Global and Regional Shocks: Challenges to Asian Economies

Kwanho Shin

November 2008

ADB Institute Working Paper No. 120

Kwanho Shin is a professor at Korea University in Seoul, Republic of Korea.

The Working Paper series is a continuation of the formerly named Discussion Paper series; the numbering of the papers continued without interruption or change. ADBI's working papers reflect initial ideas on a topic and are posted online for discussion. ADBI encourages readers to post their comments on the main page for each working paper (given in the citation below). Some working papers may develop into other forms of publication.

Suggested citation:

Shin, K. 2008. Global and Regional Shocks: Challenges to Asian Economies. ADBI Working Paper 120. Tokyo: Asian Development Bank Institute. Available: http://www.adbi.org/discussion-paper/2008/11/05/2737.global.regional.shocks.asian.economy.challenges/

Asian Development Bank Institute
Kasumigaseki Building 8F
3-2-5 Kasumigaseki, Chiyoda-ku
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500
Fax: +81-3-3593-5571
URL: www.adbi.org
E-mail: info@adbi.org

Abstract

Two major economic problems are currently shadowing Asian economies. On the one hand, the slowdown in the US economy, ignited by the subprime mortgage crisis, may not be confined to the US region and may affect Asian countries as well. On the other hand, the recent fuel and food price increases, a global shock in nature, are also likely to influence most Asian economies that are heavily dependent on oil imports. In this short article, by summarizing recent studies on these issues, I address how Asian economies in particular are challenged by these important developments in the world economy. I also identify policy issues faced by the policymakers in Asia.

Recent studies show that East Asia is quite integrated in trade. Financial integration has also progressed, but the extent of financial integration is not as remarkable as trade integration has been in the region. By contrast, East Asian countries' financial links to the global center (i.e., the US market) are quite strong. These studies have also shown that trade integration greatly enhances business cycle co-movements of output. There is also evidence that financial integration also leads to more co-movements of output, but its impact is relatively weak. Hence, the deepening trade integration in East Asia indicates that the impact of slowdown in the US economy is not likely to be large. Since the impact of financial integration is not large, the fact that most Asian countries' financial markets have strong ties with the US financial market does not necessarily dispute this prediction. However, since most studies are based on non-crisis periods, there is a possibility that the financial crisis that originated in the US, if it is very severe, may generate a much larger influence on Asian countries.

On the other hand, the recent fuel price increases are of a more global nature. Most Asian countries, still heavily dependent on the manufacturing sector, are expected to be more adversely affected by the oil price increases than advanced countries will be. If these increases continue, the central banks of Asian countries will face a dilemma of high inflation or economic slowdown. Of particular interest is that this will be the first serious challenge for many emerging Asian countries that have adopted inflation targeting.

JEL Classification: E52, E66, E42

Contents

I. INTRODUCTION

Two major economic problems are shadowing Asian economies. On the one hand, the United States' (US) economy, dominant in the world economy, is doomed to fall into a recession. Whether the recession in the US will be largely confined to the region or will affect the global economy, including Asian countries, is an important issue.

On the other hand, the recent fuel and food price increase, a global shock in nature, will also influence most Asian economies that are heavily dependent on oil imports. Because the manufacturing sector (much of which uses oils as a crucial intermediate) is still the engine of growth in most emerging Asian countries, the impact of the oil price hike is expected to be deep in Asia. If these increases continue, emerging Asian countries will face a serious dilemma between fighting inflation and maintaining high growth.

How business cycles of one country affect the business cycles of other countries has been widely investigated in both academic and policy circles. In addition, since the oil price shock of the early 1970s, studies of the impact of oil price increases on the economy have centered on macroeconomic analyses. By summarizing the recent studies on these issues, in this short paper I will try to address how Asian economies specifically are challenged by these important developments in the world economy. I will also identify policy issues faced by policymakers in Asia.

The paper is organized as follows. In section 2, issues related to the US economy's slowdown are discussed; in particular, I will focus on decoupling issues, i.e., whether the Asian economies can continues to thrive despite of the slowdown in the US. In section 3, I will discuss issues related to another imminent shock coming from the recent oil price hike. Section 4 briefly concludes the paper.

II. THE SLOWDOWN OF THE US ECONOMY AND ASIA

A. The Subprime Crisis in the US and Its Impact on Asia

A decline in the US housing market ignited hedge fund failures in the summer of 2007, with the US credit market seizing up as more losses of unknown magnitude were expected. The financial distress of the US economy immediately spread to financial markets all over the world with the Asian financial markets no exception. In this sense, the Asian financial markets are not decoupled from the US financial market, meaning that a shock to the US financial market greatly influences the Asian financial markets.

There has been a debate about whether the subprime crisis will be confined to the financial sector or eventually lead to a recession in the real economy. More researchers are now supporting the view that the subprime crisis is driving the US economy into a recession. For example, Eichengreen (2008) argued that "the U.S economy is undoubtedly experiencing a sharp growth slowdown." The World Economic Outlook (WEO) Update (2008) also predicts that the slowdown in global growth is expected to continue through the second half of 2008.

How large will the impact of the US real economy's slowdown be on Asian economies? While it is clear that the financial markets in Asia are heavily influenced by the turmoil in the US financial market, how to assess the real economy's recession in the US will affect Asian economies is a separate issue. In this paper, I focus on whether Asia's real economy is decoupled from the US real economy or not.

How do one economy's fluctuations affect another economy's? This question is answerable by investigating two linkages between economies, those of trade and finance. I will review the implications of the two linkages and introduce a recent empirical study on the evidence.

B. Trade Linkage and Its Implications for Decoupling[1]

One important linkage through which a shock on one economy can be transmitted to another is trade linkage. Since the early 1990s, the volume of world trade has increased twice as fast as that of world gross domestic product (GDP). As this pace of trade integration continues, its impact is expected to also increase.

While a number of researchers agree that trade linkage must play a crucial role in transmitting disturbances from one country to another, at least theoretically, there is no consensus on whether increased trade would lead to a greater or smaller degree of co-movements across countries. On one hand there is an important theoretical reasoning that deeper trade linkages result in less synchronization of business cycles. For example, Kenen (1969), Eichengreen (1992), and Krugman (1993) all argued that if countries are more specialized in industries with comparative advantage, as long as a shock in a particular industry is less likely to be transmitted to different industries, more trade integration leads to fewer synchronized fluctuations.

On the other hand, however, there is evidence that recent trade increases are mainly driven by *intra*-industry trade rather than *inter*-industry trade as production fragmentation and outsourcing becomes the major source of trade explosion. According to a recent study by Jones (2006), trade in parts and components in the last decade of the twentieth century grew by an average of 9.1% a year, even faster than the rate of growth for overall trade.

If this is the case, then as Frankel and Rose (1998) argued, business cycles would become more positively correlated as trade integration progressed. In particular, this is more so if business fluctuations are dominated by industry-specific technological shocks. Additionally, there is a well-known and important argument that supports the positive transmission of a shock from one economy to another. If a shock drives one country to a boom that increases demand from foreign countries as well as domestically, the effects may spill over to trading partners through an increased volume of imports.

In sum, the theoretical implications of trade integration on how a shock in one country would be transmitted to another are ambiguous. Hence, an empirical investigation is in order. Canova and Dellas (1993), in one of the earliest attempts made in this area, found that while the choices of the de-trending method matter, in general there was some evidence that more trade integration leads to positive transmission of disturbances across countries. More recently, Frankel and Rose (1998) found that, based on a study of 21 industrialized countries, the more countries traded with each other, the more highly correlated their business cycles were. Following a similar method, Choe (2001) also confirmed, based on research done on 10 East Asian countries, economic fluctuations are more synchronized as trade interdependence deepens in the region. Recently Shin and Wang (2003) more directly tested the driving force of positive impact of trade integration on business cycle synchronization and found that intra-industry trade, rather than trade by itself, plays a crucial role. Calderón, Chong, and Stein (2007) extended the analyses to include both industrialized and developing countries and found that the impact of trade on the co-movement is higher among the former than the latter. They also found that the response of output correlation to trade linkages is especially higher when intra-industry trade is more pronounced.

The fact that more trade integration reinforces transmission of shocks across trading partners has an important implication for East Asia, especially in understanding the impact of the recent slowdown of the US economy on East Asian economies. Traditionally, the US market has been an important outlet for exports from East Asian countries. However, the importance of the US market has become substantially lowered. Instead, trade integration among East Asian countries has been greatly enhanced.

