018 (9.00)	.015 (7.50)
Age squared/100	-.017 (8.50)	-.014 (7.00)
Primary eucation	.233 (12.26)	.195 (13.00)
High school education	.515(25.75)	.599 (37.44)
Tertiary education	1.104 (52.57)	1.188 (69.88)
Male	-.083 (5.19)	-.124 (9.54)
Married <sup>6</sup>	-.004(0.25)	-.025 (2.08)
No. of children (< 15 years)	-.177 (59.00)	-.194 (97.00)
No. of young adults (15-25)	-.050 (16.67)	-.044 (14.67)
No. of adults (.25 years)	.027 (5.40)	.031 (7.75)
<b>Households with remitting migrants</b>	<b>.418 (32.15)</b>	<b>.334 (37.11)</b>
Urban (%)	.299 (33.22)	.397 (56.71)
Adjusted R squared	.44	.459
F-Statistic	1622.27	2775.6

Note: Figures in parentheses are t-values

From above, the coefficient of the dummy variable for remitting migrants decreased from its 1991 level. This implies that the share of remittances in household incomes declined after trade liberalization policies were implemented in the Philippines. The growth years after 1993 may have also increased the share of domestic sources in household incomes. Thus, trade and migration may indeed be substitutes as economic growth is accelerated by the export of goods due to trade reforms.

<sup>6</sup> The only variable that does not turn out to be significant.

## V. Labor Market Effects of Continued International Migration

While trade liberalization has been continuing in the Philippines, more reforms are needed to fully liberalize the trade sector. Other market- and sector-related reforms (e.g., competition policy) are still necessary to sustain the current economic recovery. Governance should still be improved to facilitate such reforms and move the economy toward a higher-growth path. Thus, continued labor migration overseas in the next ten years may not be farfetched. In such a scenario, sustained worker outflow may have the following positive and negative effects on the economy:

- 1) *Reduction of unemployment and underemployment rates.* As Jurado and Sanchez suggest, international labor migration alleviates the unemployment and underemployment problem in the Philippines. In addition, the income contribution of remittances has the typical consumption multiplier effects on the economy. However, remittances being transformed into investment expenditures are relatively small (Albuero 1994), as OCW families do not usually engage in entrepreneurial activities. Yet as the economic environment changes, remittances utilized for business may also increase.
- 2) *Skill shortages and decreases in productivity.* The productivity of the relatively experienced workers who migrate cannot be fully replaced by new recruits and also, skill shortages coupled with wage increases may lead to the adoption of capital intensive technologies with adverse implications for future employment (Athukorala, 1993).
- 3) *Supply shortages.* Still in terms of labor supply, certain types of labor may suffer some shortages (i.e., specialized skilled labor such as quality software makers) after continued overseas migration. In the long run, this situation will have tremendous effects on the labor market and the economy as a whole, since such types of labor are crucial to sustaining a growth momentum. Even key social services like health and education may suffer with continued skilled labor outflow<sup>7</sup>. Since current wage and salary differentials across countries are very wide, firm-specific remedies (i.e., efficiency wages) that address such a problem in the short run will not suffice, as these firms struggle to become competitive in a global economy. However, sustained economic expansion, if it occurs despite such labor constraints, may eventually lead to the return of such skilled professionals as what had occurred in Taiwan, South Korea, and even Malaysia.
- 4) *Loss of investments in human capital.* The emigration of the more educated and experienced individuals is not merely a transfer of labor services but also of human capital; they carry with them investments in health, education, and nutrition. Thus the inadequacy of human capital in developing economies may even worsen (Lanzona, 1998)

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<sup>7</sup> The World Bank estimates that the number of physicians and nurses per 10,000 persons in the Philippines decreased from 7.3 to 1.5 and 8.8 to 2.4, respectively, from 1965 to 1984.

- 5) *Deterioration of social capital.* Another important effect of worker outflow is related to social capital. As Schiff (1998) points out, social capital, like the family, is gravely affected by sustained migration. Philippine studies have also discussed such effects, especially on maintaining marriages and child rearing (Gonzales, 1998). Effects on social capital eventually translate into economic effects, particularly those related to productivity and the development of human capital.

Table 8 shows the skill category of workers migrating to other countries from 1992 to 1998. Around 25% to 30% of the OCWs were composed of professional, technical, administrative, and managerial workers. This fact more or less matches the 1995 Philippine Overseas Employment Administration (POEA) data on the highest educational attainment of overseas workers, indicating that while more than 40% reached college, graduates comprised only about 25% to 30% of the total. About the same percentage can be derived from the Commission on Filipino Overseas data on educational attainment from 1986 to 1996 (*1996 Yearbook of Labor Statistics*). Except for 1996, which was a year of relatively robust growth, the percentage of the relatively skilled workers to the total number of overseas migrant workers has been relatively stable at 25% to 35%. Economic theories suggest that skilled workers are relatively more mobile than unskilled ones. Thus, in economic crises, they are the first to get out of the country. See the following table for an elaboration of this assertion:

<b>Level of Education Reached</b>	<b>OCWs in 1995</b>	<b>Percentage to total</b>	<b>Emigrants in 1995</b>	<b>Percentage to total</b>	<b>Employed in RP in 1996 (000)</b>	<b>Percentage to total</b>
Elementary	90,782	11.6	10,016	17.8	11,209	41.2
High school	244,044	31.2	14,851	26.4	9,088	33.4
Post secondary	86,922	11.1	3,201	5.7		
College	342,929	43.8	22,288	39.6	5,966	22.0
Post graduate	2,942	0.5	1,265	2.3		
Others	14,671	1.8	4,638	8.2	924	3.4
Total	782,297	100.0	56,259	100.0	27,186	100.0

In 1996 only 22% of the employed labor force reached college. This means that the percentage of college-level workers leaving the country was greater than those actually employed. OCWs and emigrants who reached college comprise around 40% or more of all those who leave the country. In a sense this implies that the Philippines is gradually losing an increasing percentage of its skilled workforce, assuming that such workers have reached college or post-secondary levels. The *Economist* even ranked the Philippines as the country with the third highest probability of having educated citizenry migrating and working overseas<sup>8</sup>. Unless our economy resumes its growth path, the exodus of our skilled workers will continue, especially in this era of globalization. However, sustaining our growth also requires

<sup>8</sup> South Africa ranked first.

the availability of such skilled workers. Thus, government should start formulating policies that will entice these skilled individuals to return to their native land.

Contrary to the “migration costs and financing constraint” hypothesis, which limits the migration possibilities of the relatively less skilled workers, workers who have reached elementary and high school levels comprise around 40% of the overseas contract workers. Thus, as mentioned in the previous chapters, certain mechanisms facilitate the migration of such relatively less skilled workers. However, these workers are also vulnerable to labor contracts that are oppressive and discriminatory because of their weak bargaining leverage.

## VII. Conclusions and Policy Recommendations

The study tried to ascertain the determinants of international migration, including its relation with trade variables. From the data and regression analyses, the following conclusions are drawn:

- 1) Among the internal factors that account for migration, the growth of the economy still proved to be a major determinant. (Other variables like inflation and unemployment did not turn out to be significant.) However, this conclusion was derived without regard for external factors. When the external factors were included, only the trade variables and country-specific factors became relatively more important. Thus, it is possible that unique factors in each country may affect overseas labor migration like the existence of networks or the implicit policy of foreign labor accommodation. The political stability dummy variable was also statistically insignificant.
- 2) The financing constraint may not be binding on the Philippines, as various mechanisms are present to facilitate overseas migration. These include employers’ advances for travel costs or support from networks both here and abroad. Thus greater liberalization and economic growth may indeed stem migration trends in the long run.
- 3) Trade and migration are substitutes but only with accelerated export growth. The ratio of trade to GDP showed a negative sign, thus implying that goods and labor mobility are substitutes. However, in the aggregate data regression analysis, a positive relationship between exports and the number of OCWs was derived, though squaring the volume of exports yielded a coefficient with a negative sign. This means that only through accelerated export expansion would migration slow down. The same result was obtained from the panel data estimation. Since actual exports are also positively related to the number of OCWs in both time series and panel data estimation, it is clearly possible that trade and migration are complements during the adjustment phase of liberalization. The other trade variables like the effective protection rate did not turn out to be significant. The variable *exports of OCW destination countries to the Philippines* (or imports by the Philippines from such countries) was also found to be significant with a negative sign. Increasing imports are usually associated with economic expansion and thus with the slowing down of international migration.

- 4) An alarming percentage of our OCWs are highly skilled workers. The adequate supply of such workers is key to our “competitiveness” in inducing both foreign and domestic capital to invest within our shores. They are also important in expanding and sustaining economic growth. Unless government is able to reverse the tide, our labor market for highly skilled labor may soon become tight.

The key policy prescription is to continue with the economic reforms, such as improving trade openness, to increase the employment and income possibilities of the Filipino people. Trade liberalization, as it promotes labor-intensive export-orientation, greater competition, and efficiency toward output growth in the economy, will reduce labor migration in the medium and long run. However, in the short run, government has to rely on both commodity and labor exports to provide the impetus to growth and alleviate employment pressures. In this regard, government during this phase must be able to craft policies that will maintain certain types of skilled labor (e.g., engineers, software programmers and specialists), which are also needed for catalyzing economic expansion. At the same time, government should establish support and protective mechanisms for OCWs susceptible to onerous labor contracts, as migration continues during the early stages of economic expansion. Sustained growth with higher incomes and very low unemployment rates will hopefully make the majority of Filipinos stay and work within the country, and lure back those who are employed abroad.

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**Table 1**  
**Migration, Trade and Growth Data**

