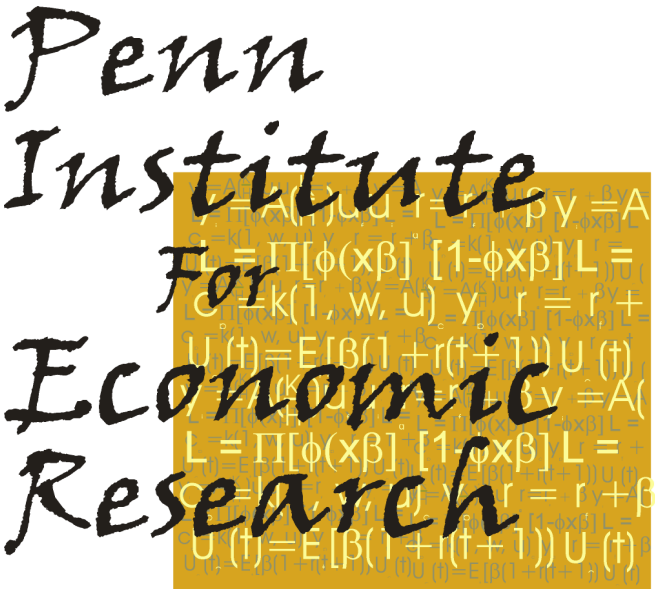

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"Evidence of the Correlation Between Trade and Development in the East Asian Emerging Economies"

by

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Evidence of the Correlation Between Trade and Development in the East Asian Emerging Economies

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Evidence of the Correlation Between Trade and Development in the East Asian Emerging Economies

ABSTRACT

The growth in the East Asian economies has been largely driven by an increase in exports, especially with the industrialized countries of North America, Japan and Europe. In the process, these countries have acquired the technology required to shift from the production and export of agricultural products and labor intensive manufactures, like foods and textiles, to capital intensive products, like electronics and high-tech capital goods. However, this economic progression has fundamentally altered the beneficial relationship the region enjoyed with its more advanced trading partners, during the period of initial growth and development.

This paper investigates the changes that have occurred in the trade patterns of the United States, the European Community and Japan with the developing countries of East Asia between 1980 and 1992. The observed changes in the historical patterns are explained and justified. Furthermore, the impact of the maturation process on future development in East Asia is investigated.

Key Words:
Trade and development patterns, East Asia, European Community, USA, Japan, S-Curve, Economic Growth

JEL Classification Numbers: C5, F00, F14, O00, O11, O5, O53, O57.

Evidence of the Correlation Between Trade and Development in the East Asian Emerging Economies

I. Introduction

Globalization and technical change in East Asia have been the basis for fundamental change in trade patterns. The East Asian countries are moving from the production and export of agricultural products, and labor intensive manufactures, like foods and textiles, toward capital intensive products, like computer chips, consumer electronics, and high-tech capital goods. The consequences for the East Asian countries can be seen in rapid growth of output, productivity, and trade. In turn, the changes in trade patterns in East Asia have had less than desirable impacts on basic industries in the United States, the European Community (EC) and may now severely impact on Japan. This has sometimes been called the "hollowing out" effect.

This paper is a study of the changes that have occurred in the trade patterns of the United States, the European Community and Japan with the developing countries of East Asia for the years 1980 to 1992. The East Asian countries included in this study are Australia, Burma, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, New Zealand, Philippines, Singapore, Taiwan, Thailand

and Vietnam. This paper provides justifications for the observed patterns and considers their implications for future development in East Asia and in the mature economies of the US, EC and Japan. The patterns of trade are documented on the basis of a highly detailed trade data set compiled by OECD-IMPEX. The remainder of the paper is organized as follows. Section II presents a theoretical perspective. Section III studies the overall trade patterns. Section IV analyzes trade growth trends sector by sector. Section V introduces the link between the state of development and sectoral trade patterns. Section VI summarizes the paper.

II. A Theoretical Perspective

The work on patterns of economic development goes back to the seminal work of Chenery and Syrquin (1975), who document the patterns of industrial structure over economic development. Although it is possible to follow development patterns over time for each of the East Asian countries separately, a cross-sectional perspective may provide a better understanding of the development process in these economies as they are only part of the way along

the development ladder and are closely linked in their development process. Such a picture is presented in Figure 1.

Insert Figure 1

FIGURE 1: The S Curve of East Asian Development

On the vertical axis, the per capita GDP of each country is measured. The GDP per capita is denominated in purchasing power parity (PPP) terms (Penn World Tables) using a log scale. In the horizontal direction, the data are rather more arbitrary. This represents "time" since the beginning of the development process as indicated by changed conditions and/or policy. In the case of Korea, for example, this time dates back to the late 1950s after the Korean war. In the case of Malaysia and Singapore, rapid development began in the period of the early 1960s after the dissolution of their union. Japan is represented on the basis of its post war recovery, even though industrial development can be traced back to the time before the war.

The result is an S curve of development. Some countries, like the Philippines, are still in the early stage of development and have only recently joined the upward swing of the S curve. Others, those between per capita income of $2,000 and $7,500 are

growing very rapidly. As countries reach higher income levels, their growth rate slows down, as is apparent for example, with regard to Japan. This picture reminds us of course, of W. Rostow's (Rostow 1971, 1978) takeoff and rush to maturity hypothesis. It is well represented in what the World Bank has termed the "East Asian Miracle" (World Bank, 1993).

What lies behind this growth pattern? There has been much disagreement. Some have argued that it is the result of well planned, future oriented government policy consistent with the long run prospects of the market (Wade, 1990). Others have taken the position that government policy, other than opening up the market, had little to do with the economic development. Such an argument essentially maintains that development calls for getting prices right without government intervention (Hughes, 1988). The truth is probably somewhere in between.

However, there can be no doubt that much of the process of Asian development has been closely linked to export promotion, or at least to diminishing the biases against foreign trade that were implicit in old-fashioned import replacement protectionist policies (Krueger, 1984). There is a substantial consensus in this regard, and the evidence shows that exports lead to

modernization and economic growth. As countries advance their exports, they not only expand, but present more sophisticated products which take advantage of changing comparative advantage, away from cheap labor to more advanced inputs, like higher skills and more sophisticated technology.