[1] This section is based on the arguments in Shin and Wang (2003) and Park and Shin (2008).

Following the methodology used in Park and Shin (2008), Table 1-1.A shows how the trade intensity measure has evolved over time in Europe and East Asia.[2] They divided the world economy into three blocs—the US, East Asia, and European Union (EU)—and defined the trade intensity measure between an individual country *i* and any of the three blocs (*i*,*b*) by normalizing exports (imports) of country *i* with bloc *b* by total exports (imports) of country *i.*:

$$export\ intensity = \frac{x_{ibt}}{X_{it}}$$

$$import\ intensity = \frac{m_{ibt}}{M_{it}}$$

where x_{ibt} denotes total nominal exports (US$ value) from country *i* to bloc *b* (*b=US, EU,* and *East Asia*) during period *t*; m_{ibt} denotes total nominal imports (US$ value) from bloc *b* to country *i* during period *t*; and X_{it} and M_{it} denote total global exports and imports of country *i* during period *t*.

Table 1-1 A shows the export intensity results for East Asia. The whole sample (1990:1–2006:IV) is divided into three subsamples: period I (1990:1–1996:IV), period II (1999:I–2002:IV), and period III (2003:I–2006:IV). As expected, for every individual East Asian country, the trade share with the East Asia bloc (the last column) is the highest. This is especially the case for Hong Kong, China; Indonesia; Malaysia; Singapore; and Taipei,China—in period 3, the share is either over or close to 0.6. In contrast, it is lower than 0.5 for four countries including People's Republic of China (PRC), Japan, and Republic of Korea (hereafter Korea), the area's three largest economies. When we calculate the un-weighted and weighted average export shares of the East Asia bloc, they are 53.7% (un-weighted) and 49.7% (weighted) in period 3.

[2] While Park and Shin (2008) report the average trade intensity based on the sum of exports and imports, Table 1 reports the trade intensity of exports and imports separately.

Table 1-1: Export Intensity of Individual Countries
A. East Asian Countries

Country	Period	Average growth rate of export (%)	Weight	Trade integration with		
				US	EU	East Asia
People's Rep. of China	1	6.43	0.101	0.140	0.110	0.595
	2	6.21	0.167	0.211	0.143	0.472
	3	11.85	0.265	0.212	0.160	0.418
Hong Kong, China	1	5.71	0.131	0.227	0.146	0.457
	2	1.52	0.124	0.227	0.130	0.499
	3	4.99	0.108	0.167	0.116	0.580
Indonesia	1	4.80	0.037	0.135	0.132	0.614
	2	1.75	0.036	0.137	0.127	0.570
	3	6.07	0.032	0.119	0.109	0.599
Japan	1	2.58	0.365	0.291	0.165	0.367
	2	0.78	0.279	0.301	0.150	0.395
	3	4.83	0.226	0.233	0.131	0.464
Korea	1	5.00	0.094	0.220	0.121	0.403
	2	2.23	0.102	0.209	0.130	0.440
	3	7.54	0.101	0.157	0.125	0.484
Malaysia	1	7.08	0.049	0.190	0.135	0.558
	2	2.62	0.059	0.207	0.130	0.535
	3	5.90	0.052	0.192	0.113	0.539
Philippines	1	6.67	0.012	0.370	0.173	0.375
	2	2.34	0.023	0.280	0.181	0.500
	3	2.84	0.016	0.186	0.159	0.606
Singapore	1	6.25	0.081	0.197	0.137	0.465
	2	1.41	0.081	0.168	0.130	0.569
	3	8.42	0.084	0.113	0.112	0.579
Taipei, China	1	3.95	0.089	0.274	0.142	0.443
	2	1.80	0.085	0.232	0.138	0.507
	3	5.87	0.073	0.160	0.106	0.613
Thailand	1	6.38	0.039	0.205	0.287	0.429
	2	2.42	0.042	0.207	0.206	0.457
	3	7.09	0.041	0.159	0.150	0.489
East Asia Average	1			0.225	0.155	0.471
	2			0.218	0.147	0.494
	3			0.170	0.128	0.537
East Asia Weighted Average	1			0.238	0.150	0.440
	2			0.234	0.142	0.468
	3			0.187	0.132	0.497

Notes: The whole sample (1990:1-2006:IV) is divided into three subsamples: period I (1990:1-1996:IV), period II (1999:I-2002:IV) and period III (2003:I-2006:IV). In order to get around the influences of the financial crisis, for East Asian countries, the financial crisis period (1997:I-1998:IV) has been eliminated.

Source: The data are obtained from the *Direction of Trade* data set except for Taipei,China for which the data are collected from and the Bureau of Foreign Trade in Taipei,China.

On the other hand, the trade share with the US decreased from period 2 to period 3 in every country but the PRC. The average export share of the US is 17.2% (un-weighted) and 18.7% (weighted) in period 3, which is much smaller than that of the East Asia bloc. The two countries for which the export share of the US is over 20% are the PRC (22.7%) and Japan (23.3%).

The extent of regional trade in East Asia is even more remarkable if we compare the achievement of East Asia with that of Europe. Table 1-1.B shows the export trade shares for European countries. For every individual EU country, again the export share with other countries in the EU bloc is the highest, which shows strong regional trade integration in Europe. However, for a number of countries, it actually decreased over time. The average export share of the EU is higher in period 1 (weighted: 55.7%; or un-weighted: 60.1%) than in period 3 (weighted: 53.5%; or un-weighted: 53.9%). This finding suggests that the decreasing trend continued even after the euro was introduced in 1999, which is quite surprising. Further, the weighted average share of the EU in period 3 is comparable to the intra-regional export share in East Asia. Given that an East Asia-wide free-trade agreement (FTA) or common currency is yet to be established, it is quite notable that East Asia countries have achieved this degree of intra-regional trade integration.

Table 1-1: Export Intensity of Individual Countries
B. EU countries

Country	Period	Average growth rate of export	Weight	Trade integration with		
				US	EU	EA
Austria	1	2.29	0.030	0.033	0.638	0.046
	2	1.66	0.033	0.049	0.601	0.044
	3	6.60	0.037	0.056	0.570	0.045
Denmark	1	1.85	0.026	0.045	0.617	0.071
	2	1.70	0.024	0.057	0.595	0.067
	3	5.45	0.025	0.052	0.534	0.056
Finland	1	2.61	0.019	0.069	0.567	0.087
	2	0.42	0.021	0.086	0.521	0.092
	3	5.96	0.020	0.068	0.476	0.087
France	1	1.87	0.158	0.064	0.537	0.067
	2	0.22	0.154	0.083	0.538	0.060
	3	4.85	0.141	0.068	0.530	0.064
Germany	1	1.53	0.281	0.076	0.523	0.085
	2	1.35	0.268	0.103	0.504	0.078
	3	6.56	0.290	0.089	0.489	0.082
Greece	1	1.52	0.006	0.045	0.581	0.026
	2	-0.43	0.005	0.055	0.429	0.027
	3	7.29	0.005	0.052	0.452	0.027
Ireland	1	5.42	0.023	0.095	0.676	0.056
	2	3.30	0.038	0.164	0.547	0.079
	3	1.98	0.033	0.194	0.474	0.075
Italy	1	1.98	0.125	0.076	0.555	0.076
	2	0.36	0.114	0.098	0.520	0.066
	3	5.36	0.112	0.079	0.507	0.065
Netherlands	1	2.30	0.094	0.040	0.649	0.045
	2	0.95	0.109	0.043	0.658	0.042
	3	6.49	0.118	0.044	0.624	0.040
Portugal	1	2.24	0.012	0.045	0.765	0.019
	2	0.31	0.012	0.056	0.753	0.016
	3	5.63	0.012	0.058	0.725	0.029
Spain	1	3.67	0.049	0.047	0.684	0.042
	2	1.33	0.052	0.047	0.668	0.033
	3	5.93	0.058	0.042	0.660	0.031
Sweden	1	2.54	0.040	0.083	0.540	0.083
	2	-0.24	0.040	0.100	0.484	0.083
	3	6.24	0.039	0.089	0.408	0.057
United Kingdom	1	2.01	0.136	0.119	0.479	0.083
	2	0.30	0.130	0.151	0.496	0.073
	3	4.63	0.112	0.172	0.563	0.091
EU average	1			0.064	0.601	0.060
	2			0.084	0.563	0.058
	3			0.082	0.539	0.058
EU Weighted average	1			0.073	0.557	0.071
	2			0.094	0.545	0.065
	3			0.087	0.535	0.067

Notes: The whole sample (1990:1-2006:IV) is divided into three subsamples: period I (1990:1-1996:IV), period II (1999:I-2002:IV) and period III (2003:I-2006:IV). In order to get around the influences of the financial crisis, for East Asian countries, the financial crisis period (1997:I-1998:IV) has been eliminated.