<b>YEAR</b>	<b>OCW</b>	<b>REMITTANCES</b>	<b>EXPORTS</b>	<b>GNP</b>	<b>GDP</b>
	<b>Deployed</b>	<b>(in US\$ 000)</b>	<b>(in US\$ 000)</b>	<b>(in US\$ 000)</b>	<b>(in US\$ 000)</b>
1975	36,035	103,000	2,294,470	452,086,000	454,260,000
1976	47,835	111,000	2,573,680	490,058,000	494,265,000
1977	70,375	162,960	3,150,890	518,426,000	521,954,000
1978	88,241	290,850	3,424,870	546,769,000	548,950,000
1979	137,337	364,740	4,601,190	581,731,000	579,909,000
1980	214,590	421,270	5,787,790	608,599,000	609,768,000
1981	266,243	545,870	5,720,400	628,335,000	630,462,000
1982	314,284	810,480	5,020,590	646,174,000	653,467,000
1983	434,207	944,450	5,005,290	655,953,000	665,717,000
1984	350,982	658,890	5,390,650	598,039,000	616,962,000
1985	372,784	693,704	4,628,950	556,074,000	571,883,000
1986	378,190	695,660	4,841,780	579,136,000	591,423,000
1987	449,271	808,810	5,720,240	605,864,000	616,926,000
1988	471,030	874,070	7,074,190	652,570,000	658,583,000
1989	458,626	1,001,911	7,820,710	689,209,000	699,449,000
1990	446,095	1,209,009	8,186,030	724,386,000	720,692,000
1991	615,019	1,649,374	8,839,510	726,819,000	716,523,000
1992	686,457	2,202,382	9,824,310	736,043,000	718,941,000
1993	696,630	2,229,582	11,374,810	746,921,000	734,156,000
1994	719,602	3,008,117	13,482,900	786,136,000	766,368,000
1995	654,022	3,868,378	17,447,190	824,525,000	802,224,000
1996	660,122	4,243,641	20,542,550	884,226,000	849,121,000
1997	747,696	5,741,835	25,227,700	931,116,000	893,017,000

**Table 2**  
**Exports-Remittances Ratio and Remittances per OCW**

<b>YEAR</b>	<b>EXPORTS/ REMITTANCES</b>	<b>REMITTANCES/ OCW DEPLOYED</b>
1975	22.27641	2858.332
1976	23.18631	2320.477
1977	19.33536	2315.595
1978	11.77538	3296.087
1979	12.61499	2655.803
1980	13.73891	1963.139
1981	10.47942	2050.27
1982	6.194588	2578.814
1983	5.299688	2175.115
1984	8.181411	1877.276
1985	6.672803	1860.874
1986	6.95998	1839.446
1987	7.072415	1800.272
1988	8.093391	1855.657
1989	7.805793	2184.593
1990	6.770859	2710.205
1991	5.359312	2681.826
1992	4.460766	3208.332
1993	5.101768	3200.524
1994	4.482173	4180.251
1995	4.510208	5914.752
1996	4.840784	6428.571
1997	4.393665	7679.371

**Table 3**  
**Growth Rates of OCW, Remittances and Exports**

<b>YEAR</b>	<b>Growth Rate of OCW (in percent)</b>	<b>Growth Rate of Remittances (in percent)</b>	<b>Growth Rate of Exports (in percent)</b>
1975			
1976	32.75	7.77	12.17
1977	47.13	46.81	22.43
1978	25.39	78.48	8.7
1979	55.64	25.4	34.35
1980	56.25	15.5	25.79
1981	24.07	29.58	-1.16
1982	18.04	48.47	-12.23
1983	38.16	16.53	-0.3
1984	-19.17	-30.24	7.7
1985	6.21	5.28	-14.13
1986	1.45	0.28	4.6
1987	18.8	16.26	18.14
1988	4.84	8.07	23.67
1989	-2.63	14.62	10.55
1990	-2.73	20.67	4.67
1991	37.87	36.42	7.98
1992	11.62	33.53	11.14
1993	1.48	1.24	15.78
1994	3.3	34.92	18.53
1995	-9.11	28.6	29.4
1996	0.93	9.7	17.74
1997	13.27	35.3	22.81

**Table 4**  
**NUMBER OF DEPLOYED OVERSEAS FILIPINO WORKERS BY REGION OF DESTINATION (1984-1998)**

YEAR	Land-based	AFRICA	AMERICAS	ASIA	EUROPE	MIDDLE EAST	OCEANIA	TRUST TERRITORIES	Sea-based	TOTAL
1984	300,378	1,843	2,515	38,817	3,683	250,210	913	2,397	50,604	350,982
1985	320,494	1,977	3,744	52,838	4,067	253,867	953	3,048	52,290	372,784
1986	323,517	1,847	4,035	72,536	3,693	236,434	1,080	3,892	54,697	378,214
1987	382,229	1,856	5,614	90,434	5,643	272,038	1,271	5,373	67,042	449,271
1988	385,117	1,958	7,902	92,648	7,614	267,035	1,397	6,563	85,913	471,030
1989	355,346	1,741	9,962	86,196	7,830	241,081	1,247	7,289	103,280	458,626
1990	334,883	1,273	9,557	90,768	6,853	218,110	942	7,380	111,212	446,095
1991	489,260	1,964	13,373	132,592	13,156	302,825	1,374	11,409	125,759	615,019
1992	549,655	2,510	12,319	134,776	14,590	340,604	1,669	11,164	136,806	686,461
1993	550,872	2,425	12,228	168,205	13,423	302,975	1,507	8,890	145,758	696,630
1994	565,226	3,255	12,603	194,120	11,513	286,387	1,295	8,489	154,376	719,602
1995	488,621	3,615	13,469	166,774	10,279	234,310	1,398	7,039	165,401	654,022
1996	484,653	2,494	8,378	174,308	11,409	221,224	1,577	4,869	175,469	660,122
1997	559,227	3,517	7,058	235,129	12,626	221,047	1,970	5,280	188,469	747,696
1998	562,384	5,548	8,210	221,257	15,682	226,803	2,062	6,483	193,300	755,684