The above argument suggests that patterns of development are reflected in patterns of trade by industry. The "revealed" comparative advantage analysis, (Grubel and Lloyd, 1975; Chow, Kellman and Shachmurove, 1994) points in that direction, but if comparative advantage is measured in terms of the structure of trade, then it is not a logical reasoning to suggest that trade patterns are the result of changes in comparative advantage. Thus it follows that it is better to look at the changes in trade patterns directly and to study their implication.

In the East Asian case, another important element that must be considered is the linkage between the economies. Until recently, the linkages among the East Asian countries have been very small. The trade linkages have been predominantly between East Asian countries and their customers in more advanced parts of the world, the United States, the European Community and, recently, Japan. The linkages involve the transfer of

technologies and investments from the more advanced countries to the ones further down on the development ladder.[1]

In recent years, Korea, Singapore, and Taiwan have aspired to higher technology and more capital intensive products, presumably because their labor costs and exchange rate advantage have diminished in labor intensive sectors. In place of labor intensive products, these countries have moved into more advanced products that utilize higher levels of technology and that carry comparative advantage more into capital and advanced manufacturing skills, leaving the low technology high labor intensive products to low labor cost countries such as China and Thailand and ultimately causing natural resource dependent industries to move increasingly into Vietnam and Myanmar. These patterns are reflected in the changes in the overall composition of trade.

III. Overall Trade Patterns

[1]These ideas have been described as the "flying geese pattern", an analogy originally suggested after Akamatsu in (1935) and (1963). But, an analogy of a relay race, where industries are being passed from one participant to the other, is a better picture (Adams, 1995).

We turn first to the patterns of overall trade between East Asia and Japan, Vietnam and Myanmar, the United States, and the European Community (EC). The growth of these trading relationships is presented in Table 1.

TABLE 1 : Growth of Trade Flows
(% change per year)

Trade flows from:	**To United States**		**To European Community**		**To Japan**	
	1980-86	1986-92	1980-86	1986-92	1980-86	1986-92
Australia	0.27	6.80	5.95	2.78	7.22	4.98
Burma	8.66	16.59	-1.85	-2.87	-0.20	-13.09
China	25.13	27.44	6.90	25.69	11.05	3.21
Hong Kong	10.61	1.35	1.53	11.54	6.86	17.71
Indonesia	-6.77	1.87	1.15	17.05	-4.36	12.32
Japan	15.93	2.62	9.20	11.54	-	-
S. Korea	18.56	4.19	6.59	13.42	11.13	8.82
Malaysia	1.98	16.51	-2.41	18.29	-3.13	25.98
New Zealand	5.30	3.36	-2.30	3.44	8.12	0.18
Philippines	1.98	12.71	-1.44	10.59	-7.24	19.54
Singapore	15.08	13.60	3.22	21.06	2.67	17.40
Taiwan	17.50	3.15	6.77	17.75	7.04	16.51
Thailand	12.55	24.82	2.97	18.93	0.94	27.19
Vietnam	27.75 *	-52.35 *	19.25 *	37.57 *	8.57 *	14.46 *
World	7.02	6.15	5.90	5.32	7.98	8.08

Trade flows to:	**From United States**		**From European Community**		**From Japan**	
	1980-86	1986-92	1980-1986	1986-92	1980-86	1986-92
Australia	4.00	8.73	1.51	7.21	-1.03	9.84
Burma	-12.37	-20.97	-1.85	-2.86	-7.49	-0.04
China	-3.30	14.44	6.66	25.88	4.42	18.35
Hong Kong	1.90	16.26	1.32	11.53	10.48	10.83
Indonesia	-7.72	18.31	-2.11	20.64	-9.81	8.58
Japan	1.70	11.69	3.96	5.04	-	-
South Korea	4.58	14.93	6.62	13.39	9.46	13.07
Malaysia	5.19	14.39	-2.45	18.32	1.71	8.93
New Zealand	6.19	7.57	-2.32	3.44	2.40	9.67
Philippines	-6.65	11.70	-2.23	10.59	-7.90	10.88
Singapore	1.58	16.81	2.48	21.79	-0.52	12.59
Taiwan	3.17	55.42	6.73	17.79	11.93	11.67
Thailand	-4.05	25.30	2.95	18.92	3.62	24.21
Vietnam	54.38 *	-31.95 *	16.26 *	40.54 *	8.90 *	39.17 *
World	-0.64	11.95	0.18	11.01	-2.64	10.99

* Not Meaningful

The patterns in Table 1 show interesting distinctions between the 1980-86 period (to be called the first period) and the 1986-1992 period (to be called the recent period) and between the destination countries, the United States, the EC and Japan. Overall, world trade flows to these mature economies moved at a relatively steady rate of five to eight percent per year, much lower than typical flows from East Asia, many of which show double digit growth rates. As compared to the first period or earlier period, in the more recent period, trade flow growth to the United States has diminished, particularly from the more advanced countries--e.g., Japan, South Korea, Hong Kong, and Taiwan. Growth has shifted in favor of the countries that are less advanced and have retained comparative advantage in labor intensive products--e.g., China, Malaysia, Thailand, and the Philippines.

Despite the fact that overall trade from the world is not greatly different between the two periods, growth rates are considerably higher in the recent period. The expansion of trade flows from Asia to Europe thus seems to be a more recent phenomenon, taking the place of some of the growth to the United States during the first period. This is particularly apparent in

the case of shipments to Japan which are much greater in the recent period than in the earlier one for the major East Asian countries.

Trade in the opposite direction, from the advanced countries toward East Asia, is expanding at a rapid rate as well. The figures for world trade in the more recent period are much higher than the earlier period. This pattern holds for the EC, Japan and the United States.

In summary, for most East Asian countries, trade flows are much higher to and from the industrial countries than trade flows from the rest of the world. In the more recent period there appears to be a shift in East Asian trade toward faster relative growth to the EC and Japan instead of the United States, and trade appears to be growing more rapidly in the second tier of East Asian countries. Moreover, some of the East Asian countries have higher and more consistent growth than others. These countries are lower on the development ladder, e.g., China and Thailand.

