Economic Growth and Investment in Developing Nations of Asia

Shigeru Uchida*
Celia Lopez Umali**

Abstract

This paper aims to investigate the relationship between economic growth and investment in developing nations of Asia taken in groups namely, Indonesia, Malaysia, Philippines and Thailand (IMPT) in one group, Cambodia, Laos, Myanmar and Vietnam (CLMV) in another group and Bangladesh, India, Pakistan and Sri Lanka (BIPS) in the last group. Our empirical analysis has suggested supporting significant relationships amongst certain valuable variables, indicating how these countries have maintained vibrant growth rates and experienced increase in foreign direct investments. As industrial restructuring in IMPT occurred, their economies moved up to another stage of technological capability pushing more foreign direct investment inflows to CLMV as they themselves go through shifts in their economies. For South Asia the service sector is a strong contributor to the region's growth compared to that of South East Asia, where the role of manufacturing industry is more pronounced.

Key words: Economic growth, investment, Asia

1 Economic Growth and Investment

Economic growth has really been a crucial theme not only for economic researchers but also for those in management or related social studies, as well as business leaders, managers, and the like. We are all aware of how the last contagion of worldwide recession or even depression caused by the Lehman shock has prevailed in many countries and regions in such a short time, an event no one ever expected would happen. It is well known that the global economic trend could not be getting back to the stage of the former financial and/or economic system, and this is true for OECD members, and advanced and developing nations. It is one of key phenomena of economic tendencies in this century that could be observed in a highly connected and synthesized mega-system amongst financial innovation, information & communication technology.

＊Professor, Faculty of Business and Commerce, Aichi Gakuin University
＊＊Professor, Faculty of Economics, Nagasaki University

In this situation, corporate investment has served as a rigorous main engine that has pulled up and pushed on the local and global economies with adequate and timely offered financial opportunities.

This could just be promoted to improve the economic performance of an industry or a country with its concept of industrial or public finance. We know one of the basic open-macroeconomic models showing simply a macroeconomic equilibrium condition and the importance of financial items;

$$(X-M)=(S-I)+(T-G)$$

where X: export, M: import, S: saving, I: investment, T: tax revenue, G: government expenditure. This equation is well known in textbooks to be easily derived from the following relationship between national income and aggregate demand (Uchida and Nishiwaki, 2002, for example);

$$Y=C+I+G+X-M$$

The left side of the former equation displays the result of international economic balance while the first part of the right side means the balance of saving and investment, and the second part shows the government tax revenue and spending. If at least one of these three parts would have a gap, other(s) should totally cover the amount.

Front runners amongst the advanced economies like the United States and the United Kingdom have in the last century experienced being capital exporting nations to get much of the incomes from overseas financial investments. Recently the Japanese economy has also caught up with these countries, even though the importance of international market competitiveness and its enhancement policy in Japanese manufacturing industries as well as the pioneering or developing new industries providing substitutive employment sources have been pointed out.

As for the meaning of the right hand side of the first equation above, utilization of internal and/or domestic financing standing capacity involving national capital and local peoples' savings is one of the most indispensable key items in the process of economic development. Through indirect financing procedure, people will retain the amount of their deposit money together with the interest in a certain future time, and distribute them to consumption and deposit again. Most consumption goes to the purchase of goods and services produced by Japanese businesses with their value-added processes. Almost the same assertion could indeed be possible for their deposits channeled through banks' loans to meet corporate demands for money in order to effect and enhance their productive investments. In this, very few in the private corporate sector including commercial banks could face the threat of withdrawal of foreign capitals. In a socio-economic sense, the corporate sector would normally be given a stable and rather cheap financing structure just like in the high economic growth observed in Japan during the1960s. But this needs much more time for a nation to enjoy the huge amount of

money and/or capital for the take-off as pointed out by Rostow (1960). On the contrary foreign money like foreign direct investment (FDI) could be different and could provide the possibility of speedy take-off and/or development. Of course we had at that period in the1960s no such adequate financing measures as FDI of nowadays that prevail much all over the world and both provided by the public sector which includes official development aid or assistance (ODA) and private sector offering such as commercial banking loans, speculative finance and so forth. Investment by the private sector has really played a great positive role in development even in the fields of public and industrial infrastructures. These are highly relevant to medical & hygiene, education, information & communication, mass-media, etc.

An empirical study on savings, service industry weight, gross domestic product, etc. has also been conducted for this paper though the main issue has been on FDI in Asian countries. Our motive is to investigate the testing of a part of the Petty-Clark Law and others employing multivariate analysis as the first step for our research. But we would like to state that just some certain statistically significant results are added to the related nations in the group.

Economic development tends to promote a national and/or certain scope of regional economy organized or transformed toward service oriented industrialization through the manufacturing industries including some weight of heavy industries which offer much more employment opportunities to people with the transition from primary industries; agriculture, forestry, fishery and the like to manufacturing industries and then to service sector industries. It is often said that industrialization has brought more employment opportunities, incomes to people and national wealth to a country. Especially in Asia, it seems true nowadays that even many kinds of innovation, IT or ICT, bio-technology, financial securitization, for example have really been developed in many economic regions or nations. Amongst several usual basic factors, we take the weight (rate) of workers in the service sector to total number of workers (RE3) and the growth rate of Gross Domestic Product (RGG) as dependent variables and FDI and saving ratio (RS) as independent variables. Cross section and time series data used in the empirical analysis are from ADB, Key Indicators, Asian Development Outlook, World Bank, PDB, APO Productivity Database.

2 Characteristics of Growth Patterns

" Look East " strategy is now being embraced by many governments and businesses alike. Asia is now attracting a lot of attention because it is a vast region, home to 4 B people or 60% of the world population and has a fast rising middle class. With the increasing global activities of many multinational companies (MNCs), the Asian region offers comparative advantages or globalization drivers in terms of market, cost and government policies for them to win in the regional or global market. The region has weathered many problems but nevertheless has remained dynamic and maintained long term growth and many scholars believe that the 21st

century is the Asian century. This part of the paper will look into the growth patterns and the determinants of this growth in developing economies of Asia taken in such groups as ASEAN 4 (Indonesia, Malaysian, Thailand and the Philippines), Mekong River nations (Cambodia, Laos, Myanmar and Vietnam) and South Asia (Bangladesh, India, Pakistan and Sri Lanka).