SOURCE: POEA

**Table 5**  
**TOP TEN COUNTRIES IN TERMS OF DEPLOYMENT**  
**1984-1998**

YEAR	KINGDOM OF SAUDI ARABIA	HONG KONG	JAPAN	UNITED ARAB EMIRATES	TAIWAN	KUWAIT	SINGAPORE	QATAR	BRUNEI	ITALY	UNITED STATES
1984	200,203	17,442	11,656	9,832	6	11,385	5,886	2,756	2,251	1,567	2,214
1985	185,837	22,020	16,029	15,093	9	21,167	10,047	3,751	3,292	1,413	3,135
1986	164,832	25,594	24,571	20,528	15	22,888	15,093	5,113	4,643	1,281	3,004
1987	197,219	30,811	33,791	24,168	3	21,377	17,601	6,610	4,737	2,099	3,643
1988	201,451	34,793	41,289	19,484	37	14,211	8,221	7,706	5,528	4,522	5,347
1989	176,300	37,661	32,688	19,865	88	11,304	4,706	9,293	5,617	3,940	6,003
1990	169,886	34,412	41,558	17,189	54	5,007	4,698	7,138	4,206	3,229	5,094
1991	228,139	50,652	57,344	26,601	33	14,819	7,697	7,485	8,738	8,038	5,791
1992	260,112	52,261	51,949	28,839	1,193	15,872	8,656	9,098	10,866	9,251	5,964
1993	230,996	62,583	43,542	30,045	23,025	11,256	11,568	8,202	10,960	9,367	6,304
1994	215,361	62,161	54,879	27,713	34,387	11,486	11,324	8,811	9,731	7,421	7,035
1995	168,604	51,701	25,032	26,235	50,538	9,852	10,736	9,691	6,807	5,829	7,456
1996	155,848	43,861	20,143	26,069	65,464	10,802	15,087	7,889	7,651	6,780	3,190
1997	160,302	78,513	33,226	25,579	72,748	10,205	16,055	8,294	9,594	8,915	2,397
1998	158,148	64,160	38,122	26,737	79,664	15,359	13,373	8,282	12,337	10,737	2,668
<b>TOTAL</b>	<b>2,715,090</b>	<b>668,625</b>	<b>525,819</b>	<b>343,977</b>	<b>327,264</b>	<b>206,990</b>	<b>160,748</b>	<b>110,119</b>	<b>106,958</b>	<b>84,389</b>	<b>69,245</b>

SOURCE: Philippine Overseas Employment Administration

Table 6

**Exports and Imports of the Philippines to and from the Countries Listed**  
(in million of U.S. Dollars)

	Exports								Imports							
	1990	1991	1992	1993	1994	1995	1996	1997	1990	1991	1992	1993	1994	1995	1996	1997
Saudi Arabia	64	59	57	68	59	64	55	63	620	690	874	740	994	1,719	1,630	1,809
Hong Kong	330	392	464	546	651	822	868	1,153	577	614	721	879	1,146	1,374	1,343	2,430
Japan	1,622	1,771	1,745	1,811	2,020	2,740	3,668	4,558	2,397	2,517	3,087	4,022	5,447	6,303	6,916	9,564
United Arab																
Emirates	4	65	110	148	130	105	124	141	410	289	259	255	230	184	301	334
Taiwan	209	210	287	346	452	568	661	1,250	835	854	960	1,031	1,270	1,537	1,582	2,471
Kuwait	6	3	7	10	9	10	18	-	208	-	83	193	87	35	18	-
Singapore	240	229	252	378	707	994	1,224	1,802	508	475	551	979	1,489	1,278	1,689	3,242
Qatar	1	-	-	-	1	1	-	2	67	95	73	26	24	16	-	47
Brunei	1	1	3	2	3	3	3	3	112	98	92	51	36	8	-	-
Italy	61	78	100	84	90	111	94	111	94	106	120	136	179	244	292	439
United States	3,104	3,151	3,843	4,342	5,178	6,217	6,966	9,816	2,538	2,610	2,626	3,532	4,162	5,225	6,243	8,170

**Total Trade**

	1990	1991	1992	1993	1994	1995	1996	1997
Saudi Arabia	684	749	931	808	1,053	1,783	1,685	1,872
Hong Kong	907	1,006	1,185	1,425	1,797	2,196	2,211	3,583
Japan	4,019	4,288	4,832	5,833	7,467	9,043	10,584	14,122
United Arab								
Emirates	414	354	369	403	360	289	425	475
Taiwan	1,044	1,064	1,247	1,377	1,722	2,105	2,243	3,721
Kuwait	214	3	90	203	96	45	36	-
Singapore	748	704	803	1,357	2,196	2,272	2,913	5,044
Qatar	68	95	73	26	25	17	-	49
Brunei	113	99	95	53	39	11	3	3
Italy	155	184	220	220	269	355	386	550
United States	5,642	5,761	6,469	7,874	9,340	11,442	13,209	17,986