Source: The data are obtained from the *Direction of Trade* data set except for Taipei,China for which the data are collected from and the Bureau of Foreign Trade in Taipei,China.

In general, EU countries' dependence on the US market is lower than East Asia countries' but has been increasing. The average export share of the US is 6.4% (un-weighted) and 7.3% (weighted) in period 1, and 8.2% (un-weighted) and 8.7% (weighted) in period 3. Overall, however, compared to East Asia countries, EU's exports are more diversified over the world.

Table 1-2.A shows the import shares for East Asia. Generally the findings are similar: for every country, the import share of the East Asia bloc is largest. It also increases over time for most of the countries. For every country, the US' import share also decreases, at least from period 2 to period 3. It is interesting to note that the PRC's reliance on the US is also decreasing. On average, the US' import share decreased from 16.1% (un-weighted) and 17.1% (weighted) in period 1 to 11.0% (un-weighted) and 10.4% (weighted). Table 1-2.A also shows the import shares for EU. Again, the results are similar as those of the export share.

Table 1-2. Import Intensity of Individual Countries
A. East Asian Countries

Country	Period	Average growth rate of import (%)	Weight	Trade integration with		
				US	EU	EA
People's Rep. of China	1	6.92	0.103	0.117	0.145	0.461
	2	8.08	0.170	0.104	0.135	0.441
	3	10.71	0.263	0.078	0.111	0.465
Hong Kong, China	1	6.36	0.149	0.076	0.095	0.789
	2	1.28	0.148	0.066	0.084	0.851
	3	5.18	0.126	0.052	0.070	0.846
Indonesia	1	4.89	0.033	0.121	0.201	0.481
	2	0.90	0.022	0.102	0.127	0.508
	3	8.03	0.024	0.064	0.093	0.587
Japan	1	2.85	0.294	0.228	0.139	0.312
	2	2.00	0.254	0.191	0.125	0.394
	3	5.88	0.213	0.136	0.112	0.417
Korea	1	5.55	0.108	0.221	0.127	0.380
	2	5.31	0.105	0.175	0.101	0.424
	3	7.71	0.104	0.124	0.098	0.460
Malaysia	1	7.14	0.054	0.162	0.139	0.568
	2	3.42	0.055	0.167	0.113	0.592
	3	5.38	0.047	0.139	0.112	0.612
Philippines	1	6.98	0.021	0.192	0.103	0.489
	2	1.80	0.025	0.198	0.083	0.567
	3	4.07	0.020	0.185	0.076	0.587
Singapore	1	5.58	0.096	0.159	0.128	0.541
	2	1.15	0.088	0.157	0.114	0.550
	3	7.79	0.082	0.124	0.111	0.503
Taipei, China	1	4.44	0.085	0.219	0.122	0.465
	2	0.78	0.087	0.176	0.098	0.544
	3	6.37	0.075	0.122	0.080	0.553
Thailand	1	5.67	0.054	0.114	0.143	0.530
	2	4.43	0.044	0.114	0.106	0.528
	3	7.48	0.046	0.080	0.086	0.550
East Asia Average	1			0.161	0.134	0.502
	2			0.145	0.109	0.540
	3			0.110	0.095	0.558
East Asia Weighted Average	1			0.171	0.130	0.475
	2			0.145	0.112	0.522
	3			0.104	0.100	0.528

Notes: The whole sample (1990:1-2006:IV) is divided into three subsamples: period I (1990:1-1996:IV), period II (1999:I-2002:IV) and period III (2003:I-2006:IV). In order to get around the influences of the financial crisis, for East Asian countries, the financial crisis period (1997:I-1998:IV) has been eliminated.

Source: Authors' calculation based on the *Direction of Trade* data set and the Bureau of Foreign Trade in Taipei,China.

The evidence so far indicates that the intra-regional trade integration in both East Asia and Europe is quite high. In this sense, it is likely that business cycle fluctuations are more regionally synchronized. We also found that the dependence of both regions on the US market is considerably lower than their dependence on regionally close economies. While EU countries' dependence on the US is generally lower than East Asia countries', one

interesting characteristic for East Asia countries is that its dependence on the US has a clear negative trend. This implies that the influence of the US economy on East Asian countries resulting from trade integration is getting weaker.

Trade integration among East Asian countries is likely to drive their business cycles, decoupling them from those of the US. A few caveats are, however, in order in interpreting in this way. First, as illustrated above, the dependence of Japan and the PRC, the two largest economies in East Asia, on the US market is still quite large. In particular, the PRC's dependence on the US increased from period 1 to period 3. Second, while not explicitly shown in Tables 1-1.A and 1-2.A, the inter-regional trade integration in East Asia is getting deeper as other East Asian countries' exports of parts and components to the PRC increase.[3] To the extent that the PRC plays a role of assembling imported parts and components and exporting the final goods to the US, a shock to the US cannot affect only the PRC but also indirectly affect the rest of East Asia.

C. Financial Linkage and Its Implications for Decoupling[4]

Another important avenue through which a shock is transmitted from one country to another is financial linkage. In the literature, at least three channels have been emphasized. First, capital flows, induced by return differentials, tend to move to countries with positive shocks from those with adverse shocks. Hence, by pulling out capital from adversely affected countries, deeper financial integration aggravates the countries' economies further while, at the same time, by pouring capital to booming economies, may overheat them. Hence, financial linkage can contribute to generating asymmetric fluctuations of business cycles.

Second, however, in some other circumstances, financial linkage can lead to more synchronized business cycles. For example, if a country facing shortage of liquid assets takes out capital from another country, a shock in the former country's financial market can be transmitted to the latter country's financial market in the same direction. To the extent that the shock in the financial market affects both countries' real sectors, fluctuations of the real economies are synchronized as well. Further, Claessens, Dornbusch, and Park (2001); Calvo and Reinhart (1996); and Cashin, Kumar, and McDermott (1995) argued that capital flow can generate business cycle co-movements for the countries in the same area that experience in- and outflows of capital at the same time. For example, during the Asian crisis and the Latin American crises, a number of countries in the same area facing outflow of capital simultaneously suffered recession.

Third, for a longer term view, better risk-sharing attained through greater financial market integration induces higher specialization of production and, hence, larger asymmetric shocks across countries. In other words, better income insurance provided by risk-sharing across countries enables each country to take more risk by specializing in specific industries. Therefore, as long as business cycles are driven by industry specific shocks, more financially linked countries tend to face less synchronization of business cycles.

The above arguments show that, at least theoretically, financial integration also does not lead to an unambiguous conclusion on the business synchronization. There is one difference, though, between trade and financial integration. That is, due to transportation costs, while trade integration is likely to progress among regionally close countries, since financial assets are weightless, there is no clear reason for financial integration to track the same route. In fact, as emphasized by recent studies, among others, Kim, Lee, and Shin (2008), East Asian economies have strong ties with the global financial markets such as the US markets.

[3] According to Urata (2006), while East Asia's reliance on the Chinese market increased recently, the PRC's trade with other East Asian economies declined to 45.3% (2000–2004 average) of its total trade from 60.5 % (1990–1994 average).

[4] This section draws on Shin and Sohn (2006); Kim, Lee, and Shin (2008); and Park and Shin (2008).

Table 2.A provides the geographical distribution of total portfolio investment asset holdings for East Asian and European countries in 2003. The data are obtained from the Coordinated Portfolio Investment Survey (CPIS), published by the International Monetary Fund (IMF). From the table, it is clear that the degree of intra-regional financial integration is much lower in EA than in Europe. While European countries hold on average 58% of their portfolio assets within Europe, the share of intra-EA asset holdings is about 14% on average for eight East Asian economies. Interestingly, among European countries, the UK, one of the global financial centers, holds the largest share positions in East Asia (11%) and the lowest intra-Europe share (42%).