The first group consists of Indonesia, Malaysia, Philippines and Thailand which were the original members of the ASEAN when it was established in 1961 initially to promote peace, stability and growth and later to reduce tariffs, eliminate non-tariff barriers, and simplify and harmonize customs procedures. The second group is composed of Cambodia, Laos, Myanmar and Vietnam. Vietnam joined the association in 1995, followed by Myanmar and Laos in 1997 and later Cambodia in 1999. The first group from now on will be referred to as IMPT and the second group as CLMV. CLMV were considered transitional economies in the 1990s as compared to the more mature economies of IMPT. The last group will be denoted as BIPS, referring to the South Asian nations of Bangladesh, India, Pakistan and Sri Lanka.

3 IMPT

One commonality among IMPT was the government open market-oriented policy that stimulated growth and development. The economies of IMPT once much depended on the agricultural sector that produced staples like rice and non traditional and plantation crops for export like rubber, palm oil coconut oil and sugar. In the 1960s the governments of IMPT implemented an import-substitution policy as a measure to provide employment and at the same time conserve foreign currency. The Singer-Prebisch dependency theory supports the import-substitution industrialization policy which states that developing countries should be less dependent on the world market or the developed countries, and should instead keep a self-sustaining growth path. This however did not work well for IMPT. The import-substitution strategy relied mainly on agricultural processing, textiles and garments, and footwear which were although labor intensive did not spur growth. Hence the policy shift to an export-led growth strategy in IMPT from the 1970s eventually started the industrialization process in these countries that provided employment. To realize this however technology was key to bring industrialization to fruition but which these countries lacked. There were different ways to acquire the much needed technology: acquisition of the technology through licensing agreement, reproduce without licensing and FDI technology transfer through joint venture (Valenzuela, 2004). IMPT did not follow the Japanese and South Korean model of acquisition of technology that sent missions (in cooperation the Keiretsu and the Chaebols) abroad to get the latest technology or through licensing agreements with foreign companies since they did not welcome foreign direct investments when Japan and South Korea were in their initial stages of industrialization (Valenzuela, 2004). Rather, IMPT opted for FDI and provided incentives for multinationals to invest in the country and in the process transfer technology initially in

joint venture with a local company. This FDI—led industrialization got a boost specially after the 1986 Plaza Accord that led to the appreciation of the Japanese yen during which time Japanese companies started to relocate labor intensive (simple assembly) electronic appliances to Singapore and IMPT. At that time too, Japan had a huge trade surplus with the US, Japan's biggest market in the 1990s, that threat of protectionism against Japan was being considered. This was another factor that drove Japanese electronic appliance manufacturers of television, VCR, radio cassette, telephone/fax, tape recorder, etc. to produce in IMPT. The electronic products exports thus originated from IMPT rather from Japan as a correction to the US-Japan trade imbalance.

Accompanying the liberalized policy of market-led growth is the establishment of export-processing zones (EPZs) in these countries. In the 1980-1990s IMPT had very poor physical infrastructures which are considered advanced factor endowments to attract FDI to locate into their respective countries. The poor infrastructure was a deterrent in attracting foreign direct investors hence the development of export-processing zones or in some cases special economic zones (SEZs) or free trade zones (FTZs). EPZ (SEZ or FTZ) is an area developed by the government, the private sector or a joint public-private endeavor where MNCs can locate on the provision that they export a major part (around 70% depending on the government policy) of their production. The EPZs have all the modern infrastructures like water, electricity and telecommunications and usually are connected to main ports and airports by well-developed roadways. Multinational companies that located in the EPZs were given preferential treatment such as tax holiday and duty and tax exemption on imported of parts, capital equipment and raw materials.

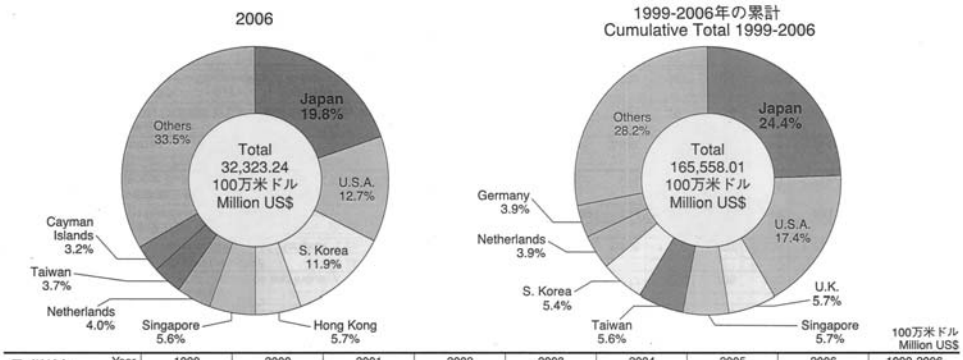
The two factors that led to the growth of IMPT were openness and technology transfer. As economies of developing countries grow, they can not sustain this growth in the long term if they highly rely on the exports of labor intensive low value added products. Increased growth in a country also translates to wage increase and which eats up much of the company's income. It is hypothesized that due to the export-oriented growth strategy of the governments of IMPT, FDI flowed in continuously, notably to Thailand and Malaysia accounting to 19% and 16% of the total FDI to the ASEAN from 1995-2008, respectively, generated employment and increased income. FDI at the initial stage was allowed in, with companies locating in the EPZ or later in Industrial Estates (IEs) and with major proportion of production geared for the international market.

