

Open Regionalism and Financial Integration in East Asia

Kang H. Park

Correspondence to Kang H. Park, Professor of Economics, Southeast Missouri State University, Cape Girardeau, MO 63701 U.S.A. Tel: 573-651-2942, Fax: 573-651-2947, e-mail: khpark@semo.edu

Open Regionalism and Financial Integration in East Asia

Kang H. Park
Southeast Missouri State University

East Asia has emerged as the most dynamic and successful region in the world for its economic growth at a rate seldom surpassed by any other regions in the world.¹ The so-called, "Asian economic miracle" has been largely attributable to export-led economic expansion in the region. The Asian economic miracle initially by Japan, and then by the Newly Industrialized Countries (NICs), namely, Korea, Taiwan, Hong Kong, and Singapore, who had led the decades of breath-taking economic growth, are now joined by the ASEAN (Association of Southeast Asian Nations) countries, particularly Indonesia, Malaysia, Thailand, and the Philippines. This East Asian development model has been thus commonly called as a "flying geese pattern."

Because East Asia depends on trade for much of its economic growth, the future of this region will be affected by whether the world is moving towards a more open market and free trade or towards trade protectionism and regional trading blocs. In recent years, we have observed two different trends in international trade, not necessarily contradicting each other but raising some concerns about the struggle for economic hegemony. One trend is movement towards a more open market and trade liberation in the world through the Uruguay Round negotiations according to the General Agreement on Tariffs and Trade (GATT) and through creation of a permanent international trade organization, the World Trade Organization (WTO) to replace GATT. Another trend is the formation of powerful regional trading blocs evidenced by the approval of the

NAFTA and the creation of the European Union (EU) during the 1990s.

At the present time, there are a few regional organizations in the Asia-Pacific area that promote economic cooperation and trade liberation. APEC (Asia-Pacific Economic Cooperation), in its present form, is neither a negotiating body such as the GATT nor an economic union such as the EU. ASEAN, particularly AFTA (ASEAN Free Trade Area), though a free trade area in a weak sense, is somewhat limited in its geographical representation and the economic influence it can have on the world economy. However, there have been many proposals advanced by specific governments and academicians. For example, East Asia Economic Caucus was proposed by the Malaysian government to expand AFTA to include Northeast Asian countries, and Asian Monetary Fund was initially suggested by the Japanese government and recently supported by many academicians. Economic integration in a narrow sense is perceived as closed and preferential regionalism exemplified by creation of trade blocs like the NAFTA or the EU. However, economic integration in a broad sense can be viewed as increasing economic activities such as trade and foreign direct investment in a geographic region and reduced importance of national boundary in economic arena. We will name such a process as open and non-preferential regionalism.

First, we will discuss open and non-preferential regionalism which is actively growing in the region. We will review the scope and patterns of unique economic integration occurring in East Asia, by looking various economic activities such as intra-region trade, investment and economic cooperation and their trend over the last two decades. Second, we will review the scope and patterns of financial integration occurring in East Asia and evaluate the degree of financial integration by co-integration

tests. Third, we will discuss the prospect of economic and financial integration in East Asia in regard to feasibility of forming an East Asian trade bloc, the Asian Monetary Fund or similar arrangements.

Open and Non-preferential Regionalism in East Asia

In the early 1990s, we have witnessed a resurgence of regionalism evidenced by the formation or reinforcement of two major trade blocs, the European Union (EU) and the North American market. Regionalism can be traced back to the 1950s when the European Economic Community (EEC) was initially formed in 1957 by the treaties of Rome. Although the creation of EEC prompted subsequent formation of regional economic integration in other regions of the world, only the EEC has grown as the most successful model of economic integration. In 1992, the EEC moved into formation of EU, a single market in the Europe according to the Maastricht Agreement of 1991, and it is further deepening its integration with its formation of the Economic Monetary Union (EMU) in 1999 and circulation of a common currency called euro in 2002.

The year 1993 also witnessed the creation of another powerful regional trade bloc by the ratification of the NAFTA which is an expanded version of the Canada-U.S. Free Trade Agreement to include Mexico. If these two major trade blocs move toward closed regionalism, the rest of world, particularly East Asian countries with no arrangement of economic integration whatsoever and with heavy dependency of their trade on the U.S. and the EU, would be mostly affected. The provision of the NAFTA that is most susceptible to abuse is the domestic content rules known as rules of origin (usually over 50% in manufacturing and eventually 62.5% in the case of automobiles).

Both blocs insist that their arrangements complement the objectives of multilateral

trading system based on the GATT by promoting trade liberalization and strengthening the scope of international trade rules. In this regard, Schott (1993) described the NAFTA as a "GATT-plus" accord that presages new and expanding multilateral trade negotiation. However, when such regional integration creates trade diversion and investment diversion, non-member countries would be adversely affected. The U.S, Super 301 Clause, the most powerful antidumping mechanism in the world, has been intact in recent negotiations of the Uruguay Round.

Very recently, some advanced countries, particularly the U.S. and France, have pushed the Green Round (negotiations for universal application of environmental standards) and the Blue Round (negotiations of universal application of fair labor practice standards). These countries have threatened to use trade sanctions against those countries in violation of these standards. Therefore, passage and implementation of these provisions will definitely hurt exports of the emerging economies in Asia such as Malaysia, the Philippines, Thailand, Indonesia and Viet Nam.

Facing challenges from the creation of two major trading blocs and the presence of protectionist provisions in the WTO system, many including scholars and government officials in East Asian economies have expressed their interest in closed regionalism and have realized the need to study the possibility of regional integration in this region. However, until now, no concrete steps have been taken to create a regional trade bloc in East Asia. Instead, East Asia exhibits a unique and dynamic pattern of economic integration that is quite different from closed regionalism of North America and Western Europe. This takes a form of open and non-preferential regionalism, an economic integration process, driven by market forces and spearheaded by business in the region.