Table 2: Geographical Distribution of Total Portfolio Asset Holdings
A. 2003

Source Country	*% of Portfolio Assets Held in Each Region*				*Total*	
	East Asia*	Europe	UK	US	(bln US$)	(percent in GDP)
Hong Kong, China	16.3	27.0	14.5	13.9	334.9	213.8
Indonesia	11.3	15.2	2.1	24.8	1.8	0.9
Japan	1.3	35.3	5.8	36.0	1721.3	40.0
Korea	7.9	16.6	6.4	45.9	17.3	2.9
Malaysia	45.9	23.4	5.2	18.1	1.7	1.6
Philippines	7.0	19.5	10.6	68.9	3.7	4.6
Singapore	20.2	38.9	18.2	15.7	143.9	157.5
Thailand	2.9	20.5	4.6	64.2	2.7	1.9
Average	*14.1*	*24.6*	*8.4*	*35.9*	*278.4*	*52.9*
Austria	1.3	70.6	5.0	9.9	206.8	81.7
Belgium	0.8	68.3	4.2	7.8	417.8	138.4
Denmark	4.4	56.5	7.5	22.9	127.0	59.9
Finland	1.5	82.3	8.7	8.1	107.4	66.4
France	2.8	72.7	9.2	11.1	1367.0	77.8
Germany	2.7	63.5	6.4	11.1	1205.1	50.1
Greece	0.2	47.1	14.7	14.2	34.0	19.7
Iceland	4.6	36.9	15.0	23.9	3.7	35.1
Ireland	3.3	56.3	19.2	27.4	811.6	528.0
Italy	2.0	48.2	5.3	12.5	791.1	53.9
Netherlands	3.8	58.8	9.5	27.8	782.6	153.0
Norway	7.7	60.1	10.4	22.9	184.4	83.5
Portugal	0.1	66.4	6.4	6.0	97.3	65.8
Spain	0.6	69.0	8.9	8.5	432.7	51.6
Sweden	5.1	46.0	12.4	30.7	213.7	70.9
Switzerland	2.5	43.4	5.0	14.6	654.4	204.4
United Kingdom	10.9	41.7	0.0	25.0	1729.5	96.4
Average	*3.2*	*58.1*	*8.7*	*16.7*	*539.2*	*108.0*
United States	14.3	52.8	21.2	0.0.	3134.2	28.6

Notes: This table is identical to Table 1 in Kim, Lee, and Shin (2008).

Source: International Monetary Fund, the Coordinated Portfolio Investment Survey, 1997, 2001, and updated data from the IMF website at http://www.imf.org/external/np/sta/pi/cpis.htm.

In contrast, the share of US assets is about 40% on average for East Asian countries, which is much larger than the US share in Europe, which is 17%. Especially, Japan (36%), Korea (46%), Philippines (69%), and Thailand (64%) hold a larger share of their portfolio assets in the US. The share of European assets is about 25% on average for East Asian countries, which is also larger than their intra-regional share. Hong Kong, China (27%); Japan (35%); Malaysia (23%); and Singapore (39%) hold a larger share of their portfolio assets in Europe. These figures clearly show that a number of East Asian countries have stronger ties with the US or Europe rather than among themselves.

Table 2.A also presents data on the size of total international portfolio asset holdings. The largest foreign investor is the US, whose holdings amount to about US$3.1 trillion, followed by the UK, about $1.7 trillion. In East Asia, Japan (US$1.7 trillion); Hong Kong, China (US$335 billion); and Singapore (US$144 billion) are the major investors. The other five East Asian countries hold a much smaller size of assets, on average, of about US$6 billion. In comparison most European countries hold a much larger size of assets.

In Table 2.B, I have updated the Kim, Lee, and Shin (2008) table to the latest available year, 2006. Now we can see that the intra-regional share in East Asia increased substantially to 21.7%, which is slightly larger than the US share, 20.7%. However, the decrease in the US share is mainly due to relatively smaller investors such as Indonesia, Philippines, and Thailand. The major investors such as Hong Kong, China; Japan; and Singapore decreased their US share only slightly, by 3%, 2%, and 0.5%, respectively, indicating that the reliance on the US financial market in terms of East Asia's aggregate asset holdings is still eminent.

Table 2: Geographical Distribution of Total Portfolio Asset Holdings
B. 2006

Source Country	*% of Portfolio Assets Held in Each Region*				*Total*	
	East Asia*	Europe	(UK)	US	(US$ billions)	(percent in GDP)
Hong Kong, China	26.8	22.3	10.9	10.9	592.5	312.2
Indonesia	18.6	30.9	2.0	7.2	1.5	0.4
Japan	2.0	34.4	6.2	34.0	2343.5	53.7
Korea	14.8	15.7	4.9	36.4	83.5	9.4
Malaysia	40.7	29.1	14.2	11.5	7.2	4.8
Philippines	18.6	22.3	8.2	43.2	7.2	6.1
Singapore	33.0	28.0	16.6	15.2	244.6	185.1
Thailand	18.8	22.9	8.3	7.1	5.1	2.5
Average	*21.7*	*25.7*	*8.9*	*20.7*	*410.6*	71.8
Austria	1.7	63.2	5.6	7.7	352.1	108.7
Belgium	0.9	65.4	4.6	8.1	676.6	171.5
Denmark	7.6	57.6	9.2	19.5	249.0	90.1
Finland	3.1	74.6	8.2	7.6	216.0	103.0
France	4.4	69.0	10.2	10.4	2429.1	107.9
Germany	2.1	64.6	7.6	9.2	1937.5	66.4
Greece	0.2	54.8	29.5	8.1	88.5	28.7
Iceland	1.6	48.2	12.2	12.4	17.2	105.5
Ireland	6.0	55.5	19.4	24.9	1593.7	726.5
Italy	1.8	48.9	4.0	9.1	1140.6	61.6
Netherlands	5.3	56.9	8.7	24.2	1262.8	188.2
Norway	7.0	58.0	9.9	22.1	435.1	129.5
Portugal	0.2	65.9	7.9	6.8	152.0	78.0
Spain	0.5	64.1	9.9	7.8	666.7	54.1
Sweden	5.9	50.6	12.1	23.7	394.6	102.7
Switzerland	3.0	43.1	5.8	13.5	881.1	227.1
United Kingdom	12.5	37.4		26.6	3068.2	127.9
Average	*3.7*	*57.5*	*9.7*	*14.2*	*915.3*	*145.7*
United States	16.7	49.7	18.0		5972.3	45.3

* East Asia refers to nine economies, including the PRC

Source: International Monetary Fund, the Coordinated Portfolio Investment Survey, 1997, 2001, and updated data from the IMF website at http://www.imf.org/external/np/sta/pi/cpis.htm

In contrast, the geographical distribution of total portfolio asset holdings for Europe did not change much. Their intra-regional financial integration is still strong, the average Europe share being about 58%. The UK's regional share is continuously lowest among European countries, amounting to 37%.

D. Trade and Financial Integration and Their Impacts on Business Cycle Co-movements[5]

The results from the previous section indicate that East Asian countries are being significantly integrated in terms of trade but not as much in terms of finance. How will this feature, i.e., the intra-regional trade integration and extra-regional financial integration, affect the pattern of business cycles in EA? Has there been a divergence between cyclical changes in EA and the US? In this section, I will try to answer these important questions by briefly summarizing the findings in Park and Shin (2008).

In order to answer the above questions, Park and Shin (2008) investigated how trade and financial integration affects the influence of movements of the three blocs' business cycles on the business cycle of each individual East Asian and European country. More specifically they constructed the following equation for EA:

$$g\tilde{y}_{it} = \beta_{yi} + \beta_{yi}^{US} g\tilde{y}_t^{US} + \beta_{yi}^{EU} g\tilde{y}_t^{EU} + \beta_{yi}^{EA} g\tilde{y}_t^{EA-i} + \varepsilon_{yit} \quad (1)$$

where $g\tilde{y}_{it}$ is the cyclical components of output for East Asian country *i* and $g\tilde{y}_t^{US}$, $g\tilde{y}_t^{EU}$, and $g\tilde{y}_t^{EA-i}$ are the cyclical components of output for the three blocs, the US, Europe, and East Asia. The cyclical measures are obtained by applying the Hodrick-Prescott filter. The output measures of the bloc are simply weighted average of output, where the GDP size is used as weights. To eliminate the influences of country *i* on its own bloc (East Asia), country i is excluded in calculating the cyclical component of the East Asia bloc, which is denoted by the superscript *EA-i*. Similarly they constructed another equation for Europe:

$$g\tilde{y}_{jt} = \beta_{yj} + \beta_{yj}^{US} g\tilde{y}_t^{US} + \beta_{yj}^{EU} g\tilde{y}_t^{EU-j} + \beta_{yi}^{EA} g\tilde{y}_t^{EA} + \varepsilon_{yjt} \quad (2)$$

where $g\tilde{y}_{jt}$ is the cyclical components of output for European country j and its influence is eliminated in calculating the cyclical component of the European bloc.