Throughout this internationalization process, technology was transferred through FDI and in parallel human capital (workers capability) and physical capital (infrastructure) improved. According to Solow for growth to happen, technology and labor are key (Miankhel 2009). FDI can bring about long term growth (e.g. increase in income) if it brings technology and if this technology can improve productivity (Makki and Somwaru, 2004) as a result of better absorptive capacity of the labor force. There are two schools of thought in the study of the

relationship between exports and growth. One is the hypothesis that export growth leads to economic growth (Makki and Somwaru, 2004). The other point of view states that economic growth leads to exports growth (Jung and Marshall 1985). The former argues that in the process of producing products geared for the global market, these products had to compete internationally thus there was more pressure for companies to increase efficiency and improve product quality. The latter however argues that as an economy grows, education improves, production efficiency is enhanced through the learning curve and investments to improve technology expand and all these lead to increased productivity. If domestic demand is not large enough then the excess will be exported. I think for the case of IMPT, the former gives more credence to explain the FDI-led growth in IMPT.

As an off-shoot of the export oriented development strategy and the FDI-led industrialization, the economies of IMPT followed the same economic growth trajectory only taking dips in 1998 the aftermath of the 1997 Asian financial crisis and in 2001 after the Sept. 11 event in the US. In 2008, the IMPT nations grew on average 4% and due to the 2008 global recession after the collapse of Lehman Brothers, the economies of Indonesia, Malaysia and the Philippines grew by a mere 2.4 % and that of Thailand declined by 2.2% in 2009 but IMPT had an expected rebound to 6.8 % in 2010. Likewise a rise in the middle class precipitated as per capita income in IMPT grew remarkably throughout the years from an average of U$950 in 1980 to US $ 1400 in 1990 to US$3700 in 2009. Looking at industrial restructuring as another measure of

Figure 1. FDI into Manufacturing in ASEAN, 1999-2008.



100万米ドル Million US$

国／地域名 Country/Region \ Year	1999	2000	2001	2002	2003	2004	2005	2006	1999-2006
Japan	**2,185.16**	**8,505.65**	**4,012.06**	**2,582.57**	**3,641.62**	**5,324.28**	**7,666.62**	**6,398.75**	**40,316.71**
U.S.A.	5,567.45	4,972.97	3,429.55	2,402.53	2,524.11	2,560.06	3,217.70	4,115.68	28,790.05
U.K.	804.74	3,236.50	367.47	465.35	2,957.39	425.40	457.43	685.69	9,399.97
Singapore	798.83	1,047.78	1,468.51	626.93	556.04	1,096.58	1,991.70	1,796.85	9,383.22
Taiwan	1,735.56	827.86	960.35	810.70	1,239.60	1,229.06	1,212.76	1,196.64	9,212.53
S. Korea	253.29	435.17	873.26	770.91	670.06	975.94	1,043.40	3,849.73	8,871.76
Netherlands	569.72	1,509.85	454.21	436.75	362.49	877.99	1,038.08	1,286.38	6,535.47
Germany	682.68	933.77	1,026.93	1,830.49	295.95	1,308.25	181.23	144.04	6,403.34
Others	3,039.77	-350.39	5,313.29	4,033.56	6,099.28	7,021.03	8,638.94	12,849.48	46,644.96
Total	15,637.20	21,119.16	17,905.63	13,959.79	18,346.54	20,818.59	25,447.86	32,323.24	165,558.01

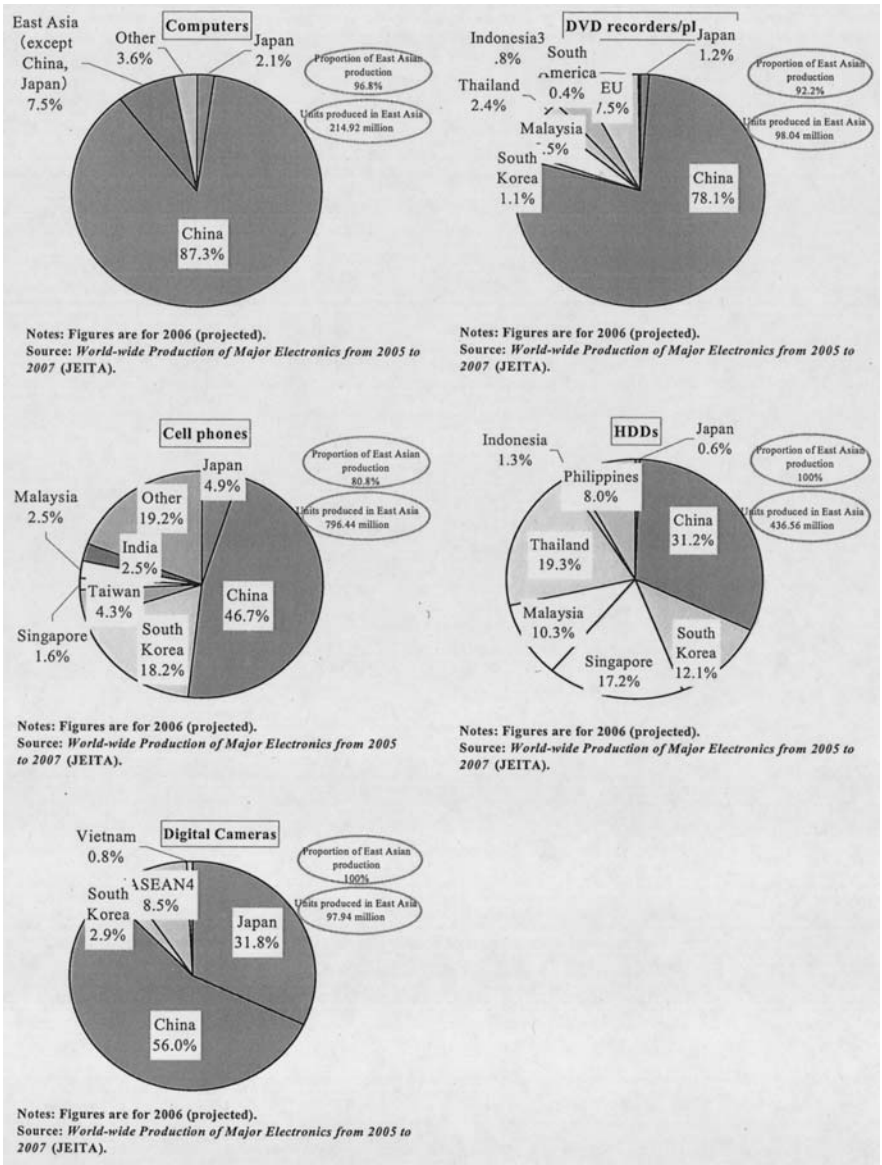
Source: Statistics of Foreign Direct Investment in ASEAN, 9th Edition 2008 (ASEAN Secretariat)
Note : 認可・割当ベース
割当とは、国別の投資家の株式価額の比率に基づいて割当てられた認可金額のこと。
1999-2006年の累計は、日本アセアンセンターにて算出。

Approval and apportionment basis
Apportionment refers to the value of approved investment projects being apportioned according to the ratio of equity interest of the investors from different country of origin.
The cumulative total of 1999-2006 is culculated by the ASEAN-Japan Centre.