One of dynamics in East Asia is the increasing importance of the region in the world production and trade. World output has grown 2.5 times from \$12.5 trillion in 1981 to \$31.5 trillion in 2000. On the other hand, east Asia's output growth has been 4.2 times from \$1.76 trillion in 1981 to 7.38 trillion in 2000 (see Table 1). The United States and the EU, with their shares in the world output as 31.2 percent and 24.9 percent in 2000 respectively, are still larger economies than East Asia. However, East Asia's share in the world output has increased from 14.1 percent in 1981 to 23.4 percent in 2000. The EU's share has actually decreased from 30.7 percent in its peak year of 1991 to 24.9 percent in 2000. If the PPP (purchasing power parity) GDP figures are used, then East Asia's share in world total output is 26.3 percent in 2000 which is larger than either the share of the USA or the share of the EU. During the same period, the volume of world exports has increased 3.2 times from \$1.9 trillion in 1981 to \$6.4 trillion in 2000, while the volume of East Asia's exports has increased 6.1 times from \$.27 trillion in 1981 to \$1.66 trillion in 2000, twice faster growth rate than that of the world total exports (see Table 2).

The increasing degree of economic integration in the region can be seen from trade and investment patterns of the region. Increase in trade of East Asian economies is also accompanied by a change in trade direction. The importance of the U.S. and EU as their export markets and import sources has declined and intra-region trade in East Asia has increased rapidly. Growing intraregional trade is evidenced from the Table 3 which shows exports of East Asia to different regions and imports of East Asia from different regions. In 1980, East Asia's intraregional exports and imports were 31.2 percent and 30.7 percent of its total exports and imports respectively. These

intraregional trade figures have gradually increased over the past two decades and reached to 48.4 percent of total exports and 52.6 percent of total imports in 2001. During the same time period, exports to the EU and the USA have levelled off at 15 percent and 23 percent respectively and imports from the USA have declined from 18.1 percent at its peak in 1990 to 13.7 percent in 2001. The trend toward increasing intraregional trade can be seen from data on individual countries, which is omitted in this paper. All the countries in East Asia except for China show a steady decrease in their share of total exports going and imports coming from the USA and a steady increase in their share of total exports going to and imports coming from the region.

The growth of intraregional trade in East Asia has been contributed by the increased intra-industry trade among East Asian economies arising from foreign direct investment flows that have took place in the region. Table 4 shows FDI flows into different regions in the world. The share of the USA has decreased from 30.79 percent of the world total in 1980 to 16.93 percent in 2001. The share of EU has increased from 38.80 percent of the world total in 1980 to 43.93 percent in 2001 thanks to creation of a common market. Without any free trade area or common market arrangements covering all the countries in the region, the amount of FDI flows in East Asia has grown more than twelve times from \$5.6 billion 1980 to \$69.9 billion in 1995, and East Asia has more than doubled its share of the World total FDI flows from 10.25 percent in 1980 to 21.15 percent in 1995. However, the Asian financial crisis of 1997-98 has slowed down the FDI flows into the region and its share in 2001 was at 12.87 percent.

Noteworthy in FDI flows into the region is a change in the sources of FDI. The FDI flows into the region that had been dominated by the US firms until 1980 were been

initially replaced by Japanese firms during the 1980s, and then followed by the newly industrialized economies, that is, Singapore, Hong Kong, South Korea and Taiwan during the 1990s. More recently China emerged not only as the largest recipient of the FDI flows, but also as one of major investors in the region too. The FDI flows from Japan and newly industrialized economies into the ASEAN countries prior to the Asian financial crisis ranged from the minimum of 41 percent of total FDI flows into Philippines to 66 percent of total FDI flows into Thailand.²

Financial Integration in East Asia

Increasing economic integration in the area of trade and investment, accompanied by financial deregulation and liberalization, has allowed free movement of financial capital in the region and has contributed to greater financial integration. Financial integration can be measured by the equalization of the rates of return on similar financial assets because more open and integrated markets among individual economies become, the less differences should the rates of return be. There have been many studies examining capital market integration or convergence of interest rates using real interest rates (Camarero, et al., 2002, Moosa and Bhatti, 1995, Phylatis, 1999, and Yamada, 2002). However, as Marston (1995) and Lemmen (1998) stated, differentials in real interests across countries can not be comparable because no single individual investor or borrower compares real interest rates across countries and real interest rates, being express in local currencies do not offer profit opportunities. Furthermore, the real interest rate parity requires very restrictive conditions such as zero exchange rate risk premium, zero country premium, and zero deviation from the ex ante relative purchasing power parity. There has been ample empirical evidence that reveals persistent

deviations from the purchasing power parity. Using real interest rates in East Asia may lead to a rejection of financial market integration because of incomplete economic integration in the region.

In order to analyze the degree of financial market integration in East Asia, we will perform analyses on nominal monthly money market rates for ten East Asian countries for the period from January 1990 to December 2002.³ However, it is not a good idea to analyse the entire period as a whole. The Asian financial crisis occurred in 1997, beginning from Thailand in July 1997, spreading to neighbouring countries, and eventually affecting South Korea in December 1997. Most of East Asian economies suffered from the Asian financial crisis, and at the same time, it was a wakeup call to the region. Exodus of foreign capital, chaos in financial markets and resulting unusually high interest rates continued in the affected countries in the region at least until June 1998. In response to the crisis and also under pressure of International Monetary Fund, many countries underwent major financial reforms that made a change in the financial systems from pre-crisis period to the post-crisis period. Therefore, we will perform analyses for two separate periods, the pre-crisis period and the post-crisis period.