By estimating equations (1) and (2), they defined the business cycle co-movement measures of output for an individual country *vis-à-vis* the US, EU, and East Asia blocs as the estimates of the three coefficients, β_{yi}^{US}, β_{yi}^{EU}, and β_{yi}^{EA}, respectively.

In order to investigate how the degree of business cycle co-movements has evolved over time, the authors divided the whole sample into three subsamples: period I (1990:I–1996:IV for East Asian countries and 1990:I–1998:IV for EU countries), period II (1999:I–2002:IV), and period III (2003:I–2006:IV). For East Asian countries, to avoid the influence of the financial crisis, they eliminated the financial crisis period (1997:I–1998:IV).

Table 3 reports the degree of business cycle co-movements for East Asian countries (Table 3A) and European countries (Table 3B). We find that the business cycles of most East Asian countries are quite synchronized, especially after the Asian crisis.[6] In fact, countries such as Korea; Malaysia; the Philippines; Singapore; and Taipei,China show very strong ties of business cycle co-movements with the East Asia bloc in period 3. In contrast, the PRC and Japan, the two largest countries accounting for 70 % of East Asia bloc's output, show much weaker and even negative co-movements with the East Asia bloc in period 3. The degree of

[5] This section introduces the findings in Park and Shin (2008).

[6] This is also confirmed by Kim and Lee (2008).

business cycle co-movements of East Asia countries with the US is generally lower than that with the East Asia bloc. The PRC is an exceptional case where its business cycles are more synchronized with the U.S than with the East Asia bloc in all the three periods.

Table 3: Business Cycle Co-movements
A. East Asian Countries

Country	Period	Business cycle co-movements with		
		US	EU	EA
People's Rep. of China	1	0.298	-0.156	-0.294
	2	0.449	-0.317	0.208
	3	0.149	0.401	-0.453
Hong Kong, China	1	0.032	-0.140	-0.076
	2	0.213	0.150	0.643
	3	0.508	0.211	0.127
Indonesia	1	-0.002	-0.022	0.198
	2	-0.053	0.198	-0.011
	3	-0.220	0.127	-0.738
Japan	1	-0.108	0.009	-0.444
	2	-0.663	0.446	0.621
	3	0.132	0.457	-0.394
Korea	1	-0.256	0.215	-0.152
	2	0.086	0.177	0.183
	3	0.098	-0.107	0.742
Malaysia	1	-0.204	0.071	-0.154
	2	0.253	0.033	0.402
	3	0.121	-0.184	0.659
Philippines	1	0.470	0.182	0.275
	2	0.228	-0.187	0.145
	3	-0.055	-0.068	0.808
Singapore	1	0.040	-0.150	-0.247
	2	0.334	0.012	0.444
	3	0.307	0.090	0.371
Taipei,China	1	0.056	0.045	-0.178
	2	0.599	-0.306	0.573
	3	0.363	-0.058	0.485
Thailand	1	-0.071	0.133	-0.130
	2	0.034	0.138	-0.012
	3	0.019	-0.063	-0.072
East Asia Average	1	0.026	0.019	-0.120
	2	0.148	0.034	0.320
	3	0.142	0.081	0.154
East Asia Weighted Average	1	-0.060	0.008	-0.356
	2	-0.276	0.222	0.479
	3	0.136	0.327	-0.230

Notes: This table is identical to Table 5 in Park and Shin (2008)

In Table 3B, we also find evidence, but somewhat stronger than in East Asia, that business cycles of EU countries are also synchronized. Especially business cycles of EU countries such as Austria, Finland, France, Germany, Italy and Netherlands demonstrate strong co-movements with those of the EU bloc. Further, in general, the average measure of business cycle co-movements with the EU bloc is higher than that with the US bloc or that with the East Asia bloc. However, we did not find any strong evidence that the business cycle co-movements are getting stronger. In fact, the average co-movement measure, whether weighted or un-weighted, is highest in period 2 and lowest in period 3.

Table 3: Business Cycle Co-movements
B. EU Countries

County	Period	Business cycle co-movements with		
		US	EU	EA
Austria	1	-0.244	0.511	-0.177
	2	0.307	0.475	-0.116
	3	-0.061	0.733	-0.311
Denmark	1	-0.275	0.348	-0.296
	2	-0.282	0.173	0.519
	3	0.182	-0.085	0.182
Finland	1	0.423	0.078	0.096
	2	-0.278	0.683	0.191
	3	0.106	0.088	0.420
France	1	0.225	0.572	-0.017
	2	0.318	0.474	0.025
	3	0.317	0.217	0.102
Germany	1	0.542	0.418	-0.014
	2	0.293	0.436	-0.159
	3	0.069	0.320	0.495
Greece	1	-0.189	0.090	-0.320
	2	-0.092	-0.072	0.184
	3	-0.082	-0.222	0.195
Ireland	1	0.369	0.310	0.169
	2	0.062	0.498	-0.208
	3	-0.372	-0.277	0.599
Italy	1	-0.036	0.230	-0.012
	2	-0.056	0.723	0.441
	3	0.209	0.456	0.192
Netherlands	1	0.154	0.474	0.161
	2	0.313	0.584	-0.127
	3	-0.232	0.336	0.324
Portugal	1	0.567	0.008	-0.242
	2	0.217	-0.131	0.002
	3	0.389	-0.071	-0.068
Spain	1	-0.002	-0.156	0.285
	2	0.096	-0.018	0.609
	3	0.020	-0.370	0.306
Sweden	1	-0.323	0.000	0.241
	2	-0.124	-0.320	-0.009
	3	-0.292	-0.051	0.198
United Kingdom	1	-0.368	-0.033	0.277
	2	0.002	-0.165	0.015
	3	-0.308	-0.309	-0.312
EU average	1	0.065	0.219	0.012
	2	0.060	0.257	0.105
	3	-0.004	0.059	0.179
EU weighted average	1	0.130	0.285	0.050
	2	0.139	0.311	0.081
	3	0.028	0.109	0.166

Notes: This table is identical to Table 5 in Park and Shin (2008)

Park and Shin (2008), then, investigated how the co-movement measures for each individual country are influenced by the progress of trade and financial integration. Their findings are summarized as follows. First, they found strong evidence that deeper trade integration reinforces output co-movements. Further, they found that, while trade integration strengthens business cycle co-movements in both East Asia and Europe, this effect is stronger in Europe. Second, they found that while financial integration also contributes to business cycle co-movements, its impact is much weaker. The influence of financial integration, if any, on business cycle co-movements is also larger in the EU.

E. Discussion

The results in Park and Shin (2008) suggest that business cycles of East Asia countries are becoming more synchronized, possibly leading the region to decouple from the US. The driving force behind this scene is the deepening regional trade integration. Recently, intra-regional trade exploded in East Asia, and the extent of regional trade integration reached a comparable level to that of the EU region, a scenario which should contribute to synchronized business cycles within the region. Interestingly, financial integration of East Asian countries is more pronounced in their ties to the global financial markets such as those in the US and the UK However, since the impact of financial integration on business cycles is much weaker than that of trade integration, stronger financial integration of East Asian countries with the US does not necessarily keep East Asia countries from decoupling from the US.

Some caveats are necessary to interpreting the results of Park and Shin (2008) in the above way. First, as stated already, the two largest countries, the PRC and Japan, do not show clear tendency toward more trade integration with other East Asian countries. In particular, the intra-regional share of the PRC's exports has been decreasing and the US share has been increasing. Athukorala (2005) showed that international product fragmentation—the cross-border dispersion of component production/assembly within vertically integrated production processes—is an important source of the deepening trade integration among East Asian countries. Since the final destination of assembled goods is more likely to lie in other regions such as the US, he argues that "product fragmentation has made the East Asian growth dynamism increasingly reliant on extra-regional trade (Athukorala 2005: 1)." If this is the case, a negative shock in the US, which would reduce imports from the PRC, would indirectly affect other East Asian countries' exports to the PRC, which implies that East Asia may not be decoupling from the US.