SOURCE: Direction of Trade Statistics Yearbook 1998

Table 7

## Overseas Filipino Workers' Remittances by Country of Origin and by Type of Worker (1990-199) in Thousand U.S. Dollars

COUNTRY/WORKER	1990	1991	1992	1993	1994	1995	1996	1997	1998
<b>Saudi Arabia</b>	<b>86,604</b>	<b>100,883</b>	<b>145,644</b>	<b>160,981</b>	<b>100,846</b>	<b>1,027</b>	<b>14,515</b>	<b>5,723</b>	<b>33,433</b>
<i>Sea-based</i>	309	173	1,348	46	46	292	-	328	1
<i>Land-based</i>	86,295	100,710	144,296	160,935	100,800	10,435	14,515	5,395	33,432
<b>Hong Kong</b>	<b>20,151</b>	<b>29,519</b>	<b>37,979</b>	<b>74,532</b>	<b>188,290</b>	<b>171,029</b>	<b>221,009</b>	<b>189,230</b>	<b>171,353</b>
<i>Sea-based</i>	3,165	11,129	18,607	18,825	13,305	12,122	9,766	9,076	7,955
<i>Land-based</i>	16,986	18,390	19,372	55,707	174,985	158,907	211,243	180,154	163,398
<b>Japan</b>	<b>39,461</b>	<b>42,524</b>	<b>53,375</b>	<b>73,771</b>	<b>78,108</b>	<b>152,359</b>	<b>114,609</b>	<b>131,375</b>	<b>107,807</b>
<i>Sea-based</i>	14,395	20,487	18,669	15,097	11,803	11,741	10,941	8,873	7,333
<i>Land-based</i>	25,066	22,037	34,706	58,674	66,305	140,618	103,668	122,502	100,474
<b>United Arab Emirates</b>	<b>37</b>	<b>7</b>	<b>138</b>	<b>751</b>	<b>1,654</b>	<b>1,081</b>	<b>2,745</b>	<b>2,385</b>	<b>2,508</b>
<i>Sea-based</i>	1	-	-	694	1,293	759	-	-	-
<i>Land-based</i>	36	7	138	57	361	322	2,745	2,385	2,508
<b>Taiwan</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>29,946</b>	<b>32,494</b>	<b>21,602</b>
<i>Sea-based</i>	-	-	-	-	-	-	106	246	357
<i>Land-based</i>	-	-	-	-	-	-	29,840	32,248	21,245
<b>Kuwait</b>	<b>16,212</b>	<b>2,309</b>	<b>5,644</b>	<b>7,967</b>	<b>28,189</b>	<b>26,853</b>	<b>21,469</b>	<b>16,998</b>	<b>13,550</b>
<i>Sea-based</i>	16	-	-	-	-	20	-	25	-
<i>Land-based</i>	16,196	2,309	5,644	7,967	28,189	26,833	21,469	16,973	13,550
<b>Singapore</b>	<b>11,899</b>	<b>11,837</b>	<b>13,905</b>	<b>14,547</b>	<b>98,158</b>	<b>106,143</b>	<b>129,654</b>	<b>93,329</b>	<b>69,288</b>
<i>Sea-based</i>	1,534	4,440	2,937	778	148	107	477	2,259	1,540
<i>Land-based</i>	10,365	7,397	10,968	13,769	98,010	106,036	129,177	91,070	67,748
<b>Qatar</b>	<b>425</b>	<b>281</b>	<b>208</b>	<b>333</b>	<b>76</b>	<b>589</b>	<b>401</b>	<b>260</b>	<b>102</b>
<i>Sea-based</i>	6	-	-	-	-	-	-	-	1
<i>Land-based</i>	419	281	208	333	76	589	401	260	101



Table 7. Continuation

COUNTRY/WORKER	1990	1991	1992	1993	1994	1995	1996	1997	1998
<b>Brunei</b>	<b>835</b>	<b>283</b>	<b>202</b>	<b>242</b>	<b>30</b>	<b>2,255</b>	<b>931</b>	<b>5</b>	<b>35</b>
<i>Sea-based</i>	-	-	-	-	-	-	-	-	2
<i>Land-based</i>	835	283	202	242	30	2,255	931	5	33
<b>Italy</b>	<b>863</b>	<b>8,867</b>	<b>25,993</b>	<b>35,877</b>	<b>63,216</b>	<b>39,617</b>	<b>40,617</b>	<b>49,396</b>	<b>54,464</b>
<i>Sea-based</i>	28	20	36	38	48	85	40	25	1
<i>Land-based</i>	835	8,847	25,957	35,839	63,168	39,532	40,577	49,371	54,463
<b>United States</b>	<b>797,840</b>	<b>1,271,560</b>	<b>1,157,270</b>	<b>1,419,485</b>	<b>1,973,855</b>	<b>3,812,168</b>	<b>2,564,467</b>	<b>4,109,430</b>	<b>3,961,215</b>
<i>Sea-based</i>	210,768	276,317	304,940	279,671	290,864	144,117	166,949	183,509	202,260
<i>Land-based</i>	587,072	995,243	852,330	1,139,814	1,682,991	3,668,051	2,397,518	3,925,921	3,758,955