Table 5 presents descriptive statistics on the monthly money market rates for the pre-crisis period from January 1990 to July 1997 and post-crisis period from January 1999 and December 2002.⁴ During the pre-crisis period, the average money market rates ranged from a minimum in Singapore of 3.665 percent to a maximum in the Philippines of 14.07 percent. During the post-crisis period, the average money market rates ranged from a low of .086 percent in Japan to a high of 20.95 percent in Indonesia. The high average rate in Indonesia is because Indonesia had not yet recovered from the

crisis until the end of 1998, with the money market rate as high as 81 percent in August 1998. Comparing the pre- and post-crisis period money market rates shed a light on the trend and stability of interest rates. All the nations except for Indonesia have experienced decreasing interest rates and all the nations except for Indonesia and Hong Kong experienced less volatile movements of interest rates evidenced by much smaller standard deviations. The average money market rate was 8.46 percent in the pre-crisis period and 3.94 percent in the post-crisis period, while the average standard deviation of the money market rates was 2.26 in the pre-crisis period and 1.48 in the post-crisis period.⁵

In order to see the trend of co-movement of money market rates among the ten East Asian countries, we performed correlation analysis. Table 6 shows the estimated Pearson correlation coefficients among the ten countries along with the level of significance of the coefficient, and the number of observations for the pre- and post-crisis periods. The results for the pre-crisis period indicate only 13 significant correlation coefficients out of 45 pair-wise comparisons at the significance level of 1 percent. However, three significant and negative correlation coefficients for China are actually against co-movement, leaving only 10 significant cases as meaningful. Japan, Singapore, and Thailand exhibit co-movement of their money market rates with those of at least three other countries in the region. On the other hand, the estimated results for the post-crisis period indicate that the money market rates among the ten countries move together with 45 significant correlation coefficients out of 45 pair-wise comparisons. The correlation coefficients are all positive and range from a low of .502 to a high of .919. So far, we have observed three indications of increased financial market integration in the

region from the pre-crisis period to the post-crisis period: a reduction in nominal interest rates, less volatility of these rates, and an increase in significant correlation coefficients. In the post-crisis period, money market rates among the ten East Asian countries tend to be closer together and move together. This trend is partly due to globalization and the overall lower level of interest rates in the world. Whatever reasons might be, the increasing financial market integration in East Asia is a fact that cannot be denied. Since the Asian financial crisis, we have also observed stabilized exchange rates and less volatility of East Asian currencies and strong positive correlations in nominal exchange rates among the East Asian currencies that have floating exchange rate regimes (data not reported in this paper). This is another indication of increased financial integration in East Asia.

We extend our analysis by performing co-integration test for money market rates to examine convergence of interest rates across countries. Money market rates in individual countries may fluctuate in response to domestic financial conditions and move far apart from one another. However, if financial markets are integrated, efficient arbitrage in international financial markets will prevent money market rates in individual countries from moving far apart. In other words, if money market rates are co-integrated, they cannot wander too far away. Therefore, a co-integration test is a suitable test for convergence of interest rate and financial markets integration. As a prerequisite for co-integration analysis, we applied the unit root test to check whether the money market rate series are stationary or non-stationary. The following regression is used for the unit root test.

$$\Delta r = a + b r_{t-1} + \sum c_i \Delta r_{t-1} + T + e_t$$

where r is money market rate, T is a trend variable and u is white noise. The augmented Dickey-Fuller (ADF) test statistic is the ratio of b to its standard error obtained from the regression. If the value of b is negative and significantly different from zero, then the null hypothesis of a unit root ($b = d = 0$) or random walks is rejected. The test results on the level series and on the first differenced series for both pre- and post-crisis periods are presented in Table 7. For the pre-crisis period, the null hypothesis of a unit root is rejected in 2 cases out of the 10 level series: Taiwan and the Philippines. The null hypothesis of a unit root is rejected in all of the first difference series at the one percent significance level. For the post-crisis period, the null hypothesis of a unit root is rejected in 5 cases out of the 10 level series at the 5 percent significance level: China, Hong Kong, South Korea, Singapore and Thailand. The null hypothesis of a unit root is rejected in 9 cases out of the 10 first difference series at the significance level of 5 percent. The only exception was South Korea.

Traditionally, bivariate co-integration tests such as the ADF test recommended by Engle and Granger (1987) are used to examine the convergence of interest rates. For example, if the interest rate series in two different markets are non-stationary, but exhibit a linear combination of them, which is a stationary process, then the two interest rate series are said to be co-integrated with each other and there is a long run relationship between two series. However, the bivariate tests have been under attack recently because of several limitations. Commonly listed limitations include restrictive requirement that one of the two series is designated as exogenous and sensitivity of the critical values to sample size. To overcome these limitations of the bivariate tests, Stock and Watson (1988) and Johansen (1991) developed a multivariate co-integration

testing system for the existence of common trends in a set of non-stationary variables. Since we examine the trend of the interest rates among the East Asian economies, this multivariate test would be more appropriate than the bivariate test to define dimensionality of the common stochastic trend process.

Let X_t be a vector of money market rates of selected countries, $r_1 r_2 \dots r_n$. The following vector autoregressive model can be estimated.

$$\Delta X_t = c + G X_{t-1} + \sum H_i \Delta X_{t-i} + \varepsilon_t$$

where c is a constant vector, G and H_i are $n \times n$ matrices of parameters, and ε_t is a white noise vector of $n \times 1$. Johansen developed the trace test statistic of evaluating the null hypothesis that there are at most r co-integration vectors, implying that there are $n-r$ common stochastic trends among the variables. This trace test statistic is given by

$$\tau_{\text{trace}} = -T \sum \ln(1-\lambda_i),$$

where T is the sample size, λ_i is the $n-r$ smallest squared canonical correlations of X_{t-1} with respect to ΔX_{t-i} . Each univariate interest rate series may contain a stochastic trend. But, this stochastic trend may be common to other interest rate series. If there are r co-integrating vectors among several variables where $r = n-1$, then the series contain the same stochastic trend and the series are said to be co-integrated.

Table 8 presents the results of the Johansen co-integration test for a group of countries that exhibit non-stationary money market rates. For the pre-crisis period, they are China, Hong Kong, Japan, Korea, Indonesia, Malaysia, Singapore and Thailand. For the post-crisis period, they are Japan, Taiwan, Indonesia, Malaysia and the Philippines. We used the assumption of linear deterministic trend in the data. For the pre-crisis period, we cannot reject the null hypothesis of $r \leq 6$. The multivariate co-

integration test for the pre-crisis period indicates the existence of six co-integrating equations with eight interest rate series. So there are at least two stochastic trends among eight interest rate series instead of one common stochastic trend, implying lower degree of financial integration. For the post-crisis period, we cannot reject the null hypothesis of $r \leq 4$. The multivariate co-integration test for the post-crisis period indicates the existence of four co-integrating equations with five interest rate series and thus implies that any single money market rate can be a representative of the group of money market rates. This result supports for convergence of interest rates and higher integration of financial market in the post-crisis period.