Following Athukorala (2005), I report in Table 4 the share of parts and components content for East Asia. In the original table the sample period stopped in 2000 and I extended it to 2006. East Asian countries cover the PRC; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; Singapore; Taipei,China; Thailand; and Philippines. The share of parts and components content in the intra-regional trade in East Asia continued to increase from 2000 to 2006. In contrast, the same share in trade between East Asian countries and the US decreased from 2000 to 2006. These results show that product fragmentation is still the major source of intra-regional trade in East Asia, while its importance in trade with other regions, such as with the US, has weakened recently.

Table 4: Share of Parts and Component contents in Manufacturing Trade Flows (%)

		Exports			Imports		
Exporter/Importer		**East Asia**	**US**	**World**	**East Asia**	**US**	**World**
East Asia	1992	26.2%	26.4%	24.3%	26.2%	40.1%	26.8%
	1996	27.9%	33.4%	28.1%	28.7%	36.8%	26.4%
	2000	40.3%	33.0%	34.3%	42.6%	49.8%	40.1%
	2006	45.5%	24.7%	34.4%	46.4%	45.5%	41.8%
US	1992	36.0%		33.0%	28.5%		27.7%
	1996	34.1%		30.4%	34.2%		26.5%
	2000	47.3%		36.7%	34.1%		28.5%
	2006	45.6%		31.9%	28.3%		24.8%
World	1992	25.4%	25.8%	22.7%	32.5%	37.7%	23.8%
	1996	24.6%	24.8%	20.7%	27.7%	33.0%	21.3%
	2000	39.0%	27.5%	28.4%	36.2%	40.3%	28.5%
	2006	42.4%	22.8%	27.1%	36.3%	34.5%	26.9%

Notes: I follow Athukorala (2005) in classifying trade in parts and components. East Asia countries include the ten countries considered in Table 1-1.A.

Source: Author's calculation based on United Nations Commodity Trade Statistics Database.

Second, while the impact of financial integration on business cycles is generally weaker, it is the US financial markets that are in trouble. In terms of their depth as well as their size, the US financial markets have been and remain by far the largest in the world economy. A shock in the US financial markets has a great influence on the worldwide financial markets. In general, as long as the real sector is insulated from the occurrences in the financial markets, the increasing correlations of asset prices do not necessarily imply that the business cycles of the real sector are synchronized. The question is if this shock will be confined in the financial markets or will it spill over to the real sector.

Third, another feature of the impact of financial integration on business cycle co-movements is that it is highly nonlinear. That is, the impact of financial markets is asymmetric across business cycles (WEO 2007). Asset price correlations tend to increase significantly during bear markets and recessions. Hence, there is a possibility that the impact of a negative shock is much greater. Further, if the shock is so major that the US financial markets suffer from a major crisis, this financial shock is more likely to be spilled over to the US' real sector.

III. HIGH INFLATION AND EAST ASIAN COUNTRIES' DILEMMA

A. The Causes of High Inflation in East Asia

In the decade since the 1997 Asian crisis, East Asian countries, like most of the world, have experienced quite a low inflation rate. Until recently, this positive performance of inflation is partly associated with globalization—defined as "the accelerated growth of international trade in goods, services, and financial assets relative to the rate of growth in domestic trade." (WEO 2006: 97). According to the WEO study, the main channels through which globalization lowers inflation are as follows:

i. policymakers have less ability to temporarily boost output and/or bear higher costs of imprudent macroeconomic policies through the adverse response of international capital flows (e.g., Romer 1993; Fischer 1997; or, Tytell and Wei 2004);

ii. globalization encourages price competition in domestic markets and the relocation of production toward to the most cost-efficient firms also helps reduce inflation;

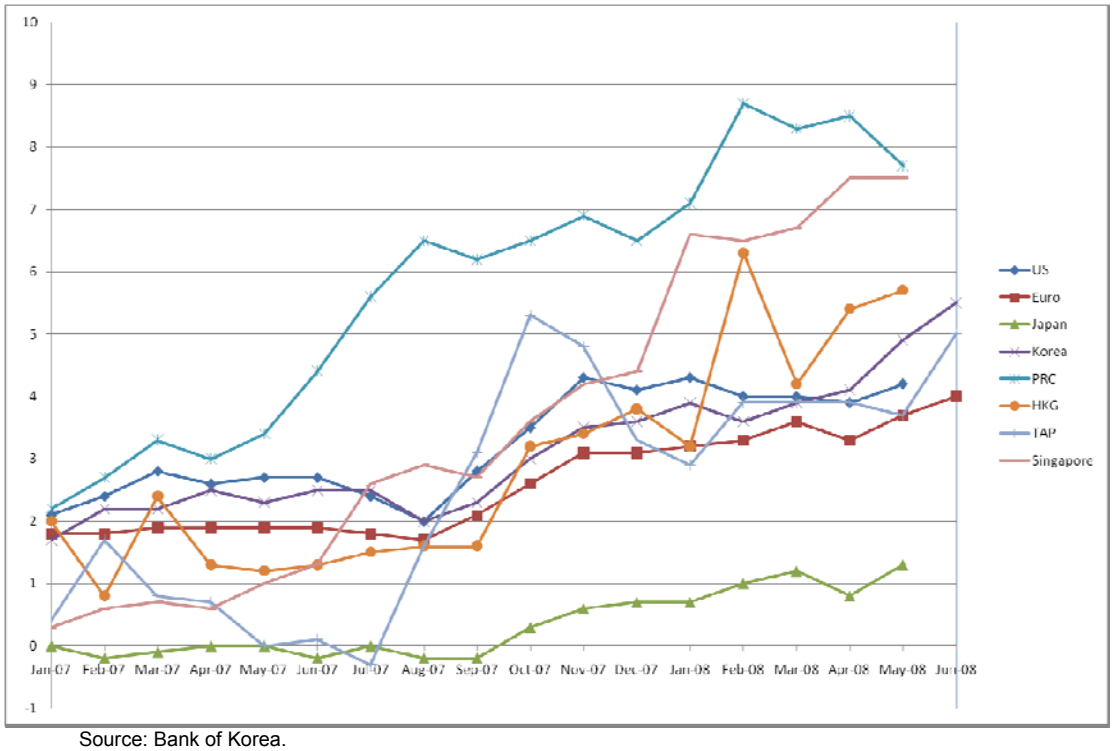
iii. by putting more pressure on innovation, globalization can also lead to higher productivity growth—globalization also accelerates emerging economies' technology catch-up by allowing for greater interaction with more advanced economies; and,

iv. the sensitivity of inflation to the fluctuations of domestic output has been reduced. For example, foreign demand and supply conditions become increasingly important in determining prices of the domestically produced goods.

For emerging economies, particularly Korea, exchange rate appreciation was another important factor that diminished inflationary pressure.

However, lately the inflation rate has been steadily rising in most countries. Figure 1 shows the CPI inflation rate for selected countries for the past 18 months, which clearly reflects that the inflation rate started to increase in most countries in the third or the fourth quarter of 2007.

Figure 1: The CPI Inflation Rate in Selected Countries



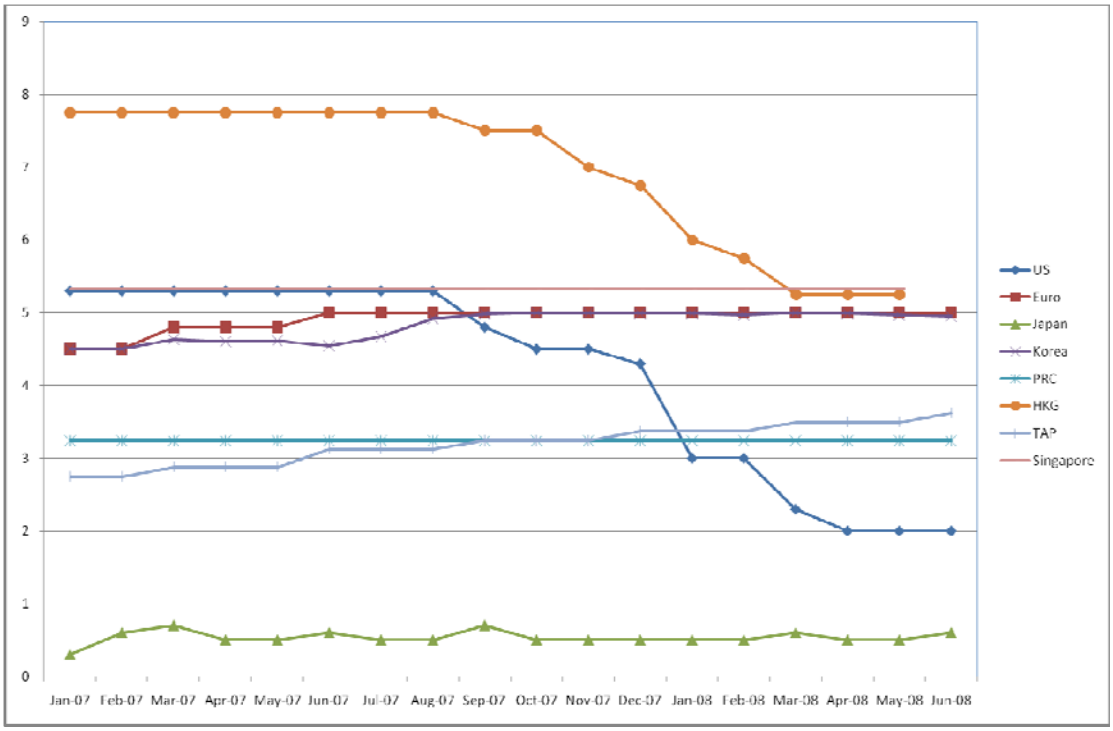
Source: Bank of Korea.