IV. Sectoral Trade Growth Trends

To discuss the sectoral growth trends in a meaningful and more consistent way, it is useful to establish some linkage between resource intensities and trade categories. Such a relationship is presented in Table 2. The breakdown of trade by resource intensity of the SITC codes is into six categories approximately representing groupings with different factor intensity requirements. The types of factors needed are summarized in the right hand column of Table 2. These categories are: (1) Raw food, (2) Processed agricultural goods, (3) Fuels, (4) Industrial materials, (5) Manufactures (Mass production) and (6) High-Tech capital goods. Note that apparel and leather goods are in category 5. Processed agriculture includes processed chicken parts which call for inputs of land and labor. Chips, instruments, consumer electronic equipment, etc., fall into category 6.

TABLE 2: Breakdown of Trade by Resource Intensity

Category	SITC	Resource Intensity
1. Raw Food	00-09	Land
2. Processed Agricultural Goods	11-29, 41-43	Land, Labor

3. Fuels	32-35	Natural Resources
4. Industrial Materials	51-59, 67-69	Natural Resources, Capital
5. Manufactures (mass production)	61-66, 81-85	Labor, Capital
6. High-Tech Capital Goods	91-97, 87-89, 71-79	Capital, Technology

The composition of trade according to these categories is presented in Table 3.

It is useful first to examine the composition of export and import flows from the industrial countries (US, EC, and Japan) to the world. In all cases, the flows from the industrial countries are heavily and increasingly in the high tech group (category 6). Proportion of Japanese exports in this category, 81 percent in 1992, the highest, and the proportion of EC exports in 1992, of 41 percent the lowest. The United States also has substantial exports of raw and process agricultural materials (categories 1 and 2), categories that are very small in the shipments from Japan. Fuels represent only a small share. Industrial materials (category 4) and mass production manufactures (category 5) represent only a small, but important share in all cases.

The composition of imports into the industrial countries, from the world, differs considerably from the exports. In particular, in the case of the United States, the share of high tech products (category 6) in 1992 is substantial (54%, up from 32% in 1980). The shares of industrial materials and mass production manufacturers are smaller, 10% and 16%, respectively, in 1992. Imports into Europe show a somewhat similar pattern, but we note that high tech imports into Japan account for a much smaller proportion of total imports (25% in 1992, up from 9% in 1980). Of course, the share of fuels (category 3) and of agricultural products (categories 1 and 2) is comparatively large in Japanese imports.

Our objective here is to compare these figures for world wide flows with the composition of trade with the East Asian developing countries. We deal first with the exports of the advanced industrial countries. The exports of the US to the East Asian developing countries are heavily weighted by high tech goods (50% to 70%). This concentration on high tech goods is somewhat more prominent in 1992 than in 1980. A very similar picture emerges for exports from the EC and Japan, though the latter has a

consistently higher proportion of exports in high tech goods to all countries (60% to 80% of total exports in 1992).

Not surprisingly, the US has somewhat higher flows of agricultural products (categories 1 and 2) than the other industrial countries, particularly to the Philippines, Japan and Hong Kong. Industrial materials (category 4) remain a substantial share of US exports to the East Asian area as they do for the EC and for Japan. Exports of mass manufactures (category 5) from the United States are relatively small and represent a larger, but quite variable share of exports of the EC and Japan, going particularly into Hong Kong.

Turning now to flows from Asia to the industrial countries, these reflect both the dynamic comparative advantage of the various countries in East Asia and the situation in the industrial countries themselves. The United States' proportion of high tech products is largest from Japan, Korea, and Singapore, but still substantial, over 60 percent from Taiwan, and more than 40 percent for China, Hong Kong and the Philippines and Thailand. Some countries, like Australia and New Zealand on one extreme, and Indonesia, Vietnam and Myanmar on the other, ship only small shares of their exports in the form of high tech goods. In

contrast, the figures of category 5, mass production manufactures, are highest for Malaysia and Hong Kong and almost as high from China and Indonesia. Between 1980 and 1992, Asian exports to the Untied States were upgraded, with smaller shares of primary products and bigger shares of mass production manufacturers and high tech products. European imports are less consistently high tech, though the share is very high for Japan, Singapore and Taiwan and only a little lower for Korea and Hong Kong. The share of mass production manufactures is high particularly for Indonesia and Vietnam (over 60 percent) and a little lower (over 40 percent) for China and Hong Kong.

The Japanese import proportions are quite different with high tech being substantial only in the case of Hong Kong and Singapore. The proportions of imports that represent agricultural materials (categories 1 and 2), and fuels (category 3), particularly from Indonesia and Australia, are much larger than in the case of Europe and the United States. The share of industrial raw materials is moderate. The share of mass manufactures from the Asian countries, is also much lower than in the United States and the EC. These goods represent a substantial proportion of flows from China (64 percent) and proportions of over 30 percent

from Hong Kong and Korea, but are less important from other countries. In the case of Japanese imports, as well, there has been upgrading toward higher technology products.

V. State of Development and Sectoral Trade Patterns

This analysis supports the notion that trade patterns from East Asia to the industrial countries has been changing toward more advanced products. Looking at the individual countries one can trace through the increasing share of high tech goods as the countries advance on the development ladder.

The striking consideration is that there are close links between composition of trade and the level of development of the East Asian economies. To establish a scale of economic advancement, the GDP per capita measured in US international dollars for 1985 can be used. These figures shown on Table 4, obtained from the Penn World Tables, compare the incomes of the various countries on a purchasing power exchange rate basis.

TABLE 4: PPP GDP Per Capita (1985 thousand $, PPP basis)

Country	1980	1992
Australia	12,520	14,458
Burma	350	500
China	972	1,493
European Community	10,495	12,451
Hong Kong	8,719	16,471
Indonesia	1,281	2,101
Japan	10,072	15,105
Korea	3,093	7,251 *
Malaysia	3,799	5,746
New Zealand	10,362	11,363
Philippines	1,879	1,689
Singapore	7,053	12,653
Taiwan	4,459	8,063 **
Thailand	2,178	3,942
United States	15,295	17,945
Vietnam	350	500

Source: Penn World Tables
* The figure is for 1991
** The figure is for 1990

Note that the countries at the low end (GDP below $1,000 like Burma, Vietnam and China in 1980) are predominantly agricultural. The mid range of countries, with GDP per capita between $1,000 and $7,000 represent countries with substantial potentials for labor intensive mass manufacturing. Finally, the higher income countries find their comparative advantage away from labor intensive sectors because of high labor costs. These countries, with per capita income of $7,000 or more, are turning to high technology production and in some cases, high value added services. Note that Singapore and Hong Kong in East Asia are already into the advanced country income range. The hypothesis below is that the composition of commodity trade is closely linked to the level of per capita income. This is apparent if we construct graphs like Figure 2.