Prospect for Formal and Closed Regionalism

In the previous two sections, we have found that economic integration in East Asia in terms of activities in trade and investment has increased considerably in the last two decades and that financial integration in East Asia has also increased during the 1990s to the level that allows creation of a formal integrated market. In this section we will review how the reality is. Even though the need for regional integration for the East Asian economies has been expressed by many academicians and government officials in the region, there has been no formation of major trade blocs in the region other than the ASEAN and a few bilateral free trade agreements.⁶ However, the ASEAN's memberships are geographically constrained to the Southeast Asia and its trade volume is less than one third of the Japanese trade volume alone, with no significant effects on the world economy.

Several reasons have been suggested for not having a major trading bloc in this region. First, unlike the Western European countries or North America which are in

different stages of industrialization, many countries in this region have similarity in the pattern of their economic development, following Japan's development model in a flying geese pattern. Many pointed out this as an obstacle to formation of a trade bloc. According to Petri (1992), these economies compete rather than complement one another. Second, unlike the Western European countries whose international trade is with their regional neighbors, this region has developed an extra-regional orientation in their trade. They rely heavily on the U.S.A. and the EC for exports of their finished products and on Japan for imports of capital and intermediate products.

Third, some pointed out that extreme heterogeneity in their political ideology, culture and religion makes it very difficult to achieve the common economic interests. Fourth, historical animosities and conflicts between regional neighbors such as Japanese colonization of Korea, Taiwan and Manchuria (Northern China) before World War II, Korean War, and Viet Nam War, add an additional hindrance to economic cooperation in the region. Last, there is no country that has capability or willingness to take a leading role as the U.S.A. did for NAFTA. Japan, the only capable country, does not seem to be interested or ready to take an initiative. Japan may have an interest in pursuing a leading role in economic cooperation in Asia, but some of its attempts have been blocked by the U.S.A. or other Asian countries. As a recent episode we can recall a proposal suggested by the Japanese minister of finance. His suggestion of forming Asian Monetary Fund to prevent any repetition of the 1997 Asian Financial Crisis was bluntly objected by the U.S. and only lukewarmly welcomed by just a few Asian countries. Recently Asian Development Bank voiced its support for Asian Monetary Fund.

It is true that there exist cultural diversities and historical animosities between

regional neighbors in Asia. However, there have been increasing signs of mutual efforts among the countries involved to leave the past behind and give a priority to economic cooperation. Although they have developed their industrialization in the so-called flying geese patterns, with the success of the NICs including South Korea, Taiwan, Singapore and Hong Kong, these economies comprise at least three different stages of industrialization: Japan at the most advanced stage, the NICs at the maturing stage, and the rest including China at the developing stage. Because this region consists of resource-rich and resource-poor countries and also of capital-rich and capital-poor countries, more interregional trade and investment would be mutually beneficial to all the countries involved.

It is also true that there is no country that is able and willing to take a leadership in forming a regional trade bloc at the present time. However, as a more impelling need for regional integration arises in the wake of the creation of the two major trade blocs and the Asian financial crisis, a few key countries can play vital roles in forming a viable regional trade bloc as the case of the EU three decades ago. It has been noted that Japan has recently become more active for the leadership in the area of international cooperation. One good example is an idea of Asian Monetary Fund even though it was not put on the table for serious discussions.

Furthermore, as Krugman (1992) suggested, a trade bloc will definitely increase its bargaining power vis-a-vis the other blocs and would contribute to global trade liberalization because of a more efficient way of multilateral trade negotiation through the inter-bloc negotiation. While both the U.S.A. and the EU have used and will use their regional arrangements as a means to affect the trade policy behavior of other

countries, particularly Japan and the NICs, this region has no countervailing trade bloc to react. In this respect, the creation of an East Asian trade bloc would provide a countervailing power against the other two major trade blocs and also provide a trilateral inter-bloc negotiation format for global trade liberalization.

Since World War II many attempts have been made to promote cooperation among the Pacific-Rim countries. Some of the attempts include the Pacific Trade and Development Conference (PAFTAD), the Pacific Basin Economic Council (PBEC) and the Pacific Economic Cooperation Council (PECC). However, all of them are of an economic forum, mainly oriented toward cooperation among business communities. The Asia-Pacific Economic Cooperation (APEC) proposed by the Australian Prime Minister Hawke was formed in 1989 with the support of the U.S. as a political forum to promote economic cooperation and free trade. APEC, in its present loose form, is deemed not adequate for many Asian countries to meet the challenges coming from the EC integration and the NAFTA ratification. There is no doubt that the AFTA would promote trade and investment among the ASEAN countries through reduction or elimination of tariffs. However, the AFTA, with about 6 percent of total world trade volumes in 2000, would be a regional trade bloc which is too powerless to exercise its bargaining power against the two major trade blocs.

In the wake of the Asian financial crisis, there was a change in regional integration movement in East Asia. Even though the Asian Monetary Fund has not been yet materialized, an ASEAN plus Three (China, Japan and Korea) currency swap agreement was adopted as the Chiang Mai initiative at the summit meeting of ASEAN plus Three in May 2000. This arrangement could be a beginning step in a long way

toward creation of the Asian Monetary Fund. The currency swap arrangement which is proposed as a tool in crisis management can also be used to coordination of foreign exchange rates among countries, leading to increased regional integration.