Why does suddenly high inflation prevail in many economies? Eichengreen (2008) wrote:

> As for where this inflation came from, it came mainly from the United States. Starting [in the summer of 2007], in response to the subprime crisis, the [US Federal Reserve] cut interest rates sharply… The Asian economy was growing full out in 2007. The last thing it needed was lower interest rates. But that's what it got, given the habit of limiting the fluctuation of Asian currencies against the dollar. Allowing Asian interest rates to rise more sharply against US rates would have caused Asian currencies to appreciate against the dollar more strongly. And for all their talk of greater exchange rate flexibility, this was not something that Asian governments and central banks were prepared to countenance. As a result, Asian economies that needed demand restraint got demand stimulus instead.

While this diagnosis is partly true, in fact, the nominal interest rates in most countries did not follow the US's lead. Figure 2 shows the recent changes in the interest rates in selected countries. Except for Hong Kong, China, which adopts a currency board and hence does not have any other option, the nominal interest rates in most other countries either did not change much or increased.[7]

Figure 2: The Interest Rate in Selected Countries



Notes: The interest rates are short-term policy rates.

Source: Bank of Korea.

However, Eichengreen's point that the US is responsible for the recent global high inflation may still be valid if we look back further. Since 1992, when the US experienced a slight surplus in its current account balance, the US current account deficit widened, until recently, when it began to close. However, there are East Asian countries (including the PRC and Japan), EU countries, and oil-producing countries that have experienced a significant current account surplus. This scenario of global imbalance implies that an enormous amount of liquidity has been poured into the global economy. Many countries that are now experiencing a current account surplus, for fear of exchange rate appreciation have chosen to accumulate foreign reserves by intervening in the foreign exchange market. At the same time, in order to avoid large increases in domestic liquidity, these countries sterilized a large fraction of their reserve accumulation. However, this attempt was only partially successful, resulting in domestic liquidity increases. Even though the previously mentioned forces of globalization helped prevent these countries from facing immediate inflation, the pressure toward inflation was hiding in the asset price increases. Hence, eventual inflation was unavoidable.

Interestingly, however, the rising inflation is much more visible in emerging economies. For example, the headline inflation rate in June 2008 is 8.9% in Thailand and over 10% in Indonesia, Philippines, and Viet Nam. In contrast, the headline inflation rate in the US, the source of global liquidity, was 5.0% in the same month.

[7] While we focus on the nominal interest rates, it is possible to reach a different conclusion if the reasoning is based on the real interest rates. Because inflation was rapidly rising, the real interest rates in most Asian countries turned negative, which one can interpret to mean that the current monetary policy in these countries is expansionary.

The reason why emerging economies suffer from more severe inflation is the recent oil and food price increase that is also considered as another culprit of the recent inflation. The WEO Update (2008: 1, 2) argues that "rising energy and commodity prices have boosted inflationary pressure, particularly in emerging and developing economies" and that "the driving force behind higher inflation is higher food and fuel prices." Because manufacturing sectors have migrated from more advanced countries to emerging countries, emerging countries are suffering from the oil shocks as badly as advanced countries did in the 1970s.

There is also divergence between headline inflation and core inflation. In advanced countries, the headline inflation in May 2008 rose to 3.5%, while core inflation remained at 1.8%. In emerging and developing economies, headline and core inflation rose to 8.6% and 4.2% respectively (WEO 2008). The fact that headline inflation is rising much more rapidly suggests that the recent inflation is associated closely with the recent fuel and food price increases.

B. Policy Responses to High Inflation

The recent oil price increases are also expected to adversely influence the world economy. While there has been no consensus about whether or not the slowdown of the US economy will spill over to other regions, there is no doubt that the oil price shock is global in nature and could therefore potentially affect economies around the world.

The high inflation in emerging Asian economies presents policymakers in the region with a serious dilemma. In order to keep the inflation rate from rising, policymakers have to raise the interest rate. However, the increased interest rate would, in turn, likely slow down the economy.

The fact that a number of emerging Asian countries such as Korea, Thailand, and Indonesia, to name a few, have adopted the inflation targeting regime may or may not complicate the situation. Strict inflation targeting is supposed to imply that the only objective of monetary policy is to maintain low inflation. However, in most countries, the inflation rate has already deviated from the target range for some time and there is no hope that the inflation rate will return to the target range soon. The reason many countries allow the inflation rate to stay out of the target range is because they worry about the possibility of slowdown of their economies. Most economists agree that a central bank that adopts a policy of inflation targeting actually has a dual mandate not just to maintain the inflation rate in the target range but also to foster growth.[8]

The current situation, however, poses a serious challenge to the central banks of many emerging Asian countries. In most countries, the central banks lack history to build up a reputation as inflation fighters. By adopting inflation targeting, they could enjoy one of the most important virtues of inflation targeting—i.e., that inflation expectation is also anchored in the target range. Currently, they face a real test of their credibility. If the inflation is out of the target range for a long time, the inflation expectation would likewise not remain in the target range. The unanchored inflation expectation would stimulate wage increases, which in turn would lead to another round of price increases. Eventually this adverse price-wage spiral would lead central banks to face the even more painful costs of lowering the inflation rate later.

WEO (2008:1) strongly recommends tightening monetary policy. It also argues that, in order to reverse the recent build-up in inflation, tightened monetary policy should be combined with "greater fiscal restraint and, in some cases, with more flexible exchange rate management." However, Eichengreen (2008) approaches the problem in a different way. He agrees that the central banks in emerging Asia are left with no alternative but to tighten their monetary

[8] For example, Blanchard and Gali (2007) argued that if real rigidities are present, focusing only on inflation may not be optimal. When there is an oil shock, it is desirable to allow higher inflation in order to cushion the shock to output.

policies. The policy package he recommends for these countries is a combination of monetary tightening, currency appreciation, and fiscal stimulus. Compared to the WEO's recommendation, the main difference with Eichengreen's suggestion lies in their respective stances on fiscal policy. Eichengreen (2008) argues that while contractionary monetary policy is unavoidable, "tax cuts and increases in public spending on locally produced goods will limit the contraction of aggregate demand," and at the same time, by stimulating the demand for locally-produced goods, these fiscal actions will appreciate the exchange rate, which will moderate the rise in import prices and help contain inflationary pressure.

Eichengreen places the PRC at the top of the list of countries that have the ability to respond by expansionary fiscal policy. Especially in the relatively underdeveloped areas, such as the western part of the country, the PRC can still enjoy a high return on additional infrastructure investment. Besides the PRC, Eichengreen named Korea; Malaysia; Singapore; and Taipei,China as candidates to potentially implement more expansionary fiscal policy. However, unlike in the case of the PRC, he argues that the fiscal stimulus in these countries should be explicitly temporary.

Another important question is how helpful the exchange rate appreciation would be in alleviating the inflationary pressure. A number of East Asian countries that have maintained the exchange rate undervalued to promote exports may find that now is the right time to let the exchange rate move more freely in the foreign exchange market so that it can appreciate. The appreciation of the exchange rate, by lowering the price of the imported goods, can actually reduce the inflationary pressure. However, it is important to note that this is not a fundamental solution to inflationary pressure, because the exchange rate cannot continuously appreciate. In essence, exchange rate determines only the relative price between imported goods and domestically produced goods. Eventually the general price level is entirely determined by domestic monetary policy.