Source: ASEAN-Japan Center, Statistics, 2010.

growth in IMPT, the share of agriculture to GDP has declined and that of manufacturing has increased. Due to FDI and the transfer of technology in the manufacturing sector there developed a new industrial sector (e.g. electronics and auto industries) which was practically inexistent in the 1960s although this initially involved the importation of parts and components with

Figure 2. Global Production of Electrical Machinery in East Asia.



Source: World Wide Production of Major Electronics 2005-2007, JEITA. White Paper on International Economy and Trade 2007, METI.

simple assembly work done in low cost IMPT, and the finished products then exported back to Japan, other ASEAN countries and the US. The FDI into manufacturing in ASEAN grew US$ 15 B 1999 to US$ 165 B in 2006 with Japan ranked no. 1 from 2000 (Figure 1).

The 1960-2000 growth and industrialization in IMPT were sustained by the high rates of investment, the transfer of technology and increased employment but also investment in education that provided the skilled labor during the shift from agriculture to labor intensive (e.g. textiles in the 1960s, garments in 1970s and simple assembly in the 1980s) in the 1960s-1980s to capital intensive production from 1990s and design and applied R&D from 2000. In IMPT, electronics manufacturing contributed to economic growth in 1980-1990 with technology brought in by FDI. Malaysia, Thailand and the Philippines had electronics manufacturing contributing much to its growth and later diversified to disc drives, HDDVD, digital cameras and memory chips (Figure 2). These trends in FDI over time could be explained using the flying geese theory developed by Akamatsu and the product life cycle developed by Raymond Vernon.

The flying geese theory of economic growth as applied to ASEAN countries involved international division of labor based on their comparative advantages (Akamatsu, 1962). Japan took the role of lead goose, and there were the second tier ANIEs, the third tier, ASEAN, and the fourth tier Mekong river area countries. Over time Japan lost its competitive advantage and moved labor intensive production first to ANIES in the 1970s then ASEAN 5 in the 1980s and then to the Mekong River region countries in the 2000. This pattern continued as industrial restructuring occurred in Japan and in the other developed countries as their economies advanced thus paving the way for shifts from labor intensive to capital intensive to knowledge intensive industries. During these shifts in technological levels in the developed countries, industries were driven out into lower tiered group of countries. So based on this theory, IMPT got the spill-over of FDI from Japan first on labor intensive industries like electronics and later on capital intensive industries like semiconductors and vehicles. According to Vernon, products have a life during which they have to go through three stages: the new product stage, mature product stage and the standardized stage (Hill, 2011). When the product reaches the last stage, the standardized stage, its technology is widely diffusing that many companies come out with and sell similar products thus competition becomes severe. Hence price and product differentiation are crucial to maintain market share. The lives of many products are getting shorter meaning that now there is a faster rate of obsolescence. Thus manufacturers of goods that are in the latter part of product lives have no option but to locate in low cost countries, usually developing countries and re-export to the home country. Again IMPT offered low costs factors of production to manufacturers as their products move down their life path.

There is the question whether FDI is a complement or substitute for trade (Miankhel 2009). FDI is an alternate to exporting if transportation costs are high and this does not warrant exporting or if there exist trade barriers in the importing country. These basically were the rea-

sons why Japanese companies did FDI initially in the US and Europe. In the case of FDI to IMPT, FDI is a complement to trade, since parts, intermediate and final good are produced in different countries (division of labor) based on the comparative advantage of the nation and intra-and inter-trade then follow. Since 2000, a production web has been created in ASEAN and based on the country's competitive advantage operate under a cross border division of labor (METI, 2007) which also increased intra-ASEAN trade. A current development in global business is for the production process or the value creation chain to be broken up and production of parts and components and the final good dispersed to various locations (countries) which is referred to as global production sharing (Athukoral and Menon, 2010).

In previous years, Japanese companies exported parts and components from Japan to ASEAN for assembly and the final products re-exported to Japan and to other overseas markets to take advantage of the low cost labor as well as to serve the emerging regional consumer market. However recent events in Japan as well as in the global business environment have forced many Japanese firms to rethink about their business strategies. More and more Japanese firm are engaged in global production sharing and are intensifying their relationship with ASEAN through the formation of regional business nexus leading to the cross border division of labor. The strong yen has made it cheaper to produce overseas than in Japan. The shortage of power and the high corporate tax rate in Japan have pushed many Japanese firms to relocate production in ASEAN. Another reason is that the Japanese economy is now faced with the constraints of declining population and graying society, so many firms see ASEAN as part of the Asian region where Japanese firms can derive new growth. ASEAN countries have had sustained growth and with a rise of the middle class the region has become a promising consumer market.