The East Asia Free Trade Area (AEFTA) was also proposed at the summit meeting in 2000. Since then this group has functioned as a model for East Asian regional economic and financial cooperation. They have met at various levels – summit meetings ministers meetings and experts meetings and discussed issues covering trade and investment liberalization, financial liberalization, coordination in the area of environment and information technology. There have been many proposals for regional integration including a more integrated version of the APEC including the U.S.A., the Yen bloc led by Japan to include most of the Northeast and Southeast Asian countries, Australia, and New Zealand, but to exclude China and North Korea, and the Beijing bloc with the emerging economic power of China to include most of the Northeast and Southeast Asian countries, but to exclude Japan, Australia, and New Zealand. With China's transformation to a free market system, it is hard to imagine a trade bloc in this region without participation of either Japan or China. Therefore, the Yen bloc or the Beijing bloc has no possibility in reality. A Pacific Rim trade bloc, though most desirable for the region, is less feasible at the present time because of the NAFTA members' stands on the accession provision. Therefore, the best strategy for the region at present is to form a regional trading bloc covering only the East Asian countries a la AEFTA, and later to expand by merging or being merged with the NAFTA countries.

There are many obstacles to overcome for the formation of a regional trading bloc in East Asia. There is no doubt that this mission is several times harder than the

formation of the EU or the ratification of the NAFTA. In addition to cultural diversities and historical animosities, there is the problem of no or weak political leadership in the region. An effective trading bloc requires major structural adjustment of the region as a whole, mandating reforms of domestic industrial policy and external trade policy. Many countries would suffer short-run losses from this structural adjustment. Furthermore, the formation of an East Asian trade bloc may have a trade-diverting effect instead of trade-creating because most of the countries in the region have had strong trade linkages with the U.S. historically. However, in the long run, dynamic gains due to economies of scale, increased productivity and increased investment will more than offset these short-run losses.

A few key countries, particularly Japan and China, should take more responsibility to assume the burden of regional structural adjustment. Japan and China are two major economies in this region and there will be no progress in economic integration without their active involvement in the process of proposing, discussing and forming an East Asian trading bloc. China is struggling to modernize its society and industrialize its economy and has many of its own problems to be preoccupied with. Any economic integration in Asia would not be possible without Japan's strong determination to lead the group and its financial commitment in structural and regional adjustment in the process.

In this connection, it is worthwhile to recall the vital roles played by French President de Gaulle and German Chancellor Brandt in the early stage of European integration and also surprising cooperation by French President Mitterand and German Chancellor Kohl in the critical stage of formation of the EU and movement towards the

EMU. If Japanese and Chinese leaders have determination and cooperation as antagonistic French and German leaders put their feelings behind and cooperated, economic integration in Asia is not just a dream or academic discussion topic, but a feasible plan that can be achieved.

Footnotes

1. East Asia includes both Northeast Asia and Southeast Asia. Geographically, Northeast Asia covers Japan, South Korea, North Korea, Mongolia, China, Taiwan and Hong Kong. We included four countries and Hong Kong in our study: China, Japan, South Korea, and Taiwan. Southeast Asia is generally represented by ten member nations of ASEAN, but we included five major countries of importance to this study: Indonesia, Malaysia, the Philippines, Singapore and Thailand.
2. Source: The Economist, January 24, 1998.
3. We chose this period because many East Asian countries still had considerable financial regulation during the 1980s. For example Taiwan and South Korea liberalized their interest rates in 1989.
4. Monthly money market rate is from the International Financial Statistics published by IMF except for Taiwan where the data is taken from the Monthly Statistics of the Republic of China. Whenever money market rate is not available, alternative rates are used: bank rate for China, call money rate for Indonesia and inter-bank rate for Singapore.
5. The average money market rate of 3.94 percent in the post-crisis period is obtained by excluding Indonesia which had not recovered from the effects of the Asian financial crisis until sometime in the post-crisis period. When we include Indonesia in calculation, the average money market rate increases to 5.64 percent which is still lower than the average rate in the pre-crisis period.
6. Japan – Singapore economic partnership agreement allowing free trade between them has been effective since November 2002. Singapore has free trade agreement with New Zealand and EFTA (European Free Trade Agreement) nations. There are several bilateral trade agreements being negotiated between Korea and Japan, between Korea and Chile, between Japan and Taiwan to name a few. China-ASEAN free trade agreement is scheduled to take effect in 2004. China proposed creation of a free trade area among China, Japan and Korea in 2002.

References

- Camarero, M., J. Ordonez and C.R. Tamarit, 2002. Tests for Interest Rate Convergence and Structural Breaks in the EMS: Further Analysis. Applied Financial Economics, 12, 447-456
- Engel, R. F. and C. W. J. Granger, 1987. Co-integration and Error Correction: Representation estimation and Testing, Econometrica, 55, 251-276.
- IMF, International Financial Statistics, various issues.
- IMF, 2002. Directions of Trade Statistics Yearbook. Washington, D.C.
- Krugman, P., 1992. Regionalism vs. Multilateralism: Analytical Notes. The World Bank and CEPR Conference on New Dimensions in Regional Integration, Washington, D.C.
- Lemmen, J., 1998. Integrating Financial Markets in the European Union. Edwards Elgar, Cheltenham.
- Johansen, S., 1991. Estimation and Hypothesis Testing of Co-integration Vectors in Gaussian Vector Autoregressive Models. Econometrica, 59, 1551-1580.
- Marston, R.C., 1995. International Financial Integration: A Study of Interest Differentials between the Major Industrial Countries. Cambridge University Press, Cambridge.
- Moosa I.A. and R. H. Bhatti, 1995. Are Australian and New Zealand markets Integrated? Evidence from RIP Tests. Journal of Economic Integration, 10 415-433.
- Petri, P., 1992. The East Asia Trading Bloc: An Analytical History. Brandeis University, Working Paper, No. 315.
- Phylaktis, K., Capital Market Integration in the Pacific Basin Region: An Impulse Response Analysis. Journal of International Money and Finance, 18, 267-287.
- Shott, J., 1993. NAFTA: Free Trade Area or Emerging Bloc? Joint Korea-U.S. Academic Symposium, 2, Washington, D.C.: Korea Economic Institute of America.
- Stock, J. H. and M. W. Watson, 1988. Testing For Common Trends. Journal of American Statistical Association, 83, 1097-1107.
- UNCTAD, World Investment Report, various years.
- UNCTAD, 2002 Handbook of Statistics. New York.
- Yamada, H. 2002. Real Interest Rate Equalization: Some Empirical Evidence from the Three Major World Financial Markets. Applied Economics, 34 2069-2073.