Table 8

**Deployed Overseas Filipino Workers by Skill Category (1992 - 1998)**

SKILL CATEGORY	1992	1993	1994	1995	1996	1997	1998
Professional Technical and Related Workers	72,848	65,385	74,218	43,981	36,055	51,381	55,576
Administrative and Managerial Workers	495	405	385	352	305	572	385
Clerical and Related Workers	4,943	3,801	3,709	3,377	3,169	3,632	2,881
Sales Workers	2,725	2,576	2,284	2,090	1,938	2,637	2,510
Service Workers	82,443	89,154	90,967	81,318	84,745	76,644	80,917
Agricultural, Animal Husbandry, Forestry Workers, Fishermen and Hunters	1,920	1,706	1,204	972	822	546	388
Production and Related Workers, Transport Equipment Operators and Laborers	94,528	92,664	85,816	81,859	75,683	85,829	75,222
Invalid Category/ Others Not Elsewhere Classified	692	506	403	200	3,074	-	1,367
<b>GRAND TOTAL</b>	<b>260,594</b>	<b>256,197</b>	<b>258,986</b>	<b>214,149</b>	<b>205,791</b>	<b>221,241</b>	<b>219,246</b>

SOURCE: Philippine Overseas Employment Administration

**Table 9**  
**DESTINATION COUNTRIES AND RELEVANT ECONOMIC VARIABLES**

<b>Country of Destination and Year</b>	<b>Number of OFWs</b>	<b>Remittances (in thousand U.S. Dollars)</b>	<b>GDP Growth Rate</b>	<b>Phil. GDP Growth Rate</b>	<b>Diff.</b>	<b>Unemployment Rate</b>	<b>Phil. Unem. Rate</b>	<b>Diff.</b>	<b>Inflation Rate</b>
<b>Saudi Arabia</b>									
1990	169,886	86,604	10.7	3	-7.7		9.5	9.5	2.1
1991	228,139	100,883	8.4	-0.6	-9		10.5	10.5	4.6
1992	260,112	145,644	2.8	0.3	-2.5		9.8	9.8	-0.4
1993	230,996	160,981	-0.6	2.1	2.7		9.3	9.3	0.8
1994	215,361	100,846	0.5	4.4	3.9		9.5	9.5	0.6
1995	168,604	10,727	0.5	4.8	4.3		9.5	9.5	5
1996	155,848	14,515	1.4	5.7	4.3		8.6	8.6	0.9
1997	160,302	5,723	2.7	5.1	2.4		8.7	8.7	-0.5
1998	158,148	33,433	2.1	2.5	0.4		10.1	10.1	0.3
<b>Hong Kong</b>									
1990	34,412	20,151	3.4	3	-0.4	1.3	9.5	8.2	9.8
1991	50,652	29,519	5.1	-0.6	-5.7	1.8	10.5	8.7	12
1992	52,261	37,979	6.3	0.3	-6	2	9.8	7.8	9.4
1993	62,583	74,532	6.1	2.1	-4	2	9.3	7.3	8.9
1994	62,161	188,290	5.4	4.4	-1	1.9	9.5	7.6	8.8
1995	51,701	171,029	3.9	4.8	0.9	3.2	9.5	6.3	9
1996	43,861	221,009	4.9	5.7	0.8	2.8	8.6	5.8	5.2
1997	78,513	189,230	5.3	5.1	-0.2	2.2	8.7	6.5	6.5
1998	64,160	171,353	3	2.5	-0.5	2.5	10.1	7.6	4.5

Table 9. Continuation

Country of Destination and Year	Number of OFWs	Remittances (in thousand U.S. Dollars)	GDP Growth Rate	Phil. GDP Growth Rate	Diff.	Unemployment Rate	Phil. Unem. Rate	Diff.	Inflation Rate
<b>Japan</b>									
1990	41,558	39,461	5.1	3	-2.1	2.1	9.5	7.4	3.1
1991	57,344	42,524	3.8	-0.6	-4.4	2.1	10.5	8.4	3.3
1992	51,949	53,375	1	0.3	-0.7	2.2	9.8	7.6	1.7
1993	43,542	73,771	0.3	2.1	1.8	2.5	9.3	6.8	1.2
1994	54,879	78,108	0.6	4.4	3.8	2.9	9.5	6.6	0.7
1995	25,032	152,359	1.5	4.8	3.3	3.1	9.5	6.4	-0.1
1996	20,143	114,609	3.9	5.7	1.8	3.3	8.6	5.3	0.1
1997	33,226	131,375	0.9	5.1	4.2	3.4	8.7	5.3	1.7
1998	38,122	107,807		2.5	2.5	3.6	10.1	6.5	0.9
<b>United Arab Emirates</b>									
1990	17,189	37	17.5	3	-14.5		9.5	9.5	0.6
1991	26,601	7	0.2	-0.6	-0.8		10.5	10.5	5.5
1992	28,839	138	2.7	0.3	-2.4		9.8	9.8	6.9
1993	30,045	751	-0.9	2.1	3		9.3	9.3	5
1994	27,713	1,654	2.2	4.4	2.2		9.5	9.5	3.9
1995	26,235	1,081	6.1	4.8	-1.3		9.5	9.5	4.4
1996	26,069	2,745	9.5	5.7	-3.8		8.6	8.6	3.6
1997	25,579	2,385	3	5.1	2.1		8.7	8.7	4.4
1998	26,737	2,508		2.5	2.5		10.1	10.1	
<b>Taiwan</b>									
1990	54		5.4	3	-2.4	1.6	9.5	7.9	4.1
1991	33		7.6	-0.6	-8.2	1.4	10.5	9.1	3.6