No one final good now is produced in one country by a single firm. Rather the vertically integrated production process of parts and components and finished goods can now be broken up into finer steps giving rise to cross border division of manufacturing with the aim of reducing costs and increasing profitability. Parts and components are produced in different countries of ASEAN depending on their comparative advantage (e.g. cost, quality of labor, market and government policy)(Yip, Umali) giving rise to increased intra-ASEAN regional exports and imports and as well as intra- and extra－ASEAN trade of the final good. The global production sharing and the resulting transformation in the trade pattern in the region have been made possible with the recent developments in information technology and transportation which have practically become cheaper and capacity bigger and faster as well the promotion of more free trade through the signing of more free trade agreements (Hill, Umali and Yip). Given this the recent overseas operations of Japanese companies show very aggressive investments in Asia both to capture markets as well as serve as production centers for the world market and to maintain price competitiveness. Japanese companies are creating supply hubs in certain countries in Asia for specific products and then engage in intra/extra Asian trade. Japanese

companies which had the biggest FDI in manufacturing have established a supply chain and an efficient production network of intermediate goods (e.g. electrical machinery products) produced in optimal locations in ASEAN and then transported within the ASEAN for final assembly of products geared for the local and international markets. The integration of the complicated nexus of international investment and trade in ASEAN is facilitated by the ASEAN Free trade area (FTA) which leads to the liberalization and removal of barriers and transnational movement of parts and intermediate and finished goods as well the advanced infrastructure that made intra-extra ASEAN trade very efficient. The role of the developing nations of East Asia in the global production fragmentation is well attested with their share of total world trade in components reaching 32% in 2006 and IMPT accounting for 7 % of total world trade. In particular a substantial proportion of intra-ASEAN trade is made up of mainly electric machinery, auto and ICT parts and components with total manufactured exports within ASEAN accounting for 50% taking advantage of the ASEAN FTA but a greater proportion of exports of finished products (electrical equipment and machinery) is for markets outside ASEAN (e.g. US and EU) (Anthukorala and Menon 2010).

As for the quantitative analysis on these countries, we would like to state only some statistically significant results for each nation in this group. As expressed in the above, transition of industrial structure amid service-oriented and/or software driven economy seem to be largely influenced by the level or scale of growth of GDP. In this study, as a first step of our investigation, ordinary least square method has been adopted on the assumption of normal distributions.

Indonesia gets single regression coefficient of GDP for explaining RE3 with t value, 3.01 and significant at 1% level, its equation's adjusted R square is 0.32, but insignificant in FDI, t=0.77 for RE3. Malaysia also has t=17.95 in GDP, significant at 1% level and adjusted R square, 0.95, but t= 0.93 for FDI, showing no significance. These two countries have insignificant FDI coefficients and their economic statuses are above the stage of take-off level. They are now taking a path to sustainable growth toward high economic growth, but this does not always mean the less importance of FDI for these countries. Do they advance more with their own funds or capitals? Even to answer this simple question, we need much more precise analysis which can be the second step of our investigation.

On the other hand, the Philippines shows t=9.77, significant at 1% and adjusted R square is 0.85 in GDP and t=1.93, significant at 10% but adjusted R square is 0.14, in FDI showing a rather weak explanatory power of the equation. But it seems that still FDI has an influential explanatory power for RE3 as shown in the test. Thailand has also both variables significant for RE3, with GDP t=8.29 at 1%, and adjusted R square of 0.80, and t=4.83 in FDI, significant at 1%, adjusted R square, 0.57. Both countries have steadily developed to a certain extent with much FDI and are expected to promote service sector industries much more in the near future. But once we could remember the economic and monetary crisis in Asia in 1997-1998, Thailand would try to cope with the crisis giving the contagion effect to other Asian na-

tions due to foreign money and/capital withdrawals and others in the international monetary standings and circumstances. Their national domestic funds and/or capital accumulation mainly based on peoples' savings were really expected to be utilized for business investments through the indirect financing system to contribute to their development.

Other major characteristic points are the relationships amongst variables of RE3, RGG, growth rate of GDP and RS, the rate of saving of the people. In this group of IMPT, Malaysia has RS coefficient for RE3 with t=4.45, significant at 1% and adjusted R square, 0.43. On the other hand, the Philippines has RS coefficient for RGG with t=1.77, significant at 10% level but adjusted R square, 0.068, very weak in explanatory power. These results show that there are few cases influencing RGG and/or RE3.

As for capitalization, each country's stock exchange has the following; number of listed companies, domestic and foreign companies and market capitalization ($ mil.); Indonesia: 420, 0, 360,388; Malaysia: 948, 8, 408,689; Philippines: 251, 2, 157,321; Thailand: 541, 0, 277,732, respectively. (Source: Asian and Oceanian Stock Exchange Federation (AOSEF), 2010).

4 CLMV

CLMV on the other hand, are countries in the Mekong river area that joined the ASEAN only in the 1990s. They are considered transitional economies in the 1980s characterized by a shift from a socialist to a more open market economy and by joining ASEAN sought to be more integrated in the regional and world economies. These countries performed relatively well compared with IMPT or other developed countries with growth rates in 2009 of 6% for Cambodia, 8.4% for Laos, 4.5% for Myanmar and 6.3% for Vietnam as well per capita increasing 7 fold from U$122 in 1990 to U$823 in 2009 on average for the CLMV taken as a group. Barro and Sala-i-Martin (2003) presented the convergence of income theory of the standard growth model which states that lower income countries would have higher growth rates than high income countries to reach its long run potential income. This is why the Mekong region nations (and BIPS) had higher growth rates that IMPT. This is because the catching up increment in terms of human (better education) and physical capital and technological level are still greater vis a vis the more advanced nations.

Agriculture still accounts for over 20 percent of domestic production for Vietnam and over 30 percent for Cambodia, Myanmar and Laos although its share to GDP had declined over the years. The share of the service sector that includes construction, trade and tourism though has been increasing contributing to more than 35% of GDP for all countries. Their main produce and exports are still agriculture-and natural resource-based commodities and low-end labor-intensive products like garments and textiles primarily exported to the US, EU, Japan and Canada. The industrial restructuring in IMPT, the 3rd tier ASEAN nation caused the wage rates

to increase thus losing their competitive advantage in the production of labor intensive goods driving the agro-processing, textile, garment, footwear and other light industries to the 4th CLMV where wages rates are lower. But in the years to come we can expect further industrial shifts in CMLV toward the manufacture of more capital intensive good which would require more skilled manpower. The top foreign investors in CLMV are ASEAN countries like Singapore, Malaysia and Thailand and South Korea and China due to proximity and past political ties usually in the areas of agriculture/agro-processing, garments and light industries in one end and power generation and tourism related services in the other end.

