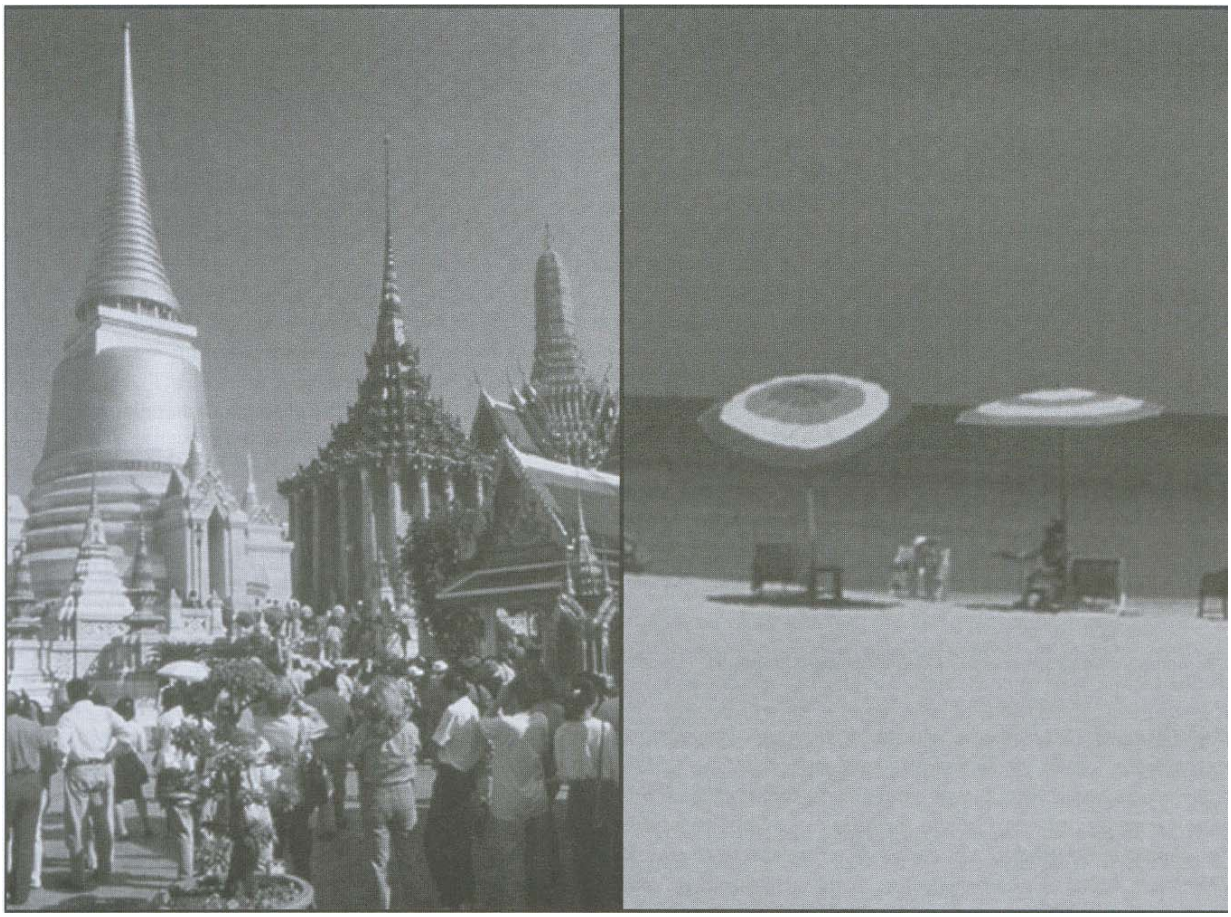
Vol. 20 No. 1 Thailand Development Research Institute March 2005

TDRI Quarterly Review

Contents



In 2003 the unexpected outbreak of SARS had obviously caused severe impacts for Asian economies, especially on the tourism industry. Even in Thailand where there was no SARS outbreak, its tourism sector was unavoidably suffered. See related article on page 14.

ISSN 0857-2968

Regional Architecture for Financial Cooperation in East Asia

Chalongphob Sussangkarn
Pakorn Vichyanond*

This article discusses various modes of financial cooperation in East Asia that might come about in the future based on on-going initiatives and possible new initiatives. It is taken from part of a report prepared by the authors for a project on "Toward a Regional Financial Architecture for East Asia" that was coordinated by the ASEAN Secretariat.[1] Various modes of financial cooperation discussed are 1) information exchanges and surveillance processes; 2) Chiang Mai Initiatives (CMI); 3) fostering bond markets in Asia; 4) exchange rates and reserves management coordination; and 5) toward greater relative stability of regional currencies.

1. Information Exchanges and Surveillance Processes

The Manila Framework Group was established in November 1997 for the overriding purpose of regional surveillance. This Group meets semiannually and brings together representatives of 14 countries, both within and outside the Asia and Pacific region. In these meetings, the Asian Development Bank (ADB), the International Monetary Fund (IMF), and the World Bank provide surveillance reports. In October 1998, the ASEAN Finance Ministers established the ASEAN Surveillance Process (ASP). The overall purpose is to strengthen the capacity of policy making within the ASEAN group. In addition to the steady monitoring of exchange rates and macroeconomic aggregates, the ASP examines sectoral and social policies, and includes provisions for capacity building, institutional strengthening, and sharing of information. This process was enlarged to cover ASEAN+3 in November 1999, and the first peer review meeting under the ASEAN+3 Surveillance Process was held in May 2000. In May 2001 the ASEAN+3 early warning systems were formulated to help detect emerging macroeconomic, financial, and corporate sector vulnerabilities, in the attempt to prevent financial crises in the future.