Insert Figure 2

FIGURE 2: Percentage of Category 6 In Exports to the US

On the horizontal axis is per capita GDP for each country in PPP terms. On the vertical axis is the share of exports and

imports in Category i. Each country has two points, for 1980 and 1992. The anticipated relationships are presented in Table 5.

Table 5: Anticipated Slope of Relationships Between Category Trade Share and GDP per Capita

	Shipments from the Industrial Countries to East Asia	**Shipments to the Industrial Countries from East Asia**
Category 1	N	N
Category 2	N	N
Category 3	--	--
Category 4	N	P/N
Category 5	P	N
Category 6	P	P

Slope with respect to per capita Income--Note: receiving or shipping in all cases, based on incomes for East Asian countries receiving or shipping goods.

P - Positive slope
N - Negative slope
-- - Unpredictable or not relevant

Note that in some cases special circumstances may alter the relationship. For example, Japan and Singapore's dependence on foreign agricultural products, and the United States, Australia and New Zealand's comparative advantage in agriculture may account for a substantially higher proportion of this category as a share of Japanese imports from the United States.

Industrial country shipments of agricultural products (categories 1 and 2) are likely to decline as the income of the East Asian recipient country rises, with the exceptions noted above. Fuels (category 3) are likely to come primarily from fuel exporting countries like those in the Middle East and shipments from the industrial countries probably do not relate to income of the destination countries. Capital goods (categories 5 and 6) are imported from the industrial world by the more affluent Asian countries, while industrial materials (category 4) may have a negative relation with income.

Shipments from the East Asian countries to the industrial world are likely to have different patterns. Agricultural products (categories 1 and 2) decline in share as income rises, reflecting changing economic structure over economic development. Industrial materials (category 4) follow an up and down pattern.

Mass manufactures (category 5) decline as income rises, i.e., as labor costs increase. On the other hand, the share of capital goods rises with the income of the purchasing country, as the higher income countries industrialize in the direction of high tech products.

These presumptions are largely fulfilled in a statistical analysis summarized in Table 6 which presents the regression results where the share of each trade category (share) is regressed on per capita income (GDP/cap) in the East Asian economies. In order to deal with exceptions, dummy variables (D) are constructed to reflect the large share of agricultural products in the imports of Japan or Singapore, for example. The equation is linear, share = f (GDP/cap, D_J). This is a pooled regression analysis, where each country appears twice, once for 1980, and once for 1992.

Table 6: Statistical Analysis of Trade Composition as a Function of GDP per Capita (coefficients of regression equations)

	Shipments from Industrial Countries to East Asia			Shipments to Industrial Countries from East Asia		
	US	**EC**	**Japan**	**US**	**EC**	**Japan**
Category 1	$-.0004_{DJ}$	$-.0005_{DJ}$**	-.00036	$-.0007_{DANZ}$**	-.00057	.00000
Category 2	$-.0004_{DJ}$	$.0004_{DANZ}$**	-.00008**	$-.0009_{DA}$*	$-.0023_{DANZ}$**	-.00038
Category 3	.0001*	-.00002	-.0001*	-.0006	-.00019	$.0017_{DS80}$*
Category 4	-.0005	-.00009	-.00078**	$.0003_{DM80}$	.00017	$.0007_{DA}$**
Category 5	$.0003_{DV}$**	$-.0006_{DANZ}$**	.00000	$-.0030_{DHK92}$**	$-.0042_{DHK}$**	-.0002
Category 6	$.0016_{D5}$**	-.00065**	.0014**	$.0041_{DANZ}$**	$.0048_{DANZ}$*	$.0032_{DANZ}$**

DJ -Dummy for Japan for both 1980 and 1992

DV -Dummy for Vietnam for both 1980 and 1992

DANZ -Dummy for Australia and New Zealand for both 1980 and 1992

DA -Dummy for Australia for both 1980 and 1992

DM80 -Dummy for Malaysia for 1980

DHK92 -Dummy for Hong Kong for 1992

DHK -Dummy for Hong Kong for both 1980 and 1992

DS80 -Dummy for Singapore for 1980

* 10% significance level
** 5% significance level

As can be seen from Table 6, most of the signs of the coefficient are as expected and many of the relationships are statistically significant. Although a more comprehensive analysis of the functional shapes, time variables, and dummies would undoubtedly improve the fit, it probably would not greatly alter the conclusions. The dummy variables, whose coefficients are not shown, account for some important cases. Particularly, for Japan the dummies for imports of agricultural products (categories 1 and 2) are positive and significant. Strikingly, the relation for the share of capital goods to Japan from the US shows a large negative effect, while the effect of shipments from the EC is strongly positive. Australia and New Zealand are heavy agricultural and raw material producers supplying the East Asian market. The dummy variables for these countries reflect this phenomena. In some cases, Vietnam for example, there are anomalies that should be excluded from the broader analysis.

VI. Conclusion

The analysis of this paper suggests that trade patterns closely reflect economic development in East Asia. These patterns

suggest that rising income levels cause trade composition to change from agriculture and primary resource based products to mass manufacturing and eventually toward high tech/capital goods in the most advanced countries. There are some exceptions, related to resource endowments, agriculture, and to the advanced stage of technology. The case of Japan is one example.

It is likely that further economic advancement will lead to an expansion of service trade, particularly development of financial institutions in the small countries, Singapore and Hong Kong. This relation has not been examined in the current study due to the lack of service trade statistics.