Table 9. Continuation

Country of Destination and Year	Number of OFWs	Remittances (in thousand U.S. Dollars)	GDP Growth Rate	Phil. GDP Growth Rate	Diff.	Unemployment Rate	Phil. Unem. Rate	Diff.	Inflation Rate
1992	1,193		6.8	0.3	-6.5	1.5	9.8	8.3	4.5
1993	23,025		6.3	2.1	-4.2	1.4	9.3	7.9	2.9
1994	34,387		6.5	4.4	-2.1	1.5	9.5	8	4.1
1995	50,538		6	4.8	-1.2	1.8	9.5	7.7	3.7
1996	65,464	29,946	5.7	5.7		2.6	8.6	6	3.1
1997	72,748	32,494	6.9	5.1	-1.8	2.7	8.7	6	1.1
1998	79,664	21,602	5	2.5	-2.5	2.6	10.1	7.5	4
<b>Kuwait</b>									
1990	5,007	16,212	-26.2	3	29.2		9.5	9.5	9.8
1991	14,819	2,309	-41	-0.6	40.4		10.5	10.5	9.1
1992	15,872	5,644	77.4	0.3	-77.1		9.8	9.8	-0.5
1993	11,256	7,967	34.2	2.1	-32.1		9.3	9.3	0.4
1994	11,486	28,189	8.4	4.4	-4		9.5	9.5	2.5
1995	9,852	26,853	1	4.8	3.8		9.5	9.5	2.7
1996	10,802	21,469	0.9	5.7	4.8		8.6	8.6	1.8
1997	10,205	16,998	1.5	5.1	3.6		8.7	8.7	1.7
1998	15,359	13,550	1.2	2.5	1.3		10.1	10.1	1.1
<b>Singapore</b>									
1990	4,698	11,899	9	3	-6	1.7	9.5	7.8	3.4
1991	7,697	11,837	7.3	-0.6	-7.9	1.9	10.5	8.6	3.4
1992	8,656	13,905	6.2	0.3	-5.9	2.7	9.8	7.1	2.3
1993	11,568	14,547	10.4	2.1	-8.3	2.7	9.3	6.6	2.2
1994	11,324	98,158	10.5	4.4	-6.1	2.6	9.5	6.9	
1995	10,736	106,143	8.7	4.8	-3.9	2.7	9.5	6.8	1.7

Table 9. Continuation

Country of Destination and Year	Number of OFWs	Remittances (in thousand U.S. Dollars)	GDP Growth Rate	Phil. GDP Growth Rate	Diff.	Unemployment Rate	Phil. Unem. Rate	Diff.	Inflation Rate
1996	15,087	129,654	6.9	5.7	-1.2	3	8.6	5.6	1.4
1997	16,055	93,329	7.8	5.1	-2.7	2.4	8.7	6.3	2
1998	13,373	69,288	3.5	2.5	-1	3.3	10.1	6.8	2.5
<b>Qatar</b>									
1990	7,138	425	-14.8	3	17.8		9.5	9.5	3
1991	7,485	281	-0.4	-0.6	-0.2		10.5	10.5	4.4
1992	9,098	208	9.3	0.3	-9.0		9.8	9.8	3.1
1993	8,202	333	-0.4	2.1	2.5		9.3	9.3	-0.9
1994	8,811	76	2.3	4.4	2.1		9.5	9.5	1.3
1995	9,691	589	-1.1	4.8	5.9		9.5	9.5	3
1996	7,889	401	10	5.7	-9		8.6	8.6	2.5
1997	8,294	260	15.5	5.1	-10.4		8.7	8.7	2.6
1998	8,282	102		2.5	2.5		10.1	10.1	
<b>Brunei</b>									
1990	4,206	835	2.7	3	0.3		9.5	9.5	2.1
1991	8,738	283	4	-0.6	-4.6	0.7	10.5	5.8	1.6
1992	10,866	202	-1.1	0.3	1.4	4.5	9.8	5.3	1.3
1993	10,960	242	0.5	2.1	1.6	4.1	9.3	5.2	4.3
1994	9,731	30	1.8	4.4	2.6	3.6	9.5	5.9	2.4
1995	6,807	2,255	2	4.8	2.8	4.9	9.5	4.6	6
1996	7,651	931	2.8	5.7	2.9	5	8.6	3.6	2
1997	9,594	5	3.5	5.1	1.6		8.7	8.7	3
1998	12,337	35		2.5	2.5		10.1	10.1	