Manupipatpong (2002) gives details on the development and process of the ASP as well as an evaluation of its potential contributions and limitations. He suggested that the ASP can provide value added to the regular IMF surveillance by having more input from regional experts who are more familiar with the realities and constraints facing economies in the region, while IMF recommendations tended to be based on first-best theoretical considerations that may not be practical given the socio-political characteristics of the region. The regional peer review process could therefore be an additional forum to highlight possible vulnerabilities from the perspectives of people who are more familiar with the realities facing various economies in the region.

While the regional surveillance process can provide useful information exchanges and mutual discussions of economic problems or challenges facing the region, one should not over-estimate the ability of the regional peer review process to warn of an impending crisis and to get the vulnerable countries to take appropriate corrective actions. For example, if such a peer review process had existed prior to the crisis, would it have made a real difference in preventing the 1997 crisis? This is somewhat doubtful. In hindsight, we now know the importance of avoiding a huge buildup of short-term foreign debt. However, before the crisis, not much attention was paid to short-term foreign debt, and in many countries, data on short-term foreign debt were not readily available. Countries may have even regarded the ability to attract foreign borrowing as a sign of confidence by foreign lenders in the strength of the economy, and the accompanying increase in official reserves as a result of the large inflow of foreign borrowing was also regarded as another sign of increased stability. Thus, prior to the crisis, most of the focus was on how strong the economies in East Asia were. This was the case for those in the region as well as

* *Dr. Chalongphob is TDRI's President, and Dr. Pakorn is Research Director for Financial and Capital Markets, TDRI's Macroeconomic Policy Program.*

from outside the region, such as multilateral agencies and credit rating agencies. Even though Jim Walker[2] and others may have flagged warnings, these warnings were overwhelmed by other indicators that were regarded as signs of strengths. Krugman (1994) may have pointed out that the successes of the East Asian economies were due more to perspiration rather than inspiration, but relying on perspiration is a far cry from being close to a crisis.

The point is that if there is some consensus as to what types of indicators point to major risks and vulnerabilities for an economy to get into a crisis, then a regional peer review process can be effective in helping each other finds ways to deal with potential problems. However, a crisis normally arises from previously unexpected reasons. After a crisis, and after analyses of why it occurred, the reasons tend to become clearer and a consensus develops. At the time when there is little consensus on what might bring about a crisis, the effectiveness of a regional surveillance process is much more doubtful. Vulnerable countries would tend to deny that certain factors pointed out by some of the others as being signs of vulnerability to a crisis are in fact so. Political considerations at home would also tend to encourage this, as all governments want to give an impression of effective performance to its people and would normally stress indicators of good performance and downplay indicators of vulnerabilities, or to suggest that potential problem areas are well under control.

Given political constraints in official surveillance mechanisms, a parallel informal surveillance mechanism should be set up making use of non-government think tanks, autonomous institutions and independent scholars. Such institutions and individuals who are more independent of governments can provide perspectives independent of the official line. There are already a number of research networks in the region. For example, as part of the Global Development Network (GDN) there is the East Asian Development Network (EADN) comprising 32 research organizations in 10 countries of East Asia ranging from South Korea to Indonesia.[3] There is also the GDN-Japan, currently coordinated by the Japan Bank for International Cooperation (JBIC). It would be possible to develop joint surveillance activities between GDN-Japan and the EADN making use of the various research organizations of these networks.[4] This could be initiated almost immediately by the ASEAN Secretariat in cooperation with JBIC and the EADN hub.[5] As this parallel surveillance becomes more established, there could be some activities involving other regional networks of GDN as well, for example it might be very useful to have joint meetings between the networks in East Asia and the regional network in Latin America and the Caribbean (LACEA) given the crisis experiences in both regions. The joint meeting could possibly be organized once every two or three years. Getting think tanks and various other non-government institutions and individuals involved in contributing to an informal surveillance process in this way should provide the diversity of views that can effectively complement the official surveillance process.

2. Chiang Mai Initiatives (CMI)

At their May 2001 meeting held in Chiang Mai, the ASEAN Finance Ministers came up with CMI which calls for expanded ASEAN Swap Arrangement (ASA) and network of Bilateral Swaps and Repurchase Agreements (BSA). The ASA, earlier established by five ASEAN countries (Indonesia, Malaysia, Philippines, Singapore, and Thailand) to provide liquidity support for the participating countries that experience balance-of-payments difficulties, was expanded to cover all ASEAN members and the total amount was also increased from US$ 200 million to US$ 1 billion. The swap transactions have a maturity not exceeding six months, subject to rollover for a period not exceeding six months. The contributions from participating countries are based on the ability to pay.

The BSA is a facility in the form of swaps of U.S. dollars with the domestic currencies of participating countries. Repurchase agreements were planned to provide liquidity support through the sale and buyback of U.S. Treasury notes or bills with a remaining life of not more than five years and government securities of the counter-party country. By October 2003, 13 BSAs have been successfully concluded with a combined total size of roughly US$ 35 billion. Under the terms of these bilateral swap arrangements, 10 percent of the agreed amount could be utilized without any linkage to IMF assistance for 180 days. For the rest, a condition is that the country is already under the IMF assistance program or will be in the near future. The linkage to the IMF program is meant to ensure that the major part of these swap arrangements is not independent of IMF assistance, and to ease the fears of those who are concerned with potential conflicts with IMF conditionality and moral hazard problems.