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TABLE 3: Composition of Trade Flows

% Breakdown of Categories

TRADE FLOWS TO:		**FROM UNITED STATES 1980**						**FROM UNITED STATES 1992**					
Category	1	2	3	4	5	6		1	2	3	4	5	6
World	12.99	13.32	3.77	16.21	5.98	47.73		7.82	7.9	2.68	14.24	6.86	60.5
Australia	1.49	5.66	1.11	16.45	8.45	66.84		2.54	2.84	1.36	15.85	5.28	72.14
Burma	0.26	0.2	0.26	35.46	0.62	63.31		1.56	7.33	0.08	15.52	2.6	72.91
China	33.73	33.53	0.05	13.11	8.54	11.04		4.41	9.18	2.77	20.36	2.96	60.33
Hong Kong	8.45	14.26	0.42	18.09	16.84	41.94		8.06	10.61	0.62	13.78	10.12	56.82
Indonesia	16.56	14.48	1.38	22.34	2.68	42.56		2.4	15.07	1.51	15.24	3.48	62.31
Japan	20.71	28.42	8.51	14.78	3.32	24.24		18.45	17	2.59	13.67	4.98	43.31
Korea	22.3	31.46	1.94	14.2	2.19	27.91		7.55	17.77	4.95	13.04	4.3	52.38
Malaysia	1.96	1.56	3.69	47.96	2.42	42.41		0.93	0.55	0.3	5.66	4.01	88.56
New Zealand	2.58	6.9	2.78	22.25	8.18	57.32		3.85	2.56	2.94	15.99	5.99	68.67
Phillipines	11.19	7.31	0.86	24.71	5.29	50.65		16.14	6.11	2.02	12.14	6.76	56.83
Singapore	3.86	2.28	2.25	23.66	3.4	64.54		1.91	1.78	2.84	11.86	3.41	78.21
Taiwan	12.52	20.96	1.94	18.66	1.84	44.08		8.54	9.7	2.93	17.29	3.32	58.21
Thailand	3.45	10.3	3.22	37.91	2.3	42.81		3.73	5.69	1.11	13.61	4.24	71.61
Vietnam	0	0	0	39.46	0	60.54		0	0	0	0	100	0
TRADE FLOWS FROM:		**TO UNITED STATES 1980**						**TO UNITED STATES 1992**					
Category	1	2	3	4	5	6		1	2	3	4	5	6
World	6.76	5.99	32.86	11.54	10.58	32.28		4.47	3.96	10.54	10.47	16.09	54.47
Australia	46.59	32.93	0.85	12.42	0.67	6.54		30.31	25.8	4.59	13.97	3.69	21.64
Burma	29.55	44.46	0	0.48	23.61	1.9		10.69	10.34	0	1.17	77.26	0.54
China	5.62	13.18	13.03	16.05	42.28	9.84		2.55	0.93	2.1	5.19	45.02	44.21
Hong Kong	1.21	0.31	0.05	2.4	44.27	51.75		1.2	0.38	0	2.18	51.36	44.87
Indonesia	6.14	9.1	80.9	2.26	0.54	1.07		12.54	14.83	12.83	2.77	41.57	15.46
Japan	0.91	0.24	0.18	17.21	5.26	76.2		0.3	0.25	0.22	7.5	3.14	88.6
Korea	2.21	0.82	0	16.25	50.44	30.28		0.95	0.65	0.71	8.4	33.1	56.19
Malaysia	2.52	45.79	0	35.4	10.53	5.77		3.96	12.48	0	3.37	52.33	27.87
New Zealand	69.04	11.52	0	13.35	2.19	3.89		66.96	6.24	0	13.62	3.14	10.04
Phillipines	24.27	18.62	0	4.17	24.07	28.88		9.46	6.86	0.2	1.09	36.17	46.21
Singapore	2.03	2.86	4.81	1.54	10.03	78.73		1.02	0.17	1.26	0.73	6.99	89.82
Taiwan	3.07	0.42	0	7.78	47.01	41.71		1.19	0.38	0	9.84	26.66	61.93
Thailand	12.96	19.36	0	27.3	25.54	14.84		18.51	3.17	0	1.88	26.62	49.82
Vietnam	0	0	0	0	14.29	85.71		0	0	0	0	100	0

TRADE FLOWS TO:		FROM EUROPEAN COMMUNITY 1980					
Category	1	2	3	4	5	6	
World	9.4	5.38	8.48	23.62	16.16	41.85	
Australia	2.76	3.69	0.89	19.31	14.55	58.81	
Burma	6.77	0.81	0.47	23.26	5.12	63.57	
China	1.16	4.03	0.26	44.03	3.49	47.1	
Hong Kong	2.75	4.45	0.11	20.08	28.38	44.24	
Indonesia	1.47	1.43	0.39	24.73	4.22	67.77	
Japan	9.86	7.36	0.51	28.32	19.22	42.01	
Korea	0.99	4.62	0.27	24.47	6.16	63.49	
Malaysia	4.61	3.69	0.29	18.72	5.52	67.16	
New Zealand	1.12	3	1.45	22.15	11.89	60.4	
Phillipines	6.11	2.32	0.66	20.44	4.89	65.59	
Singapore	2.79	3.34	2.56	20.93	11.93	58.45	
Taiwan	4.21	3.47	0.7	28.83	5.3	57.48	
Thailand	5.85	3.09	1.73	31.84	5.37	52.13	
Vietnam	26.49	1.56	4.57	10.09	1.95	55.34	

TO EUROPEAN COMMUNITY 1992					
1	2	3	4	5	6
9.36	4.8	3.33	21.47	16.6	50.59
3.28	3.73	0.3	23.64	15.11	53.94
18.3	0.7	0.14	27.17	12.75	40.94
1.84	2.76	0.32	20.02	3.77	71.66
2.86	9.23	0.32	19.28	26.12	42.16
2.29	1.82	1.07	21.17	5.02	68.63
8.14	6.92	0.38	26.27	20.27	47.86
1.48	4.35	0.48	23.91	12.4	57.39
3.43	4.25	0.36	18.86	8.29	64.8
2.16	3.73	0.33	26.8	14.2	52.78
9.55	3.42	0.24	21.2	6.97	58.61
2.14	4.36	0.7	19.94	11.63	61.22
2.97	7.04	0.81	25.25	10.05	53.88
4.47	4.47	0.39	21.85	12.11	56.69
10.31	1.29	0.24	21.5	7.76	58.89