Table 1. Current GDP and PPP GDP, Selected Years (\$ US billion)

	Current GDP						PPP GDP	
	1981	Share	1991	Share	2000	Share	2000	Share
China	228.3		402.6		1077.5		5019.4	
Hong Kong	30.5		86.0		162.6		171.0	
Japan	1183.6		3483.3		4841.6		3394.4	
S. Korea	69.6		295.2		461.5		821.7	
Taiwan	48.2		179.4		309.4		541.4	
<u>Northeast Asia</u>	<u>1560.2</u>	<u>12.5</u>	<u>4446.5</u>	<u>19.1</u>	<u>6852.6</u>	<u>21.8</u>	<u>9947.9</u>	<u>22.6</u>
Indonesia	92.5		116.5		152.2		640.3	-
Malaysia	25.5		49.1		89.7		211.0	-
Philippines	35.6		45.4		74.7		300.1	-
Singapore	13.9		42.8		92.3		93.8	-
Thailand	34.8		98.2		120.7		388.8	-
<u>Southeast Asia</u>	<u>202.3</u>	<u>1.6</u>	<u>352.0</u>	<u>1.5</u>	<u>529.6</u>	<u>1.7</u>	<u>1634.0</u>	<u>3.7</u>
<u>East Asia</u>	<u>1762.5</u>	<u>14.1</u>	<u>4798.5</u>	<u>20.6</u>	<u>7382.2</u>	<u>23.4</u>	<u>11581.9</u>	<u>26.3</u>
EU	3133.0	25.0	7143.3	30.7	7836.4	24.9	8631.3	19.6
USA	3104.5	24.8	5930.7	25.5	9837.4	31.2	9612.7	21.8
World	12510.5	100.0	23259.5	100.0	31498.1	100.0	44002.4	100.0

Source: UNCTAD, World Investment Report, various years.

Table 2. Exports and Imports, Selected Years (\$ US million)

Country	Exports-fob					Imports-cif				
	1980	1985	1990	1995	2000	1980	1985	1990	1995	2000
CHINA	18099.3	27350	62091	148797	249297	19941	42252	53345	129113	206132
HONG KONG	19751.7	30186.8	82159.9	173750	201860	22447	29703	82490	192751	212805
JAPAN	130441	177164	287581	443116	479249	141296	130488	235368	335882	379511
KOREA	17512	30282	65016	125052	172268	22292	31136	69844	135119	160481
TAIWAN	19786.3	30696	67079.4	111563	147777	19764	20124	54831	103698	139927
<u>Northeast Asia</u>	<u>205590.3</u>	<u>295678.8</u>	<u>563927.3</u>	<u>853487</u>	<u>1250451</u>	<u>225741</u>	<u>253703</u>	<u>495878</u>	<u>896563</u>	<u>1098856</u>
%	10.5	15.6	16.4	16.6	19.7	11.2	12.9	14.0	17.2	16.8
INDONESIA	21909	18586.7	25675.2	45417	62124	10834	10259	21837	40630	33515
MALAYSIA	12944.7	15316.1	29451.5	73914	98135	10779	12253	29258	77691	82199
PHILIPPINES	5741.2	4611.4	8116.8	17502	39783	8291	5455	13004	28341	33808
SINGAPORE	19375.3	22812.3	52729.7	118268	137804	24007	26285	60774	124507	134545
THAILAND	6505.4	7120.6	23068.3	56439	69057	9214	9242	33045	70786	61924
<u>Southeast Asia</u>	<u>66475.6</u>	<u>68447.1</u>	<u>139041.5</u>	<u>311540</u>	<u>406903</u>	<u>63126</u>	<u>63494</u>	<u>157917</u>	<u>341954</u>	<u>345990</u>
%	3.4	3.6	4.0	6.1	6.4	3.1	3.2	4.5	6.6	5.3
<u>East Asia</u>	<u>272065.9</u>	<u>364125.9</u>	<u>702968.8</u>	<u>1165027</u>	<u>1657354</u>	<u>288867</u>	<u>317197</u>	<u>653795</u>	<u>1238517</u>	<u>1444846</u>
%	14.0	19.3	20.4	22.7	26.1	14.3	16.1	18.5	23.8	22.1
EU	703289	667614	1384700	2060780	2245390	789154	679065	1436910	1973740	2253410
%	36.1	35.3	40.2	40.2	35.3	39.1	34.5	40.6	37.9	34.4
USA	225566	218815	393592	584743	781125	256984	352463	516987	770852	1259300
%	11.6	11.6	11.4	11.4	12.3	12.7	17.9	14.6	14.8	19.2
WORLD	1948750	1890290	3442700	5130110	6353330	2018420	1968180	3536460	5201820	6543060

Source: IMF, International Financial Statistics, various years

Table 3: Exports and Imports of East Asia to and from East Asia, EU and USA

Exports of East Asia (in %)

	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001
East Asia	31.2	33.6	39.4	50.1	50.8	49.7	44.2	45.7	48.4	48.4
EU	14.7	11.7	17.5	15.0	14.7	14.9	17.1	16.7	15.6	15.5
USA	22.6	32.3	26.2	22.0	21.5	21.8	24.2	24.5	23.7	23.0

Imports of East Asia (in %)

	1980	1985	1990	1995	1996	1997	1998	1999	2000	2001
East Asia	30.7	39.1	42.9	51.5	50.7	50.7	52.2	53.4	54.4	52.6
EU	9.6	10.9	14.4	14.4	14.4	13.9	14.0	13.0	11.8	12.9
USA	16.4	17.5	18.1	16.1	16.3	16.1	16.5	15.5	14.0	13.7

East Asia includes Japan, China, Hong Kong, Taiwan, South Korea, Indonesia, Malaysia, Philippines, Singapore, and Thailand.

Source: IMF, Directions of Trade Statistics Yearbook, 2002.