While the total of all the various swap arrangements comes to about US$ 35 billion, the amount available to each country is in fact not that large, especially if one thinks of the ability of countries to draw on these swap agreement without having to enter into an IMF supported program. For example, if these expanded ASA and BSA were already in place prior to the crisis in 1997, prior to asking for IMF assistance, Thailand would have been able to draw US$ 300 million from the ASA plus another US$ 600 million from 10 percent of the BSA allowable without any attachment to an IMF program. This amount is insignificant compared to the scale of problem that Thailand was in by about mid-1997. Therefore, the amount of money available currently under CMI is much too small to make a lot of difference.

To turn CMI into something more meaningful, at least two things will be necessary. First, the amount of money needs to increase substantially, and second, an organization to coordinate the funding mechanisms of the expanded CMI needs to be set up. This takes us back to the initial idea to set up a regional monetary organization for East Asia, the so-called Asian Monetary Fund (AMF) proposed by Japan during the early stages of the financial crisis. This idea was shot down at the time, partly because the necessary ground work to develop a consensus on the idea was not carried out sufficiently in the region. It is recommended that serious thought be now given to the setting up of such an organization.

There is nothing new in setting up a regional monetary organization. So arguments that a regional monetary organization will necessarily bring about all sorts of problems, such as moral hazards etc., should not be taken too seriously. In fact, there is already an AMF in the form of the Arab Monetary Fund. The AMF was set up by the Economic Council of the League of Arab States in 1976, with the aim of assisting member countries in eliminating payments and trade restrictions, in achieving exchange rate stability, in developing capital markets, and in correcting payments imbalances through the extension of short- and medium-term loans. It also sought the coordination of the monetary policies of member countries and the liberalization and promotion of trade and payments, as well as the encouragement of capital flows among member countries. Another regional monetary organization is the Latin American Reserve Fund (LARF) which was established in 1991 as the successor to the Andean Reserve Fund (ARF). LARF's aims are to assist in correcting payments imbalances through loans with terms of up to four years and guarantees extended to members; to coordinate their monetary, exchange, and financial policies and to promote the liberalization of trade and payments in the Andean sub-region. Thus, a new regional monetary organization for East Asia would not be a new species of regional arrangements, but simply a new East Asian incarnation of an existing species.

Establishing such an organization would also facilitate the coordination of a lot of necessary work to support many areas of financial cooperation that need to be promoted in the region in future. Currently, there is no clear focal point in the region for work on these issues, whether on surveillance, on crisis prevention and resolution, on harmonization of codes and regulatory standards, on exchange rate and monetary coordination etc. This organization would be involved in coordinating the expansion of the CMI process, possibly to transform it into a multilateral mechanism, rather than a network of bilaterals as at present. It should also be the focal point for a lot of work on technical issues that will be necessary to support further financial cooperation initiatives in the region.

At this stage, political commitment to set up such an organization should be sought from the ASEAN+3 leaders, with broad outlines of the rationale and scope of work of such an organization. The role of such an organization should be broad, and not simply limited to the management of liquidity support for crisis-hit countries and crisis resolution.[6] Its scope of work should also cover the broad range of work needed to support further monetary cooperation in East Asia, including work that are related to laying the groundwork for eventual monetary integration, if such an integration should happen sometime in the far future.

As far as relations with the IMF is concerned, the way that the organization can work in complementary fashion to the IMF can also be laid out. At the beginning, this should involve a very close link to the IMF (concerning liquidity support and conditionality) in a similar way that the current CMI is closely tied to the IMF. This is because the new organization needs time to establish its technical expertise and develop reputation to generate the confidence of the financial market. Over time, the scope of the links to the IMF can be reduced, though there should still be some links maintained. Exactly how much links and in what way remain to be worked out.

It may take a few years before such an organization can be formally started. In the meantime, the ASEAN Secretariat together with some organizations from the Plus 3 countries could begin some of the necessary technical and coordination work that will eventually be transferred to the new organization once it is established.[7] Finally, a name different to the Asian Monetary Fund should be chosen. This will make clear the much broader scope of work of the new organization compared to the more specific focus of the IMF, and also lead to less controversy about the setting up of such an organization.

3. Fostering Bond Markets in Asia

The underdevelopment of Asia's capital markets was one very important factor behind the crisis. The three countries that became insolvent and had to resort to IMF assistances (Thailand, Indonesia and South Korea) all had relied too much on short-term foreign borrowing. Their short-term debt was larger than the size of their official reserves at the start of 1997, and they were the only three countries in the region where this was the case. Therefore, a major lesson that needs to be learned from the currency crisis is that an effective regional long-term capital market needs to be developed so that countries and particularly companies can have easy access to long-term investment financing. They will therefore need to rely much less on short-term borrowing in the future.

An important concrete initiative in this direction is the development of the Asian Bond market. On 2 June

2003 the central banks of 11 Asian economies (Australia, China, Hong Kong SAR, Indonesia, Japan, Korea, Malaysia, New Zealand, the Philippines, Singapore, and Thailand) announced the launch of the Asian Bond Fund (ABF). Approximately US$ 1 billion will be gathered from these central banks and invested in a basket of liquid U.S. dollar bonds of major Asian economies (excluding Australia, Japan, and New Zealand). The Bank for International Settlements (BIS), which has managed fixed income portfolios for central banks for many years, is given the ABF mandate. The BIS stated that "the ABF is a significant step in fostering regional cooperation in Asia. It will facilitate the re-investment of a small portion of Asia's reserves back into the region while at the same time aiding the development of regional capital markets." Roughly speaking, the scheme is promising, as Asian countries, which altogether command a colossal share of global foreign exchange reserves, will in effect recycle their own buffer stock funds to provide long-term financing to directly assist their intra-regional partner countries as the need arises.