Vietnam it appears is the fastest growing economy in the group being one of the most open that for years 1995-2008, Vietnam received an overwhelming 76% of the FDI to CLMV because of the enabling policy of the Vietnamese government that gained the confidence of and provided incentives to foreign direct investors at an earlier stage vis a vis CLM such as strengthening its legal system, maintaining socio-political stability, developing support industries and easing the procedure for foreign investors. Nevertheless because of the nature of their major industries, CLMV are still less integrated into the global/regional production sharing of parts and components of electronics and auto parts currently practiced widely in IMPT. The ASEAN free trade area of which CLMV are members offers a lot of potentials for them to be part of the supply chain of the regionally fragmented production process. In doing so however, priority attention needs to be directed to the development of infrastructures like power, ICT and transport.

In the same manner, the relationship amongst the variables pointed out in the former group of countries (IMPT) was used for CLMV with the following results; Cambodia: GDP coefficient shows t=12.15, significant at 1%level, adjusted R square is 0.91 for RE3, and FDI, t=3.29 significant at 1%, 0.41 of adjusted R square. Cambodia seems to have started its course to economic development with international trade and diplomatic policies changed for FDI especially in this decade. Myanmar: GDP, t=1.07, insignificant, but t=1.93, significant at 10%, adjusted R square 0.25 of FDI for RE3, and its economic standing reflects the usefulness and/or effectiveness of FDI. Vietnam: GDP, t=14.79, significant at 1%, adjusted R square 0.93 and also significant for FDI, t= 2.82, at 5% level, adjusted R square 0.29. This implies that Vietnam is indeed a strong candidate to become an emerging power country owing to the fruits of its deregulation and reformation policy namely Doi-moi movement and its scheme. A regression test could not be conducted for Laos due to the lack of sufficient and appropriate data. As for the relationships amongst RGG, RE3 and RS, Cambodia shows an RS coefficient for RE3 with t=2.84, significant at 5%, and adjusted R square, 0.37. Vietnam has RS's one for RE3, t=9.56, 1% level, 0.89 and also RS's one for RGG, t=2.12, 10%, 0.26. In this group, there are few cases being relevant to RGG, RE3.

According to statistics published by AOSEF in 2010, the number of listed companies, domestic and foreign companies and market capitalization ($ mil.) in the two stock exchanges

in Vietnam are: Hanoi S. E.: 367, 0, 6,300; and Ho Chi Minh S. E.: 275, 0, 31,200, respectively.

5 BIPS

BIPS are members of the South Asia Association for Regional Cooperation (SAARC) founded in 1985 and they signed the South Asia Free Trade agreement in 2004 to remove tariffs on all products by 2016. However intra-BIPS trade still remains low as there are non-trade barriers such as difficult customs procedures. The South Asian region withstood the global financial crisis that started in 2008 and its economy grew 8% in 2011. For one the region's exposure to the global crises is less than South East Asia because the region is less integrated with the global market, and its export are basically garments and textiles (Bangladesh and Sri Lanka) and IT products and services (India) which the World Bank says are products where these countries have global comparative advantage. For another BIPS more relied on the manufacture of goods for the domestic demand rather than exports for growth. Only 22% of gross domestic product is derived from export versus 35% in East Asia. (World Bank, 2010).

In the 1970s, growth in BIPS was low since they were closed to trade and FDI and just like IMPT in the 1960s opted for an import substitution strategy. In the 1970s however there was a policy shift to an export-oriented industrialization strategy opening up their countries to FDI. State intervention in BIPS was replaced with liberalization, privatization and more active participation of the private sector in Sri Lanka in the 1980s and in India, Bangladesh and Pakistan in the 1990s. Since these reforms, BIPS' economies grew on average of 4.9% in 1991-2000, 7.5% in 2005 and 5% in 2008, with India and Sri Lanka growth rates of 6.7% and 6%, respectively predominating, and per capita income grew on average from U$368 in 2000, to

Table 1. Remittances from Overseas Workers in South Asia (U$ million) 2000-2005.

	2000	2001	2002	2003	2004	2005
South Asia	17,198	19,980	23,015	31,575	30,445	35,118
Afghanistan	—	—	—	—	—	—
Bangladesh	1,949	1,882	2,501	3,062	3,372	3,848
Bhutan	—	—	—	—	—	—
India [a]	13,106	15,856	16,838	22,162	20,844	24,276
Maldives	—	—	—	—	—	—
Nepal [b]	—	—	—	700	794	908
Pakistan	983	1,087	2,389	4,237	3,871	4,168
Sri Lanka	1,160	1,155	1,287	1,414	1,564	1,918

[a] Data from Reserve Bank of India, *Handbook of Statistics on Indian Economy* (18 September 2006), available: http://rbidocs.rbi.org.in/rdocs/Publications/PDFs/72777.pdf

[b] 2003 data from Nepal Rastra Bank, *Macroeconomic Indicators of Nepal* (December 2005), available: http://www.nrb.org.np/red/publication/Macroeconomic_Indicators_of_Nepal--2005-12(December_2005).pdf

Source: ADB, South Asia Economic Report, October, 2006.

Table 2. FDI in South Asia (U$ million), 2000-2005.

	2000	2001	2002	2003	2004	2005
South Asia	5,062	7,080	6,091	5,682	7,145	10,237
Afghanistan	—	—	50	58	187	378
Bangladesh	383	550	391	376	385	776
Bhutan	—	—	2	2	3	9
India [a]	4,031	6,125	5,036	4,322	5,589	7,691
Maldives	—	—	—	—	—	—
Nepal	3	—	4	12	—	2
Pakistan [a]	472	323	485	798	951	1,525
Sri Lanka	173	82	181	171	217	234

[a] Inward FDI; Pakistan data from State Bank of Pakistan, *Handbook of Statistics on Pakistan Economy 2005*, available: http://www.sbp.org.pk/departments/stats/PakEconomy_HandBook/Chap_7.pdf

Source: ADB, South Asia Economic Report, October, 2006.