Table 4. FDI Inflows, Selected Years (\$US million)

	1980	Share	1985	Share	1990	Share	1995	Share	2000	Share	2001	Share
China	57		1659		3487		35849		40772		46846	
Hong Kong	710		-267		3275		6213		61938		22834	
Japan	278		642		1753		41		8322		6202	
S. Korea	6		234		789		1776		9283		3198	
Taiwan	166		342		1330		1559		4928		4109	
<u>Northeast Asia</u>	<u>3197</u>	<u>5.82</u>	<u>4595</u>	<u>7.98</u>	<u>12624</u>	<u>6.23</u>	<u>47433</u>	<u>14.35</u>	<u>127243</u>	<u>8.53</u>	<u>83189</u>	<u>11.32</u>
Indonesia	180		310		1092		4346		-4550		-3277	
Malaysia	934		695		2611		5816		3788		554	
Philippines	-106		12		550		1459		1241		1792	
Singapore	1236		1047		5575		8788		5407		8609	
Thailand	189		164		2562		2068		2813		3759	
<u>Southeast Asia</u>	<u>2433</u>	<u>4.43</u>	<u>2228</u>	<u>3.87</u>	<u>12390</u>	<u>6.11</u>	<u>22477</u>	<u>6.80</u>	<u>8699</u>	<u>0.58</u>	<u>11437</u>	<u>1.56</u>
<u>East Asia</u>	<u>5630</u>	<u>10.25</u>	<u>6823</u>	<u>11.85</u>	<u>25014</u>	<u>12.34</u>	<u>69910</u>	<u>21.15</u>	<u>135942</u>	<u>9.11</u>	<u>94626</u>	<u>12.87</u>
EU	21317	38.80	15879	27.57	90213	44.49	114439	34.62	808519	54.19	322954	43.93
USA	16918	30.79	20490	35.58	48422	23.88	58772	17.78	300912	20.17	124435	16.93
World	54945	100.00	57596	100.00	202782	100.00	330516	100.00	1491934	100.00	735146	100.00

Source: UNCTAD, Handbook of Statistics, 2002

Table 5. Descriptive Statistics

Descriptive Statistics (Jan. 1990 - June 1997)

	N	Minimum	Maximum	Mean	Std. Deviation
CHI	88	7.20	10.44	8.8486	1.26924
HKC	46	3.38	11.50	5.3484	1.24583
JAP	90	.444	8.191	3.52906	2.683370
KOR	90	9.5	19.7	13.464	2.2037
TAI	90	5.09	13.23	7.1219	1.57784
IND	90	5.68	26.90	12.4378	3.23469
MAL	90	4.116	10.100	6.63009	1.180271
PHI	90	7.426	36.210	14.07151	4.494053
SIN	90	1.0	7.7	3.665	1.4969
THA	90	2.367	16.259	9.43558	3.225900
Valid N (listwise)	46				

Descriptive Statistics (July 1998 – Dec. 2002)

	N	Minimum	Maximum	Mean	Std. Deviation
CHI	54	2.70	5.22	3.4633	.76542
HKC	54	1.38	17.75	4.7278	2.53049
JAP	54	.002	.427	.08674	.115780
KOR	54	3.99	12.67	5.2019	1.48925
TAI	54	1.52	6.95	4.1344	1.42230
IND	54	8.49	81.01	20.9539	17.70454
MAL	54	2.51	9.21	3.3604	1.55883
PHI	54	6.9	15.9	10.031	2.5262
SIN	54	.75	5.38	2.0980	.99787
THA	54	1.23	11.72	2.4069	1.91939
Valid N (listwise)	54				

CHI = Mainland China, HKC = Hong Kong, China, JAP = Japan,
 KOR = South Korea, TAI = Taiwan, IND = Indonesia, MAL = Malaysia,
 PHI = Philippines, SIN = Singapore, and THA= Thailand .

Table 6. Correlation Coefficients

Correlations (Jan. 1990 – June 1997)

		CHI	HKC	JAP	KOR	TAI	IND	MAL	PHI	SIN	THA
CHI	Pearson Correlation	1	-.216	-.670**	-.554**	-.252*	-.225*	-.677**	-.232*	-.220*	-.123
	Sig. (2-tailed)	.	.150	.000	.000	.018	.035	.000	.029	.039	.253
	N	88	46	88	88	88	88	88	88	88	88
HKC	Pearson Correlation	-.216	1	.211	.238	-.040	.780**	.306*	.219	.112	.556**
	Sig. (2-tailed)	.150	.	.159	.111	.793	.000	.038	.144	.459	.000
	N	46	46	46	46	46	46	46	46	46	46
JAP	Pearson Correlation	-.670**	.211	1	.612**	.570**	.252*	.143	.270*	.690**	.284**
	Sig. (2-tailed)	.000	.159	.	.000	.000	.017	.178	.010	.000	.007
	N	88	46	90	90	90	90	90	90	90	90
KOR	Pearson Correlation	-.554**	.238	.612**	1	.150	.185	.248*	.227*	.403**	.212*
	Sig. (2-tailed)	.000	.111	.000	.	.159	.081	.019	.031	.000	.045
	N	88	46	90	90	90	90	90	90	90	90
TAI	Pearson Correlation	-.252*	-.040	.570**	.150	1	.034	-.193	-.018	.603**	.215*
	Sig. (2-tailed)	.018	.793	.000	.159	.	.753	.069	.868	.000	.042
	N	88	46	90	90	90	90	90	90	90	90
IND	Pearson Correlation	-.225*	.780**	.252*	.185	.034	1	.130	-.038	.213*	.525**
	Sig. (2-tailed)	.035	.000	.017	.081	.753	.	.222	.725	.044	.000
	N	88	46	90	90	90	90	90	90	90	90
MAL	Pearson Correlation	-.677**	.306*	.143	.248*	-.193	.130	1	.168	-.214*	-.042
	Sig. (2-tailed)	.000	.038	.178	.019	.069	.222	.	.112	.043	.696
	N	88	46	90	90	90	90	90	90	90	90
PHI	Pearson Correlation	-.232*	.219	.270*	.227*	-.018	-.038	.168	1	.009	-.092
	Sig. (2-tailed)	.029	.144	.010	.031	.868	.725	.112	.	.936	.388
	N	88	46	90	90	90	90	90	90	90	90
SIN	Pearson Correlation	-.220*	.112	.690**	.403**	.603**	.213*	-.214*	.009	1	.492**
	Sig. (2-tailed)	.039	.459	.000	.000	.000	.044	.043	.936	.	.000
	N	88	46	90	90	90	90	90	90	90	90
THA	Pearson Correlation	-.123	.556**	.284**	.212*	.215*	.525**	-.042	-.092	.492**	1
	Sig. (2-tailed)	.253	.000	.007	.045	.042	.000	.696	.388	.000	.
	N	88	46	90	90	90	90	90	90	90	90