Since the beginning of 2004, ASEAN+3 started promoting sovereign governments of Thailand, Malaysia, and Korea to issue new local-currency bonds. Along this supply side of the Asian Bond development, foreign units/entities are encouraged to participate liberally as investors so that the development of bond markets in Asia may be quickened. The Asian Cooperative Dialogue (ACD), initiated by Thailand, has agreed to launch the second round of ABF. In this round, private investors are allowed, and so are other countries such as India, Pakistan, and Bangladesh. Bonds will be issued in Asian local currencies in order to accelerate the development of bond markets in Asia.

Thailand has volunteered to be the center for the establishment of an Asia Bond Institute (ABI). The institute would act as a secretariat organization in gathering information and monitoring the progress of the Asia bond market's development. This would be reported to the meeting of Asian finance ministers. The work of the institute should speed up the development of the regional bond market, as there are many technical issues to be dealt with, whether related to the bond issuer, investor, and the development of the appropriate regional infrastructure for the bond market.[8] The establishment of such an ABI should be supported.

While the development of an efficient and effective bond market in the region is very important, it is necessary to think carefully about what should be expected of such a market and where there may be risks that the market can actually contribute to instabilities rather promote stability in the region.

There are two types of mismatches that are related to the financial crisis. First is the maturity mismatch, where the reliance on short-term loans leads to an explosion in short-term debt of the country, and when there are not enough foreign currencies left in the country to back up these debt then the country essentially becomes insolvent. The ability of countries and companies to raise long-term loans in the bond market by issuing dollar bonds (or denominated in some other fully convertible international currency) can remedy this type of mismatch. The first phase of the Asian Bond initiative, where the focus was on US$ bond is part of what will be needed to deal with the maturity mismatch issue.

The second type of mismatch is currency mismatch, where firms borrow in foreign currencies while they may earn mainly local currencies (such as for example real estate companies). For this, there is now the idea that the bond to be promoted should also be local currency bonds. If this is simply concerned with making it easier for local companies to raise long-term borrowing through the domestic bond market by issuing local currency bond, then this will clearly be very useful. Prior to the crisis, the local bond markets of many East Asian countries were not very active and these markets were not effective sources of long-term financing for companies that need to raise investment funds. However, the situation is now very different in many countries. The reason for inactive local bond markets prior to the crisis was that many of the East Asian governments were running budget surpluses prior to the crisis (Thailand had 9 years of consecutive budget surpluses prior to the crisis). There was therefore not enough supply of government bonds to provide yield curve benchmarks and liquidity for the bond market. However, as a result of the crisis, governments of crisis affected countries have had to run sizeable budget deficits in order to use fiscal expenditures to stimulate their economies and clean up the financial and real sectors. In many countries there are now very active local bond markets, with well established yield curves (from short-term maturity to almost 20 years maturity in Thailand). The bond market has also become popular for investors as interest rates on deposits in financial institutions are currently very low due to the excess liquidity still existing in the banking system. Well established companies can now easily raise money in the bond market, and at rates that are cheaper than borrowing from banks.

A more problematical suggestion is to develop regional markets for local currency bonds of various countries; for example, a Thai company issuing Baht bond that is then traded in the regional bond market. This suggestion needs to be thought through more carefully. Having local currency bonds traded actively in the regional bond market can be very risky. It is like having an active off-shore markets for local currencies (as local currency bonds are settled in local currencies). This is a potentially dangerous source of currency instabilities, and most central banks in the region would be opposed to such a development. Even Singapore, with a highly evolved financial market, still maintains control on dealings with off-shore accounts in order to limit the extent of the off-shore Singapore dollar market.

Prior to the crisis, Thailand allowed the off-shore Baht market to become too active, and this was the ammunition that speculators used to attack the Baht and eventually led to the crisis. Thus, after the crisis, Thailand reverted to a tighter control on dealings between financial institutions and non-resident Baht accounts in order to control the size and activity of the off-shore Baht market. In the case of Malaysia, the off-shore Ringitt market was closed down completely to prevent currency speculation and made sure that Malaysia need not seek IMF assistance. It is still closed to this day, so Ringitts outside of Malaysia cannot be traded. In this case, it does not make much sense to have Ringitt denominated bonds being traded in the regional (i.e., off-shore) bond market.

This issue needs to be carefully thought through as there seems to be a number of suggestions floating around to develop these local currency regional bond markets. It is unlikely that most countries will be ready for this, especially if these bond markets are going to be sizeable in scope and also fairly liquid. It does not make much sense for them to still be very concerned about off-shore markets for their local currencies, while actively promoting off-shore markets for local currency bonds, as the two are basically equivalent. If such a market is to be developed, then it will have to be done in conjunction with the move to make regional currencies more internationalized. This will have to be done step by step and ensure proper sequencing to prevent financial instabilities in the region.

What can be done is to make it more easier for off-shore investors to have access to local currency bonds that are traded in the domestic bond markets. That is, trading and settlement are done in the domestic market, but foreign investors have easy access to invest in these bonds. This actually already happens. For example, Japanese savers (even individuals) can invest in Baht bond traded in Bangkok through Japanese financial institutions that have local branches in Bangkok. There seems to be some demand for this type of investment as interest rates in Japan are almost zero, even though the investor will have to take the currency risk associated with changes in the exchange rate between the Baht and the Yen. Rules, regulations and tax regimes should facilitate the promotion of this type of investment. Of course, with liberalized capital flows to invest in the capital market, a flexible exchange rate regime is most appropriate in order to maintain some independence for monetary policy.

As demand builds for investment in local currency bonds (though still traded and settled locally), companies can develop innovative new products. For example, a fixed income fund may be offered to investors backed up by local currency bonds of a number of countries in order to minimize the currency risks. One can even imagine the develop of an Asian Currency Unit (ACU) indexed bond, which is simply a derivative product backed up by a basket of local currency bonds. This would be something fully market driven to balance between currency risks and the relative returns of local currency bonds.