U$778 in 2005 and U$1073 in 2008 (ADB, 2010). Also remittances from overseas workers were the major source of external finance that supported their economies (U$34 B in 2005) (Table 2) rather than FDI inflow (U$10 B in 2005) (Table 1). One reason for the low FDI inflow was the prevalence of internal conflict that has served as a disincentive for FDI and eaten a lot of the government budget which would have been otherwise spent on improving education and infrastructure.

Another reason is that FDI-led production was basically to meet domestic demand and not meant for exports and furthermore the high tariff protection has supported domestic manufacturers but not foreign investors. Although India was an exception since it was getting around three fourths of the total FDIs to South Asia (Table 2), recently with the production of small cars by South Korea and Japanese companies making India an export hub for small cars to the European market. Multinational corporations through FDI have well established value chain and nexus of integrated production all over the world depending on the comparative advantage of the host country which when combined with the unique asset of the firm can be a win-win situation for the firm and the host country (locational advantage). This was the practice in IMPT but not in BIPS yet.

The vitality of the economies of BIPS was derived from the service sector in 2005 whose contribution stood at 9.5%, compared to that of manufacturing at 8.9% and agriculture at only 4%. Their economies have always been driven by domestic consumption of over 70% of the GDP. Exports were still lower than IMPT and were composed mostly of low technology intensive or low value added products like garments and textiles and agricultural commodities like tea and cotton. Manufacturing value added and exports were low but trade in services was increasing which in the case of India's exports of IT service and business processing outsourcing services. Although BIPS ratified a South Asia FTA, integration in the world market through trade is still low. India and Bangladesh have even trade barriers that restrict trade and

investment. Further to this, infrastructure (power, transportation and telecommunication), trade logistics (airports, ports, roads) bureaucratic red tape and governance are still major problems in BIPS that need improvement to enhance the business climate in the area. Hence there are much needed investments not only in physical (infrastructure) but human capital as well. Although the level of education is keeping up with the stage of development, absolute level of education is low. Better education of the vast majority of the unemployed and unskilled labor in the agricultural sector and less productive informal service sectors would provide them with the skills that could be tapped in the manufacturing and more highly productive formal service sectors (Ahmed and Ghani, 2007).

With regard to the relations amongst the above relevant variables analyzed in the same manner as that of IMPT and CLMV, Bangladesh has no statistically significant variables; single regression coefficients for GDP and FDI are t=0.42 and 0.61 for RE3, and FDI's a little bit better. We presume that there could be a great expectation for this country to develop its economic structure from agriculture, fishery and others in the primary industrial sector to manufacturing industries and services industries including banking and financial services to a large extent. We could observe its economy might gradually start for the take-off stage. But on the contrary, India has t=5.09, 2.58 and significant at 1%, 5% level, adjusted R square 0.59, 0.25, respectively. It seems to reflect that India has now paved its way on to a high economic growth path by introducing foreign funds and capitals both into manufacturing industries and information technology (IT) & related service industries. Pakistan shows 3.38, 1.12 and significant at 1%, insignificant, adjusted R square, 0.38, 0.01, respectively, while Sri Lanka has 3.05, 1.98, significant 1%, 5%, 0.33, 0.15 of adjusted R square, respectively. Sri Lanka is also showing the same results as India and they are just neighbors having strong relationship as ever not only in economic activities but in social and political affairs.

As additional test results, we offer the following; Bangladesh has RS's coefficient for RGG with t=3.78, significant 1% level and 0.31 in adjusted R square, as well as the RS's for RE3, t=6.85, 1%, 0.597. This suggests that we have to reconsider the important role of national peoples' savings in developing nations at the very beginning stage toward economic growth. India gets also the same results; RS's one for RGG, 2.97, 1%, 0.20 and RS's one for RE3, 7.04, 1%, 0.60. It shows the same trend like in Bangladesh could be plausible to reveal. Pakistan also shows RS's one for RGG, 3.06, 1%, 0.22 but not significant of the RS's for RE3. On the contrary, Sri Lanka has RS's one for RE3, 2.91, 1%, 0.19 but insignificant for RGG. We have then learned somewhat the partial relevant relationships amongst these three variables in the economies of some countries.

With regard to capitalization of India's Bombay Stock Exchange, the number of listed companies, domestic and foreign companies and market capitalization ($ mil.) are 5,034, 0, 1,631,830 and National Stock Exchange of India: 1,551, 1, 1,596,625, respectively. (Source: AOSEF, 2010.)

6 Concluding Remarks

This paper investigates and explains the growth patterns in the developing countries in Asia namely, IMPT, CLMV and BIPS. All of them have maintained spirited growth rates and experienced increase in FDIs into IMPT and CLMV through the years and to a lesser extent to BIPS. IMPT welcomed FDIs earlier than CLMV, and BIPS whose market opening measures were implemented much later. As industrial restructuring in IMPT occurred, their economies moved up to another stage of technological capability pushing more FDI inflows to CLMV as they themselves undergo shifts in their economies. IMPT now produce and export middle technology products and CLMV engage in low level and labor intensive and agricultural-based manufacturing. BIPS are still on to low technology and low valued added manufacturing, IT and IT related services and agricultural commodities like cotton and tea. For South Asia the service sector is a strong contributor to the regions' growth compared to that of South East Asia, where manufacturing industry is.

In terms of sector change, there has been a shift from agriculture to services in South Asia while in South East Asia it is more of a shift from agriculture to manufacturing in terms of share to GDP. CLMV and BIPS nations have all the opportunities to join the global production sharing network well-established in IMPT as an engine of future economic growth by promoting a complementary rather than a competitive trade and investment relation and furthermore fostered by regional integration agreements. South East Asia are now producing more capital intensive products so the production and trade of labor intensive products can now still be left to BIPS or even CLMV countries.