Sometimes policymakers consider intervention in the exchange rate as an independent policy option. Korea's central bank's recent action is an example of this usage of exchange rate intervention. Recently, the central bank of Korea actively intervened in the foreign exchange market in the hopes of mitigating inflation pressure. In July 2008, the heavy intervention by the Korea's central bank changed the exchange rate to around 1,000 Korean won per US dollar, which amounts to about a 5% appreciation in one or two days. The question is whether this kind of exchange rate intervention is going to be successful for a country like Korea that has begun to suffer from current account deficits and that has completely open capital markets. As I write this article, the Korean won has depreciated back to 1,136 Korean won per US dollar (or, about 13.6 %) since July.

A number of studies have pointed out that, if the terms of trade aggravate, the exchange rate should be depreciated to rebalance the trade account. The flexible exchange rate will help to lesson the impact of external shocks; if not, the domestic sector should have the burden of adjustment, which would require low income since the demand for imports should be lowered. This domestic adjustment is much more costly for the economy. The oil price increase is, for most countries that rely on imported oil, one of the worst in terms of trade shocks. Hence, in order to rebalance the trade account, it is desirable for the exchange rate to depreciate, rather than to appreciate, against oil-producing countries. Since emerging East Asian economies are more adversely affected by oil price increases than is the US, the exchange rates of these countries should be depreciated more, implying depreciation against the US dollar as well. However the depreciation of the exchange rate will aggravate the inflationary pressure. Certain countries that are suffering from the current account deficits, like Korea, also face this kind of dilemma in dealing with the exchange rate policy.

IV. CONCLUSION

In this short article, I tried to assess the impacts of the subprime mortgage crisis and oil price increases on Asian economies. I argued that the sub-prime mortgage crisis, while likely to slow down the US economy, its impact may not be large on Asian countries unless the crisis becomes fully blown. However, I also argued that the high inflation due to fuel and food price increases presents policymakers in Asian countries with a serious dilemma.

Recent studies have shown that East Asia is quite integrated in terms of trade. The financial integration is also progressing, but the extent of the financial integration is not as remarkable as trade integration is in East Asia. In contrast, East Asian countries'financial linkage to the global center (i.e., the US market) is quite strong. These studies also show that trade integration greatly enhances business cycle co-movements of output. There is also evidence that financial integration also leads to more co-movements of output, but its impact is relatively weak. Hence, the deepening trade integration in East Asia indicates that the impact of slowdown in the US economy is not likely to be large. Because the impact of financial integration is not significant, the fact that most Asian countries' financial markets have strong ties with the US financial markets does not necessarily dispute this prediction. There is a caveat: the crisis in the US should not be fully fledged. The evidence of weak impact of financial integration on business cycle co-movements is derived under a relatively calm situation.

On the other hand, the recent fuel price increases are of a more global nature. Most Asian countries, still heavily dependent on the manufacturing sector, are expected to be more adversely affected by the oil price increases than advanced countries. Now, the central banks of Asian countries face a dilemma between high inflation and economic slowdown. This will be the first serious challenge for many emerging Asian countries that have adopted inflation targeting.

REFERENCES

Athukorala, Prema-Chandra. 2005. Product Fragmentation and Trade Patterns in East Asia. *Asian Economic Papers* 4(3): 1–27.

Bank of Korea. Various issues. Overseas Economies Focus.

Blanchard, Olivier and Jordi Gali. 2007. Real Wage Rigidities and the New Keynesian Model. *Journal of Money, Credit and Banking* 39(s1): 35–65.

Bureau of Foreign Trade. Trade Statistics. Taipei,China. http://cus93.trade.gov.tw/english/FSCE/FSC0011E.ASP

Calderón, César, Alberto Chong, and Ernesto Stein. 2007. Trade intensity and business cycle synchronization: Are developing countries any different? *Journal of International Economics* 71(1): 2–21.

Calvo, Sarah and Carmen Reinhart. 1996. Capital Flows to Latin America: Is There Evidence of Contagion Effects? In G. Calvo, M. Goldstein and E. Hochreiter, eds., *Private Capital Flows to Emerging Markets After the Mexican Crisis*. Institute for International Economics: Washington, DC.

Canova, Fabio and Harris Dellas. 1993. Trade Interdependence and the International Business Cycle. *Journal of International Economics* 34(1–2): 23–47.

Cashin, Paul, Manmohan Kumar, and John McDermott. 1995. International Integration of Equity Markets and Contagion Effects. *IMF Working Paper* 95/110.

Choe, Jongil. 2001. An Impact of Economic Integration through Trade: On Business Cycles for 10 East Asian Countries. *Journal of Asian Economics* 12(4): 569–586.

Claessens, Stijn, Rudiger Dornbusch, and Yung Chul Park. 2001. Contagion: Why Crises Spread and How it Can Be Stopped. In S. Claessens and K. Forbes, eds., *International Financial Contagion.* Kluwer Academic Publishers: Norwell, MA.

Coordinated Portfolio Investment Survey. 1997. International Monetary Fund (IMF). Accessed 1 August 2008: http://www.imf.org/external/np/sta/pi/cpis.htm.

———. 2001. IMF. Accessed 1 August 2008: http://www.imf.org/external/np/sta/pi/cpis.htm.

———. 2007. Accessed 1 August 2008: http://www.imf.org/external/np/sta/pi/cpis.htm.

Eichengreen, Barry. 1992. Should the Maastricht Treaty Be Saved? Princeton Studies in International Finance (74). International Finance Section, Princeton University.

Eichengreen, Barry. 2008. Asia and Global Stagflation. On VoxEU.org. 19 June. http://www.voxeu.org/index.php?q=node/1246. Accessed date: 6 August 2008.

Fischer, Stanley. 1997. Capital Account Liberalization and the Role of the IMF. Speech at the IMF Seminar on Asia and the IMF. Hong Kong SAR, September 19. Accessed August 2008: http://www.imf.org/external/np/speeches/1997/091997.htm.

Frankel, Jeffrey and Andrew Rose. 1998. The Endogeneity of the Optimum Currency Area Criteria. *The Economic Journal* 108(449): 1009–1025.

International Monetary Fund. 2007. Direction of Trade Statistics.

Jones, Ronald W. 2006. Production Fragmentation and Outsourcing: General Concerns. Unpublished working paper.

Kenen, Peter. 1969. The Theory of Optimum Currency Areas: An Eclectic View. In R. Mundell and A. Swoboda eds., *Monetary Problems in the International Economy*. Chicago: University of Chicago Press.

Kim, Soyoung, Jong-Wha Lee, and Kwanho Shin, 2008. Regional and Global Financial Integration in East Asia. In *China, Asia and the New World Economy*, edited by B. Eichengreen, C. Wyplosz, and Y. Park. Oxford University Press.

Kim, Soyoung and Jong-Wha Lee. 2008. Real and Financial Integration in East Asia. *ADB Working Paper Series on Regional Economic Integration* 17. Manila: ADB.

Krugman, Paul. 1993. Lessons of Massachusetts for EMU. In F. Giavazzi and F. Torres, eds., *The Transition to Economic and Monetary Union in Europe*. Cambridge University Press: New York.

Park, Yung Chul and Kwanho Shin. 2008. Economic Integration and Changes in the Business Cycle in East Asia: Is the Region Decoupling from the Rest of the World? Presented at the Asian Economic Panel meeting in April.

Romer, David. 1993. Openness and Inflation: Theory and Evidence. *The Quarterly Journal of Economics* 108(4): 869–903.

Shin, Kwanho and Chan-Hyun Sohn. 2006. Trade and Financial Integration in East Asia: Effects on Co-movements. *World Economy* 29(12): 1649–1669.

Shin, Kwanho and Yunjong Wang. 2003. Trade Integration and Business Cycle Synchronization in East Asia. *Asian Economic Papers* 2(3): 1–20.

Tytell, Irina, and Shang-Jin Wei. 2004. Does Financial Globalization Induce Better Macroeconomic Policies? *IMF Working Paper* 04/84. IMF: Washington, DC.

Urata, Shujiro. 2006. A Shift from Market-driven to Institution-driven Regionalization in East Asia. Paper presented to Conference on Economic Policy Reform in Asia. Stanford University. June.

United Nations Commodity Trade Statistics Database. 2007. United Nations Statistics Division.

World Economic Outlook. 2006. How has Globalization Affected Inflation? International Monetary Fund (IMF). April.

———. 2007. Decoupling the Train? Spillovers and Cycles in the Global Economy. IMF. April.

———. 2008. Global slowdown and rising inflation. IMF. July.