4. Exchange Rates and Reserves Management Coordination

With the current large imbalances in the world financial system, there is a need for East Asian countries to seriously discuss exchange rates issues and hence reserves management issues. Will the region continue to accumulate reserves in an unlimited fashion in order to keep our currencies closely tied to the US$, or at least does not strengthen too much with respect to the US$,

and thereby continue to support the very large US budget and current account deficits?

The advantage of this strategy is that the US market is an important absorber of the products produced in East Asia, and therefore the US market is still an important engine for growth of the region. The fear is that, if currencies are allowed to appreciate too much, then growth of the region could stumble. Also, most of the trades in the world are quoted in US$, so stability of the regional currencies with respect to the US$ leads to less business uncertainties and currency risks.

While there are advantages to keep the regional currencies closely tied to the US$, there are also increasingly large risks. While most countries have been able to manage the liquidity injection into the domestic financial system through buying up US$ to keep the local currency closely tied to the US$, it may become much more difficult in the future as economic growth in the region picks up and inflation begins to rise. In recent years, inflation has not been a real concern for most countries, in fact the concern was more on deflation. However, this is likely to change soon. Certainly in Thailand, with the economy growing by more than 6 percent last year and a similar level is expected for this year, inflation is almost sure to increase. It may then become much more difficult for the central bank to continue to buy up foreign reserves without creating too much liquidity in the system. When this is the case, and if Thailand continues to run a sizeable current account surplus, then the exchange rate will have to appreciate. Speculative forces could then make the situation dangerously volatile.

Another downside is that the region is simply promoting undisciplined spending by the US. The outcome is that the supply of US$ is flooding into the world financial system at an alarming rate. Given that the US$ is simply paper with no fundamental anchor, a huge increase in supply without a sufficient drop in value is unnatural. As long as East Asian economies support the value of the US$ by buying up excess US$, the situation can go on but the imbalances keep building. At some point, when the absorption capacity of East Asian central banks is reduced, for example by inflationary pressures, then the large imbalances that have been allowed to build up could bring huge instabilities to the world financial system and create major crises. Therefore, it is very important not to let the imbalances become too large.

What should be done? Clearly, simply demanding that some economy (particularly China) or group of economies adopt more flexible and market based exchange rates is not really addressing the fundamental problem with the current global financial system. One might turn around and put the burden of adjustment on the economy that has been pumping out more and more paper (the US), as getting rid of over-expenditure in the US will certainly be reflected in less surpluses in East Asia.

The problem is that the imbalances inherent in the current situation is already very large, as witnessed by the rapid accumulation of reserves in Japan and China. Because the current global financial system has no clear rules for adjustments, imbalances have therefore been allowed to build up. With current imbalances, unleashing the full force of the currency markets in the hope of bringing about a smooth transition to a new equilibrium is just wishful thinking. Given the inherently volatile nature of currency markets, and the existing imbalances, unleashing the full force of the currency markets is most likely to bring about chaos and economic crises.

Economies in East Asia are also competitive with each other, so any sustainable currency movements will require coordinated efforts. It is now quite essential for East Asian economies to discuss and implement concrete exchange rate coordination mechanisms in order to bring about a smooth adjustment to the current imbalances in the global financial system as a group. Going on in a business as usual fashion is very dangerous. Given that most of the world's reserves are controlled by East Asian economies, it should be East Asia that makes pronouncements about how the world's financial system should be evolving. Decisions on how these huge financial resources are managed have the potential to stabilize or greatly destabilize the global financial system. It is therefore imperative that a serious dialogue be initiated within the region. Finding appropriate adjustments to the current imbalances should be the next

major task of the ASEAN+3 group. This should be a major agenda item for the ASEAN+3 process.

In the longer-run, of course, there is a need to seriously think about real reforms of the international financial architecture. On this, East Asian economies must also have a great deal of input, given the amount of resources under their control. The role of the US$ will need to be re-examined, together with the significant reliance by East Asian economies on the US market as an engine of growth, as this imposes important constraints on exchange rate adjustments.

5. Toward Greater Relative Stability of Regional Currencies

As the region integrates more and more economically, greater financial integration becomes more and more important to facilitate further integration of trade and investment. As countries in the region use varying exchange rate regimes, from fixed to the US$ such as China, Hong Kong and Malaysia, to managed floats such as Thailand, South Korea and Singapore, to Yen based for Japan, volatilities in major currencies make economic transactions among countries within the region more costly. The cost will rise as the integration becomes closer. Therefore, stabilization of exchange rates of countries in region inevitably becomes a long-term goal in line with the goal of substantial economic integration of the region.

There have been a number of studies and proposals for an exchange rate arrangement for East Asia, such as the common basket peg of Williamson (1999), the yen block proposal (Kwan 2001), an East Asian Currency Index (IIMA 1999) and explorations and analyses concerning a monetary union for East Asia.[9] The launch of the Euro in 1999 also focuses attention on whether East Asian economies can follow in the footsteps of EU economies and eventually adopt a common currency.

Regional economic integration in Europe has helped EU members achieve a number of "pluses" such as the followings. First, market liberalization and the adoption of a common regulatory framework together with less transaction cost due to currency union has broadened the scope of trade and financial flows resulting in economies of scale as well as higher efficiency. Second, the currency union has acted as a powerful catalyst for productive structural changes in the EU, particularly its financial markets. The Euro has become an attractive alternative to the U.S. dollar for international bond issuance, especially in the corporate sector. Equity markets also evolve rapidly. Third, in complying with the Euro guidelines, member states have increasingly put into place a comprehensive set of procedures for policy co-ordination. There was a remarkable convergence of views on the need to follow prudent macroeconomic policies and implement structural reforms in the markets for goods, labor, and financial products. Fourth, elimination of exchange rate variability reduces the risks, promotes greater international trade while enhancing price stability. Meanwhile, the "minuses" of European integration seem sparse. The only obligated common policies are monetary and exchange rate, while budgetary and structural policies largely remain under the national sovereignty of member countries subject to limits on fiscal deficits.