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 6 Continued
Correlations (July 1999 – Dec. 2002)

		CHI	HKC	JAP	KOR	TAI	IND	MAL	PHI	SIN	THA
CHI	Pearson Correlation	1	.594**	.655**	.776**	.728**	.907**	.867**	.785**	.611**	.689**
	Sig. (2-tailed)	.	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
HKC	Pearson Correlation	.594**	1	.652**	.630**	.824**	.527**	.577**	.694**	.779**	.541**
	Sig. (2-tailed)	.000	.	.000	.000	.000	.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
JAP	Pearson Correlation	.655**	.652**	1	.815**	.681**	.678**	.748**	.863**	.707**	.694**
	Sig. (2-tailed)	.000	.000	.	.000	.000	.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
KOR	Pearson Correlation	.776**	.630**	.815**	1	.712**	.834**	.905**	.710**	.821**	.919**
	Sig. (2-tailed)	.000	.000	.000	.	.000	.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
TAI	Pearson Correlation	.728**	.824**	.681**	.712**	1	.549**	.562**	.808**	.852**	.502**
	Sig. (2-tailed)	.000	.000	.000	.000	.	.000	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
IND	Pearson Correlation	.907**	.527**	.678**	.834**	.549**	1	.962**	.668**	.572**	.845**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.	.000	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
MAL	Pearson Correlation	.867**	.577**	.748**	.905**	.562**	.962**	1	.687**	.634**	.905**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.	.000	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
PHI	Pearson Correlation	.785**	.694**	.863**	.710**	.808**	.668**	.687**	1	.709**	.550**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.	.000	.000
	N	54	54	54	54	54	54	54	54	54	54
SIN	Pearson Correlation	.611**	.779**	.707**	.821**	.852**	.572**	.634**	.709**	1	.737**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.	.000
	N	54	54	54	54	54	54	54	54	54	54
THA	Pearson Correlation	.689**	.541**	.694**	.919**	.502**	.845**	.905**	.550**	.737**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	54	54	54	54	54	54	54	54	54	54

** Correlation is significant at the 0.01 level (2-tailed).

Table 7. Unit Root Tests for Money Market Rates

Pre-crisis Period (Jan. 1990 – June 1997)

Country	Levels		First Differences	
	lag	ADF statistic	lag	ADF statistic
China	2	-2.032152	2	-4.358656**
Hong Kong	2	-1.756557	2	-4.469104**
Japan	2	-1.545663	1	-4.858091**
S. Korea	2	-3.390949	2	-6.034975**
Taiwan	1	-5.162297**	1	-9.529255**
Indonesia	2	-2.379215	2	-6.097177**
Malaysia	2	-1.436168	1	-8.746820**
Philippines	2	-4.680725**	2	-8.519602**
Singapore	2	-1.676088	2	-5.386017**
Thailand	2	-2.506739	2	-6.716186**

Post-crisis Period (July 1998 – Dec. 2002)

Country	Levels		First Differences	
	lag	ADF statistic	lag	ADF statistic
China	1	-3.787775*	1	-6.319919**
Hong Kong	2	-3.863159*	2	-6.404870**
Japan	1	-3.030101	1	-4.935971**
S. Korea	1	-10.762610**	1	-2.747458
Taiwan	1	-2.165212	1	-4.782432**
Indonesia	1	-2.165212	1	-6.398614**
Malaysia	1	-1.716078	1	-4.610259**
Philippines	1	-2.506624	1	-5.240516**
Singapore	1	-3.800198*	1	-5.083557**
Thailand	1	-20.889741**	1	-3.532143*

** significant at the 1 percent level.

* significant at the 5 percent level.

Table 8. Multivariate Co-integration Test Results

Pre-crisis Period (Jan. 1990 – June 1997)

Series: China, Hong Kong, Japan, Korea, Indonesia, Malaysia, Singapore and Thailand

Lag interval: 1 to 2

Test assumption: linear deterministic trend in the data

Hypothesis	Likelihood Ratio	Eigenvalue	5% Critical Value	1% Critical Value
H: $r=0$	280.26	.877	156.00	168.36
H: $r\leq 1$	196.39	.730	124.24	133.57
H: $r\leq 2$	143.96	.711	94.15	103.18
H: $r\leq 3$	94.25	.602	68.52	76.07
H: $r\leq 4$	57.36	.491	47.21	54.46
H: $r\leq 5$	30.28	.394	29.68	35.65
H: $r\leq 6$	10.27	.216	15.41	20.04
H: $r\leq 7$.53	.013	3.76	6.65

Likelihood ratio test indicates 6 co-integration equations at 5% significance level.

Post-crisis Period (July 1998 – Dec. 2002)

Series: Japan, Taiwan, Indonesia, Malaysia, the Philippines

Lag interval: 1 to 2

Test assumption: linear deterministic trend in the data

Hypothesis	Likelihood Ratio	Eigenvalue	5% Critical Value	1% Critical Value
H: $r=0$	136.35	.616	68.53	76.07
H: $r\leq 1$	84.64	.601	47.21	54.46
H: $r\leq 2$	39.99	.367	29.68	35.65
H: $r\leq 3$	16.23	.247	15.41	20.04
H: $r\leq 4$	2.12	.092	3.76	6.65

Likelihood ratio test indicates 4 co-integration equations at 5% significance level.