TRADE FLOWS FROM:		TO EUROPEAN COMMUNITY 1980					
Category	1	2	3	4	5	6	
World	9.97	9.24	22.9	16.58	14.05	27.26	
Australia	8.66	47.55	14.09	24	1.56	4.14	
Burma	21.32	67.59	0.05	3.27	2.03	5.73	
China	17.31	22.98	5.89	12.81	32.85	8.15	
Hong Kong	0.42	0.78	0	3.79	54.55	40.46	
Indonesia	30.27	39.29	11.92	12.24	4.35	1.93	
Japan	0.7	1.29	0.07	11.07	6.3	80.56	
Korea	1.88	3.83	0.05	9.27	60.78	24.18	
Malaysia	7.74	62.93	0	7.98	8.61	12.75	
New Zealand	55.76	36.95	0.01	1.96	3.41	1.91	
Phillipines	19.4	40.28	0.26	3.42	22.8	13.84	
Singapore	3.18	15.64	5.67	2.93	16.57	56.01	
Taiwan	6.58	0.89	0	6.92	43.76	41.86	
Thailand	49.85	11.74	0	14.39	21.04	2.98	
Vietnam	17.08	30.54	0	5.01	34.91	12.45	

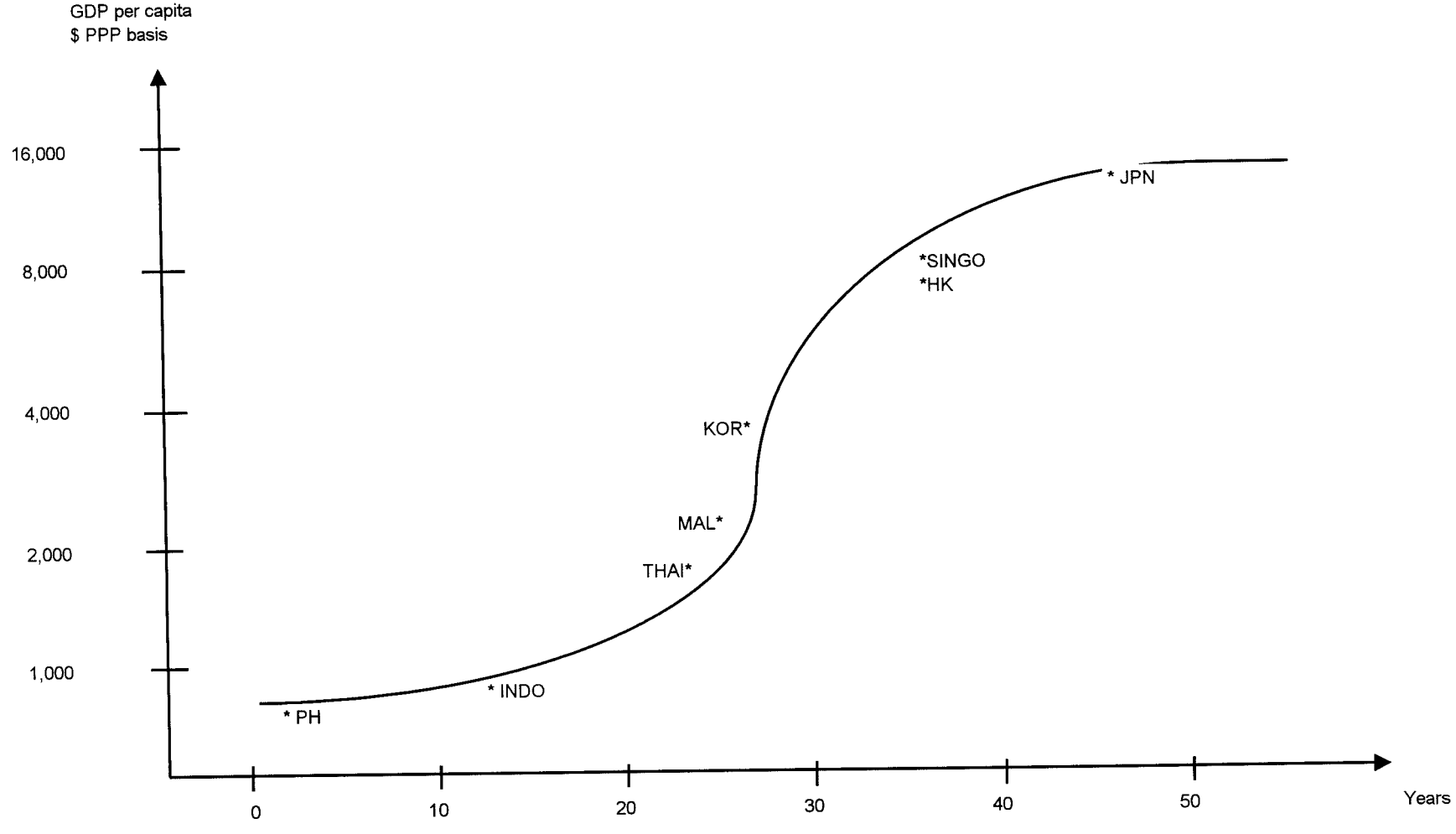
TO EUROPEAN COMMUNITY 1992					
1	2	3	4	5	6
9.16	6.13	7.56	17.5	16.71	42.94
7.07	44.36	20.93	10.02	4.11	13.49
24	51.51	0	0.49	11.29	12.7
5.34	5.01	1.1	8.9	42.48	37.18
0.62	0.6	0.01	2.63	46.48	49.65
12.06	16.05	0.13	3.4	60.47	7.88
0.24	0.39	0.09	6.99	4.06	88.24
1.39	0.93	0.05	8.59	32.57	56.47
4.99	19.46	0	3.15	18.4	54
65.92	20.35	0.08	5.23	3.15	5.27
11.47	12.2	0	1.77	36.96	37.61
1.79	1.74	0.01	4.89	8.56	83.02
0.59	0.57	0.04	8.74	18.77	71.28
28.02	3.81	0.01	1.66	36.19	30.3
14.61	2.42	9.18	0.83	69.25	3.71