The similarities and differences between East Asia and Europe can be examined further. Each member country of both regions is not endowed with well-diversified natural resources. They thus have a strong common interest in opening up international trade and finance. Both regions have been hard hit in the nineties by severe economic, currency, and banking crises. They share the same ambition to better control the forces of economic and financial globalization, in order to create a stability-oriented economic and financial system that promotes high and sustainable growth while improving welfare. Both regions have complex models of society, which put a high price on the need to control the forces of globalization. They seek ways and means to preserve the positive features of complex economic and social models, while retaining the capacity to change in the midst of rapidly evolving circumstances.

However, East Asia and Europe are *very different* in several respects. Economic diversity is far more pronounced in East Asia, ranging from countries with highly modern economies to others that are still poor and with traditional or rural economic structures. In contrast, the European Union is a much more homogenous economic grouping. According to World Bank data, in 1999 per capita GNP of the richest member (Luxembourg, US$ 38,247) was 2.62 times higher than the poorest member (Greece, US$ 14,595) of the EU. In Asia, the difference amounted to 21.0 times between the richest (Singapore, US$ 27,024) and the poorest (Cambodia, US$ 1,286). Similarly, East Asian countries differed from each other to a larger extent than EU countries regarding trade openness or the proportion of foreign trade in GDP and they are also more restrictive than European countries with respect to capital controls.

Apart from these differences, the major difference has to do with the historical experiences of the two regions. In Europe, a major concern in the early days of European integration was to avoid conflicts between sovereign nations that led to the devastations of the World Wars.[10] It was therefore possible to start with an initiative such as the Shuman Plan that established the European Coal and Steel Community (ECSC) in 1952 where the roles of the six national states that formed the ECSC for these sectors were completely submerged by a supranational body.

In East Asia, the sovereignty of each nation state in important policy matters is still jealously guarded, and also not considered to be something that would bring about great harm to the region. Therefore, the move

toward financial integration can only proceed by stressing initiatives that can contribute to the underlying objective for integration without requiring unrealistic sacrifices in sovereignty from member countries. In particular, aiming for something like a common currency for East Asia at this time would meet with great resistance. Apart from the loss of sovereignty involved, the region is still not integrated enough in other economic aspects to contemplate a monetary union. As other aspects of integration proceed deeper and deeper, and East Asia economies rely less and less on outside parties for trade and investment, then monetary integration becomes more possible. This can be the long-term aim for the future.

There are however things that might be possible that will help to reduce the volatilities of regional currencies with respect to each other. The first of course is that if the major currencies, particularly the US$ and Yen, are more stable with respect to each other, then there would be little relative volatilities between the various currencies in East Asia. This is because those on managed float regimes tend to float between the US$ and the Yen (also the Euro to a lesser extent). With the huge foreign reserves at the disposal of East Asia economies, an integrated policy among East Asian central banks should certainly be able to achieve stability in the exchange rates between the Yen and the US$. In particular, if Japan and China, who together own reserves valued at more than one trillion US$ cooperate on the matter then it should be possible to keep the exchange rate between the US$ and Yen within some fairly narrow band. This will by definition keep the relative value of the Yen and the Yuan within the same narrow band.

Of course, it should be clear that the band may need to change in order to prevent the imbalances in the global financial system from getting out of control. If necessary, the band may have to be adjusted, for example the Yen may need to appreciate by 10 percent. In this case three things will need to be done simultaneously. First, the Yuan will also need to be revalued by 10 percent. Second, the new band between the US$ and Yen will be announced to appreciate by 10 percent and the two countries, Japan and China (as well as other East Asian countries that may participate in this currency stabilization mechanism) will use their joint resources to try to manage the exchange rate to be within the new band. Third, other East Asia economies should also let their currencies appreciate by about 10 percent or revalue their currencies in case they are on a fixed exchange rate regime. In fact, if the ASEAN+3 as a group has this common policy to try to stabilize the Yen/US$ rate within a band, and hence stabilize the relative exchange rates of their currencies, the amount of resources available to achieve this would be close to 1.5 trillion US$.

Another possibility is to change the basket of the currencies in the region that are under fixed exchange rate regimes. Instead of fixing to the US$, they can be changed by fixing to a basket of US$, Yen, Euro and possibly other regional currencies. This will already help to lessen the relative volatilities among the region's currencies because the gaps between the two extremes of the fixed exchange rates, i.e., those who fix to the basket and Japan which uses the Yen, will tend to be less than the case when those on a fixed exchange rate fix to the US$ alone. For other countries, they will again manage float somewhere between the Yen and the US$ as before, and may even have the relative value of the Yuan (now determined by a basket between the US$ and the Yen) as a possible target in managing the float. To ask those currently on managed floats to go back to a fixed exchange rate system (whether to a US$ dollar fix or to a basket) is simply unrealistic and ignores one very painful lesson of why the region got into a crisis in the first place, i.e., that political constraints make it very difficult for governments to adjust the value of the fixed exchange rate when necessary, especially in the downward direction.

To support closer ties between currencies within the region, it is also possible to try to promote greater utilization of regional currencies for economic transactions within the region. This will lessen reliance of external currencies for transactions within the region. Currently, the US$ is the major international currency. In Thailand, the vast majority of exports and imports are quoted in US$. Even for trades with Japan, more than half of the trades are done through the US$.