But the issue to think about is whether the developing countries in Asia can wean themselves from FDI. Given this, can't they master and improve on the technology, be less dependent on FDI and rather be inventive and produce by themselves innovative and high quality products like South Korea and Taiwan? Ono and Thuong (2005) said that some nations in Asia are stuck in what they refer to as ' glass ceiling '. Can IMPT, CLMV and BIPS possibly break this ' glass ceiling ' for more sustainable and dynamic growth in the years ahead? Key to break the ' glass ceiling ' is human capital to supplement the physical and technological capitals that come with FDI, the former comes from within while the latter comes from outside. Human capital is defined by Kim and Hagiwara (2010) as the ability and efficiency of the workers to transform materials and capital into goods and services. They further stressed that for technology dissemination, adoption and implementation from outside/inside to materialize a well-educated workforce is a must have. With the economic growth in South East and South Asia came also an improvement in the literacy rates in the region. As countries in the developing countries of Asia move up the value chain to more technology intensive industries, a result of industrial restructuring in recent years, so did the level of education or literacy of the people as the demand for more skilled labor increases. With advancement in education and training

throughout these years, absorptive capacity of workers has likewise improved. The ability to absorb and retain the knowhow is there but the ability to create out of this technology is worth yearning for. Quality of education (e.g. science and math) is also an important area of concern. Policy makers can increase their investments for the betterment of education (infrastructure and educators) and they should implement policies and programs to lessen the miss-match between supply and demand of qualified labor in innovating firms, domestic or foreign.

Our empirical analysis reveals that most countries' cases have significant explanatory power for the variable GDP for RE3 that tests the transition of the industrial structure trends as in the proposition of the Petty-Clark Law, and in many cases FDI plays a certain positive role for RE 3. Amongst those cases Thailand and Cambodia show both variables have statistically significant explanatory power at 1% level and the Philippines, Vietnam, India and Sri Lanka have GDP 1% and FDI 5～10%. Both variables for Bangladesh have insignificant results but it can be believed that this country, known as the front runner in introducing the micro and/or social financing, has gradually started to catch up with foregoing nations in development.

We have then learned somewhat the partial relevant relationships amongst these three variables in the economies of some countries.

Since savings would largely be crucial and effective key item for economic growth, it could be more important to utilize national people's money and capital through indirect and direct financing channels and systems as Japan did in introducing Postal saving banking system and credit union banks (shinkin banks and shinkumi banks) referred as one of the development finance business models.

Acknowledgement. The authors would be grateful for the financial support by Faculty of Economics, Nagasaki University, and the alumni association of Keirinkai.

References

ADB, *South Asia Economic Report*, 2006.

ADB, *Asian Development Outlook 2010*, 2010. ADB, *Key Indicators for Asia and the Pacific 2010*, 41st edition, August 2010.

Ahmed, S. and E. Ghani (Eds.), *South Asia, Growth and Regional Integration*, The World Bank, 2008.

Akamatsu K., A Historical Pattern Of Economic Growth In Developing Countries, *Journal of Developing Economies*, 1(1) March-August 1962: 3-25.

Athukorala Prema－Chandra and Jayant Menon, Global Production Sharing, Trade Patterns, and Determinants of Trade Flows in East Asia, ADB Working Paper Series on Regional Economic Integration No. 41, January 2010.

ASEAN Center, *ASEAN Statistics*, Tokyo, 2008.

ASEAN Secretariat, *ASEAN Economic Community Chartbook 2010*, ASEAN Secretariat, Jakarta, 2010.

ASEAN Secretariat, *ASEAN Statistics 2008*, ASEAN Secretariat, Jakarta, 2008.

Barro R., and X. Sala-i-Martin, *Economic Growth*. Massachusetts: The MIT Press, 2003.

Devarajan S. and I. Nabi, *Economic Growth in South Asia: Promising, Unequalizing...Sustainable?*, World Bank. June 2006.

Dowling JM and MR Valenzuela, *Economic Development Asia*. Thomson, 2004.

Hill, Charles, *International Business*, McGraw-Hill, 2012.

Jung WS and PJ Marshall, Exports, Growth And GDP In East And South East Asia-Panel Data Versus Time Series Casuality Analyses, *Journal of Asian Economics*, 17 2006: 1082-1106

Kim Yong Jin and Akiko Terada-Hagiwara, A Survey on the Relationship Between Education and Growth with Implications for Developing Asia, ADB Economics Working Paper Series No. 236, December 2010.

Lee J. W. and K, Hong, Economic Growth in Asia Determinants and Prospects, ADB Economic Working Paper Series, No.222. Sept. 2010.

Makki S.S. and A. Somwaru, Impact of Foreign Direct Investments and Trade on Economic Growth: Evidence from Developing Countries, *American Journal of Agriculture Economics*, 86(3) August 2004: 795-801.

METI, *White Paper on International Economy and Trade*, METI, 2007.

Miankhel AD, S M Thangavelu, K. Kalirajan, Foreign Direct Investment, Exports and Economic Growth in South Asia and Emerging Countries: A Multivariate VAR analysis Center for Contemporary Asian Studies, Doshisha University, CCAS Working Paper No. 23, August 2009.

Ohno Kenichi, and Nguyen Van Thuong (Eds.), *Improving Industrial Policy Formulation, Publishing House of Political Theory*, Hanoi, 2005.

Rostow, W. W., *The Stages of Economic Growth*, Cambridge Univ. Press, 1960

Uchida, S. and H. Nishiwaki (Eds.), *Kin-yu (Money and Finance)*, (in Japanese), Keiso Shobo, 2002

Umali Celia, Firm Strategy and the Asian Advantage: The Case of the Emerging Biotech Industry, *Annual Review of Southeast Asian Studies*, Vol.47, 2006

World Bank, *South Asia Economic Update*, World Bank, 2010

Yip George, *Asian Advantage*. Perseus Books, 2000.

Web sites

ADB, Key Indicators, ADB, various issues, 2011
beta.adb.org/publications/series/key-indicators-for-asia-and-the-pacific
ADB, Asian Development Outlook, various issues, 2011
aric.adb.org/ado.php
AOSEF, 2010, 2012
http://www.aosef.org/profile/statistical.html
APO Productivity Database 2010, 2011
http://www.apo-tokyo.org/PDB.html
World Bank, 2011
http://data.worldbank.org/topic