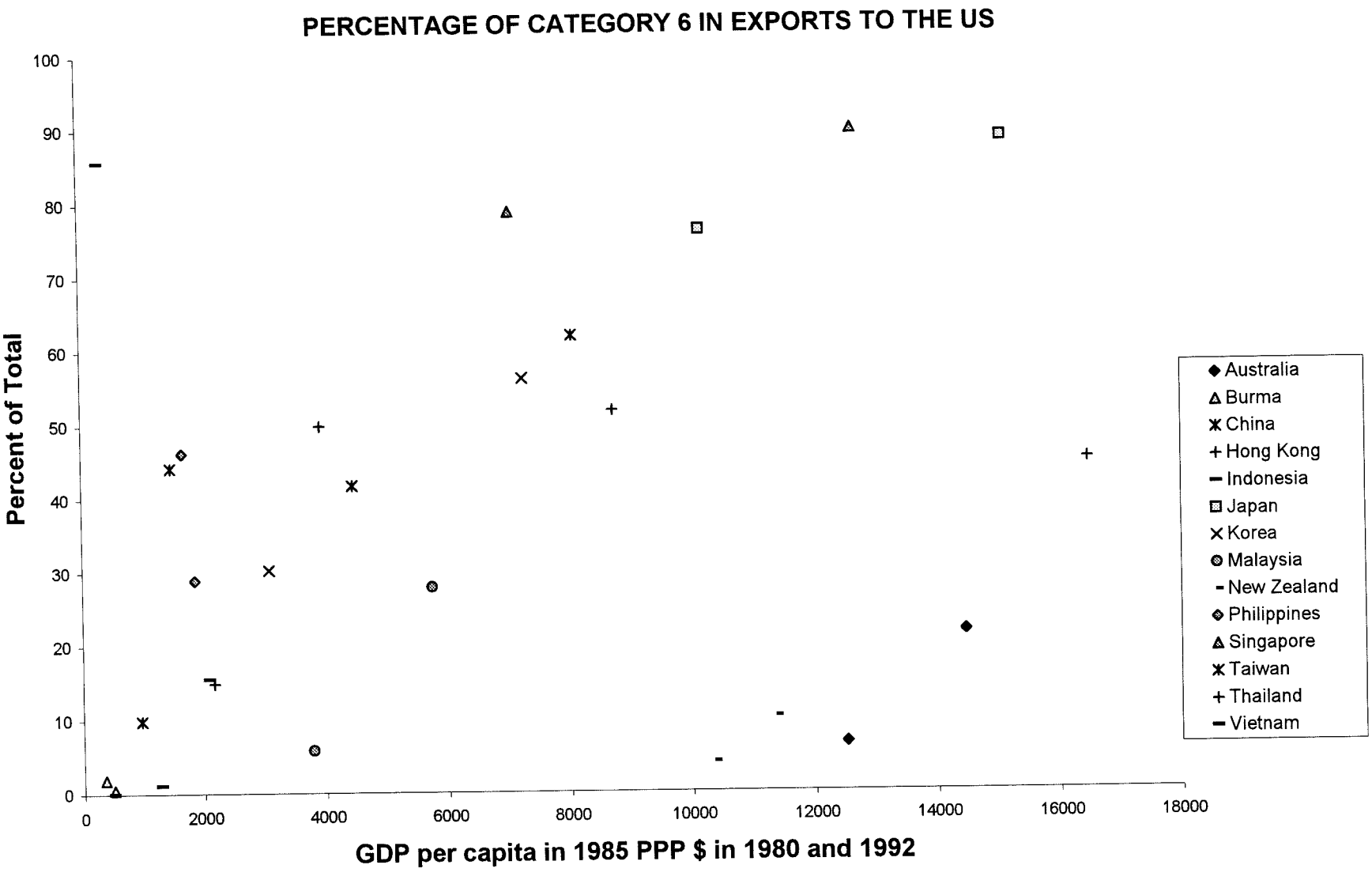
TRADE FLOWS TO:		FROM JAPAN 1980					
Category	1	2	3	4	5	6	
World	1.12	1.34	0.41	21.72	8.33	67.74	
Australia	0.71	0.89	0.13	16.42	12.34	69.51	
Burma	0.13	1.49	1.41	34.98	11.56	50.43	

FROM JAPAN 1992					
1	2	3	4	5	6
0.48	0.76	0.52	11.99	5.57	81.09
0.4	0.54	0.08	9.38	7.28	82.32
0.08	0.76	0.16	13.68	8.04	77.27