The only other international currency in the region that could perform a much bigger role for economic transactions within the region at present is the Yen. However, if the Yen is to be used more in regional transactions, then the cost of using the Yen for this purpose has to be reduced. The problem is that in most countries in the region, there are no direct foreign exchange market between the Yen and the local currency. For example, to change Baht into Yen, the banks actually carry out a two step calculation, first Baht

is converted to US$ and then US$ into Yen. Because of this two step process, the gap between the buying and selling rates for Yen is too high, about three times the gap for the US$.

Table 1 shows the buying and selling rates for major currencies (drafts) in Bangkok and also the relative gap compared to the buying rate. It can be seen that for the US$, the gap is only 0.38 percent. The gap for the Yen is the largest among the major currencies at 1.15 percent. This is more than three times the gap for the US$. With this kind of gap, it is no wonder that the Yen is not used more for economic transactions, even for imports to Thailand from Japan.

Table 1 Buying and Selling Rates for Currencies in Bangkok

	Selling	Buying	Gap
US Dollar	39.54	39.39	0.38%
Euro	48.34	47.8575	1.01%
British Pound Sterling	72.495	71.95875	0.75%
Japanese Yen	36.02	35.61	1.15%
Singapore Dollar	23.2213	22.96375	1.12%

Source: Siam Commercial Bank, Bangkok, March 2004.

More efficient exchange markets for the Yen need to be established in the region. For this to happen the role of Japanese banks are crucial. They need to set up direct exchange markets between the Yen and various local currencies. Although, forward markets for these trades do not exist now, so that the banks may not be able to cover their positions at the beginning, but as the direct exchange markets become more active, the forward markets will develop in due cause. If the direct exchange markets are never set up then the forward markets will never develop either. So if one wants to wait for the existence of forward markets to be able to hedge positions and reduce risks before developing the direct exchange market, then the direct exchange market will never happen, and the Yen will not be used any more broadly than at present. The Japanese Ministry of Finance should take up this initiative, as the Japanese banks operating in various East Asian economies may need assistance to set up such direct exchange markets.

Finally, there is also the idea of trying to reduce the use of external currencies (essentially the US$ as it is the dominant international currency) for trades among East Asian economies. This can be done through net settlements of trades using local currencies or international currencies. Here again, if local currencies are to be used for settlements, one has to remember the proviso that the currency has to be internationalized to a certain extent, so not all currencies may be equally useable for the scheme.

The net settlement mechanism will require the initiatives of governments in the region to cooperate in some payment schemes for the purpose of reducing dependence on external currencies as a settlement currency. Netting represents the process in which payments for imports and exports are netted in local currency within the country before the excess is brought to settle across border. This process certainly helps pare down the amounts that need to be paid internationally. Netting has many formats but the most well-known one is bilateral payment arrangement (BPA) that Malaysia has adopted with many of her trading partner countries. This also involves some implicit subsidies to promote trades between Malaysia and her trading partners. The Malaysian BPA has not been popularly practiced as a means to use local currencies in trade financing principally because the central bank of Malaysia limits the number of commercial banks which can participate in the BPA, and there are several restrictions on product origin (to promote local products) before products become eligible. Besides, with the elimination of the off-shore Ringitt market, using the Ringitt in net settlement schemes becomes infeasible.

Another method which has been suggested is the so-called pure clearinghouse (PCH).[11] This is an intervention-free netting process through central agencies which offer no credit guarantee and bear no credit risks. Chart 1 shows the operations of PCH where importers and exporters, via commercial banks, settle their payments in local currencies before the net amount is settled across border in U.S. dollar. Using such net settlements through PCH on a broad scale can reduce the foreign reserves needed to back up trades. Also, as the region's financial system becomes stronger over time, and regional currencies play bigger international roles, the net settlements can be done using local currencies. This will help to gradually reduce reliance on external currencies, and greater and greater reliance on regional currencies is a necessary step along the path toward sometime in the future when East Asia as a whole may be ready to adopt a common currency along the EU model.

ENDNOTES

1 Sussangkarn and Vichyanond (2004).

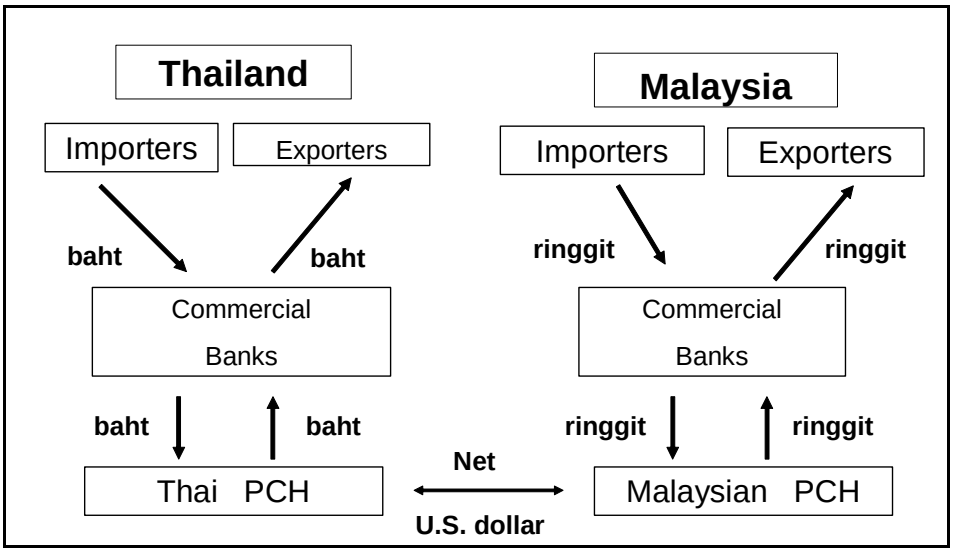
2 Of Credit Lyonnais Securities Asia Ltd.