Table 9. Continuation

Country of Destination and Year	Number of OFWs	Remittances (in thousand U.S. Dollars)	GDP Growth Rate	Phil. GDP Growth Rate	Diff.	Unemployment Rate	Phil. Unem. Rate	Diff.	Inflation Rate
<b>Italy</b>									
1990	3,229	863	2.2	3	0.8	11	9.5	-1.5	6.5
1991	8,038	8,867	1.1	-0.6	-1.7	10.9	10.5	-0.4	6.3
1992	9,251	25,993	0.6	0.3	-0.3	10.7	9.8	-0.9	5.3
1993	9,367	35,877	-1.2	2.1	3.3	10.2	9.3	-0.9	4.6
1994	7,421	63,216	2.2	4.4	2.2	11.3	9.5	-1.8	4.1
1995	5,829	39,617	2.9	4.8	1.9	12	9.5	-2.5	5.2
1996	6,780	40,617	0.7	5.7	5	12.1	8.6	-3.5	3.9
1997	8,915	49,396	1.5	5.1	3.6	12.3	8.7	-3.6	1.7
1998	10,737	54,464	2.3	2.5	0.2	12	10.1	-1.9	1.8
<b>United States</b>									
1990	5,094	797,840	1.2	3	1.8	5.6	9.5	3.9	5.4
1991	5,791	1,271,560	-0.9	-0.6	0.3	6.8	10.5	3.7	4.2
1992	5,964	1,157,270	2.7	0.3	-2.4	7.5	9.8	2.3	3
1993	6,304	1,419,485	2.3	2.1	-0.2	6.9	9.3	2.4	3
1994	7,035	1,973,855	3.5	4.4	0.9	6.1	9.5	3.4	2.6
1995	7,456	3,812,168	2	4.8	2.8	5.6	9.5	3.9	2.8
1996	3,190	2,564,467	2.8	5.7	2.9	5.4	8.6	3.2	2.9
1997	2,397	4,109,430	3.8	5.1	1.3	4.9	8.7	3.8	2.3
1998	2,668	3,961,215	2.9	2.5	-0.4	5	10.1	5.1	2

Table 10

## REAL GDP PER CAPITA (1970 - 1997)

YEAR	SAUDI ARABIA	HONG KONG	JAPAN	UNITED ARAB EMIRATES	KUWAIT	SINGAPORE	ITALY	UNITED STATES	PHILIPPINES
1970	623.66	958.33	1,952.62		495.17	916.09	2,003.73	5,050.48	194.89
1971	987.22	1,115.31	2,177.17		622.88	1,059.97	2,178.60	5,419.44	205.52
1972	1,489.09	1,376.78	2,843.17	4,425.85	573.31	1,348.80	2,514.82	5,894.71	215.56
1973	3,963.82	1,892.30	3,808.78	6,792.00	533.68	1,896.24	3,026.76	6,524.47	266.74
1974	5,641.89	2,162.26	4,172.24	16,031.67	1,188.72	2,308.12	3,410.40	6,999.77	354.92
1975	6,451.50	2,256.52	4,479.44	19,551.91	1,000.64	2,495.36	3,832.42	7,550.12	376.16
1976	7,623.45	2,892.92	4,980.96	21,909.43	1,048.44	2,589.37	3,772.72	8,342.51	418.92
1977	7,933.18	3,471.95	6,071.53	23,503.57	1,018.51	2,821.88	4,344.25	9,203.14	467.24
1978	8,645.79	3,886.09	8,453.59	19,782.57	969.13	3,336.51	5,321.43	10,294.26	526.85
1979	12,855.22	4,541.16	8,725.16	22,760.65	1,469.32	3,965.38	6,623.71	11,363.64	626.69
1980	16,701.00	5,639.61	9,068.21	29,323.21	1,530.18	4,862.32	8,022.49	12,224.27	671.48
1981	15,813.24	5,906.21	9,941.25	29,989.35	1,371.98	5,691.38	7,222.85	13,550.93	719.53
1982	11,816.77	6,013.59	9,169.50	26,169.54	1,192.58	6,180.71	7,115.67	13,964.34	731.45
1983	9,640.29	5,479.97	9,943.32	23,165.71	1,129.30	7,213.06	7,316.23	15,000.00	637.98
1984	8,324.03	6,063.88	10,537.46	21,147.80	1,159.59	7,694.49	7,217.25	16,509.71	588.74
1985	6,851.66	6,394.32	11,115.94	19,581.60	1,127.45	7,133.52	7,425.09	17,529.88	562.20
1986	5,479.21	7,266.53	16,384.94	14,982.29	839.98	7,155.76	10,525.11	18,373.77	533.37
1987	5,404.22	8,824.64	19,806.22	15,799.51	923.62	8,112.95	13,224.19	19,323.83	578.75
1988	5,430.92	10,353.20	23,806.85	13,224.59	817.47	9,004.17	14,579.23	20,605.57	645.19
1989	5,751.63	11,806.74	23,554.93	14,660.09	1,023.35	10,385.03	15,098.04	21,988.76	708.36
1990	7,039.02	13,130.08	24,053.24	17,521.91		12,119.90	18,972.98	22,983.47	720.71
1991	7,136.32	14,971.67	27,454.13	17,128.52		13,700.25	20,277.24	23,421.34	713.09
1992	7,264.40	17,321.55	29,918.08	17,359.16	1,203.63	15,241.39	21,441.54	24,450.45	810.82
1993	6,830.86	19,587.40	34,290.60	16,915.07	1,494.17	17,355.22	17,267.85	25,406.19	811.73
1994	6,766.23	21,586.83	37,523.80	16,974.89	1,355.82	20,472.34	17,767.68	26,657.71	933.89
1995	6,863.87	22,491.57	41,033.22	17,334.89	1,399.43	23,663.36	18,988.39	27,650.33	1,048.28
1996	7,247.17	24,424.51	36,539.09	19,743.36	1,592.35	25,150.57	21,151.77	28,881.18	1,165.35
1997	7,499.79	26,508.41	33,256.67		1,543.86	25,636.07	19,912.76	30,275.85	1,131.61
1998			30,046.41			21,807.27		31,455.87	866.35

SOURCE: INTERNATIONAL FINANCIAL STATISTICS YEARBOOK 1999; IMF