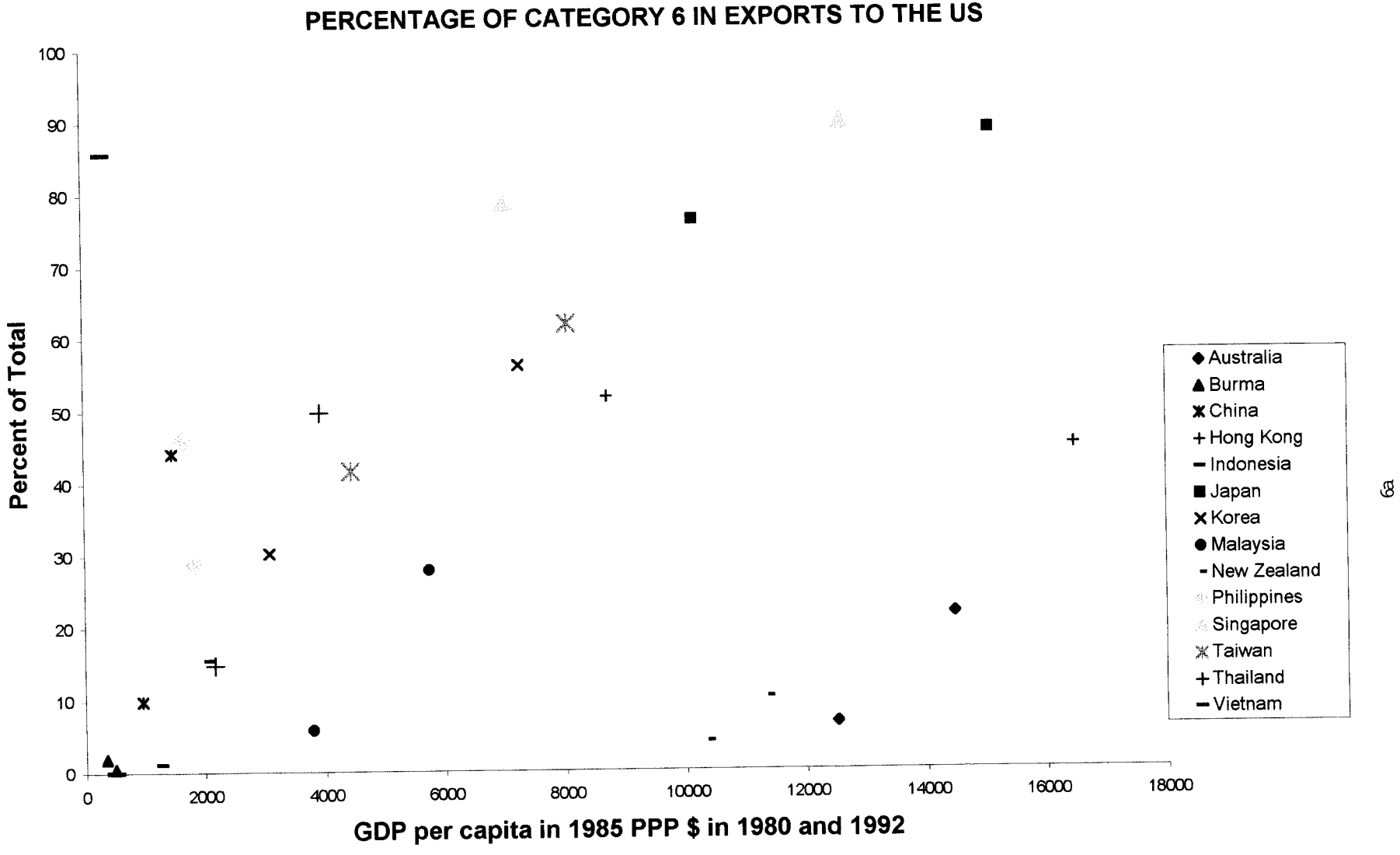
China	0.03	4.76	0.12	23.09	11.08	60.91		58.5	1.22	0.74	9.76	5.1	24.67
Hong Kong	2.89	1.53	0.29	17.91	22.22	55.15		1.69	1.1	0.88	12.04	11.84	72.45
Indonesia	2.17	2.19	0.4	32.15	6.12	56.97		0.25	2.4	0.46	23.84	5.41	67.64
Korea	1.54	4.11	1.7	34.08	10.27	48.3		0.37	2.28	2.07	24.73	7.42	63.13
Malaysia	1.31	0.84	0.25	26.83	5.85	64.93		0.37	0.66	0.46	18.31	5.71	74.49
New Zealand	1.82	1.31	0.16	28.93	9.82	57.97		1.55	0.79	0.09	12.46	7.95	77.16
Phillipines	1.75	2.21	0.98	32.35	9.59	53.12		0.63	1.43	1.4	16.21	7.57	72.78
Singapore	1.31	0.83	0.26	24.33	10.13	63.13		0.58	0.64	0.72	13.99	4.1	79.98
Taiwan	1.45	2.69	0.97	33.48	7.33	54.08		1.1	1.64	1.42	22.66	7.89	65.29
Thailand	0.68	1.45	0.51	40.93	6.21	50.22		0.97	0.88	0.76	23	5.9	68.49
Vietnam	1.87	1.49	5.28	26.55	25.13	36.69		1.64	1.08	5.58	10.93	10.16	70.6
TRADE FLOWS FROM:		**TO JAPAN 1980**						**TO JAPAN 1992**					
Category	1	2	3	4	5	6		1	2	3	4	5	6
World	10.14	18.54	50.9	8.52	4.46	9.05		15.53	14.64	24.83	13.92	13.67	25.08
Australia	21.85	43.87	30.52	2.65	0.76	0.34		18.09	29.11	40.22	7.43	1.89	3.26
Burma	9.75	27.31	46.98	0.92	14.76	0.28		16.56	65.07	2.95	0.54	10.57	4.32
China	11.48	12.49	59.3	5.5	15.53	2.37		24.28	10.81	21.16	10.43	64.79	20.21
Hong Kong	11.7	9.19	0.01	5.32	43.88	29.89		6.25	3.36	0	4.64	33.35	52.41
Indonesia	2.53	14.13	81.88	1.04	0.29	0.14		7.26	8.32	65.09	3.14	14.07	2.12
Korea	16.55	6.51	1.48	18.76	39.38	17.31		10.77	3.62	5.49	19.47	36.72	23.94
Malaysia	1.69	47.31	38.03	9.46	1.56	1.97		2.1	34.16	33.16	4.09	6.01	20.48
New Zealand	26.71	49.72	0.67	20.34	1.18	1.38		30.83	33.84	4.4	24.96	4.26	1.73
Phillipines	17.98	69.53	0.01	3.84	2.54	6.1		14.23	28.61	5.63	7.76	9.83	33.95
Singapore	1.55	3.08	75.54	6	1.6	12.24		5.29	4.52	29.28	8.6	3.99	48.32
Taiwan	27.69	9.29	0.52	8.16	30.66	23.67		28.08	3.99	0.23	11.77	20.69	35.24
Thailand	24.73	49.11	0	13.63	10.63	1.9		29.15	13.22	0.01	7.43	19.39	30.8
Vietnam	24.15	8.37	64.06	0.22	1.32	1.88		20.74	3.26	62.38	0.23	13.12	0.28

Figure 1
The S Curve of East Asian Development




PERCENTAGE OF CATEGORY 6 IN EXPORTS TO THE US
Percent of Total
100
90
80
70
60
50
40
30
20
10
0
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
GDP per capita in 1985 PPP $ in 1980 and 1992
Australia
Burma
China
Hong Kong
Indonesia
Japan
Korea
Malaysia
New Zealand
Philippines
Singapore
Taiwan
Thailand
Vietnam

5a


PERCENTAGE OF CATEGORY 6 IN EXPORTS TO THE US
Percent of Total
100
90
80
70
60
50
40
30
20
10
0
0
2000
4000
6000
8000
10000
12000
14000
16000
18000
GDP per capita in 1985 PPP $ in 1980 and 1992
Australia
Burma
China
Hong Kong
Indonesia
Japan
Korea
Malaysia
New Zealand
Philippines
Singapore
Taiwan
Thailand
Vietnam

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