3 Most of these organizations, though not all, are independent of governments.

4 An example of research related to surveillance done by the EADN is the project on "Indicators and Analyses of Vulnerabilities to Economic Crises" in which researchers from six countries in the region develop indicators that could forewarn of a crisis or focus on particular issues of vulnerabilities for a country that they regard as important. See TDRI (2003).

5 The EADN is currently coordinated by Dr. Chalongphob Sussangkarn with the Secretariat located at the Thailand Development Research Institute.

Chart 1 Pure Clearinghouse (PCH)



[6] For some possible roles of such an organization see, for example, Shinohara (1999a) and (1999b), and Sussangkarn (2000).

[7] The ASEAN Secretariat itself will have its hands full to support further integration of ASEAN member countries to eventually become an integrated economic community.

[8] For examples of necessary infrastructure development to support a regional bond market see, for example, Rhee (2000).

[9] See Kawai and Takagi (2000) and Fabella (2002) for a review and analyses.

[10] See Richard Baldwin and Charles Wyplosz, The Economics of European Integration. Chapter 1. Forthcoming. Available on line at http://heiwww.unige.ch/~baldwin/papers/BW/BW_May03.htm.

[11] See for example Vichyanond and Sussangkarn (2003).

REFERENCES

Fabella, Raul. 2002. *Monetary Cooperation in East Asia: A Survey*. ERD Working Paper Series No. 13. Manila: Asian Development Bank.

Institute for International Monetary Affairs (IIMA). 1999. *Stabilization of Currencies and Financial Systems in East Asia and International Financial Cooperation*. Tokyo: IIMA.

Kawai, Masahiro, and Shinji Takagi. 2000. *Proposed Strategy for a Regional Exchange Rate Arrangement in Post Crisis East Asia*. Policy Research Working Paper No. 2503. Washington D.C.: World Bank.

Krugman, Paul. 1994. "The Myth of Asia's Miracle." *Foreign Affairs* (November/December): 62-78.

Kwan, C.H. 2001. *Yen Block: Toward Economic Integration in Asia*. Washington D.C.: Brookings Institution Press.

Manupipatpong, Worapot. 2002. "The ASEAN Surveillance Process and the East Asian Monetary Fund." *ASEAN Economic Bulletin* 19, no. 1 (April): 112-122.

Rhee, S. Ghon. 2000: Regionalized bond markets: are the region's markets ready? Paper presented at the Asian Development Forum on Strengthening Regional Financial Architecture, Singapore, June 7-8.

Shinohara, Hajime. 1999a. "Asian Currency Settlement System." *IIMA Newsletter* (January 1).

_____. 1999b. "On the Asian Monetary Fund." *IIMA Newsletter* (March 31).

Sussangkarn, Chalongphob. 2000. East Asian financial architecture for stable economic development. Paper presented at the 10th GISPRI Symposium on "Beyond the Crisis - Rethinking Japan's Role in Asia." Global Industrial and Social Progress Research Institute, Tokyo, Japan, 22 March.

Sussangkarn, Chalongphob, and Pakorn Vichyanond. 2004. Toward a Regional Financial Architecture for

East Asia: Perspectives Based on the Thai Experience. Report for the project on *Toward a Regional Financial Architecture for East Asia*, coordinated by the ASEAN Secretariat, June.

Thailand Development Research Institute (TDRI). 2003. *EADN Regional Project on Indicators and Analyses of Vulnerabilities to Economic Crises*. Bangkok: TDRI.

Vichyanond, Pakorn, and Chalongphob Sussangkarn. 2003. Regional monetary and financial integration in East Asia. Paper prepared as part of a Ford Foundation funded project on "East Asian Economic Cooperation Arrangements towards a New International Economic System in the 21st Century," hosted by the Institute of World Economy, Vietnam, July.

Williamson, John. 1999. "The Case for a Common Basket Peg for East Asian Currencies." In *Exchange Rate Policies in Emerging Asian Countries*, S. Collignon, J. Pisani-Ferry, and Y.C. Park (eds.). London and New York: Routledge.

Social and Economic Impacts of SARS Outbreak in Thailand*

Acharee Steinmueller**

INTRODUCTION

Tourism is one of the most remarkable economic and social aspects of the past century. The number of arrivals internationally increased from 25 million in 1950 to over 700 million in 2002, with the average annual growth rate being 6.6 percent (WTO 2003a). Development of tourism was particularly strong in Asia and the Pacific with a rate double that of the world (12.9%), increasing from 0.2 million to 131.3 million arrivals. Some countries and areas in Asia and the Pacific are among the 25 top tourist destinations globally, namely, China, Hong Kong, Malaysia, Thailand and Singapore. Moreover, the Lao People's Democratic Republic, Cambodia, Iran, Malaysia and China are the world's top emerging tourist destinations; their rates of growth increased at a rate twice that of the global average in the period from 1995 to 2002, increasing by at least 150,000 arrivals. These phenomena indicate the significance of the tourism sector in Asia and the Pacific.

In 2002, tourism represented approximately 7 percent of the value of the export of goods and services worldwide, occupying the fourth position in the ranking after chemicals, automotive products and fuels (WTO 2003a). When considering service exports exclusively, the share of tourism exports increased to nearly 30 percent (WTO 2003a). However, despite the increases in tourism exports worldwide, the tourism industry has experienced unexpected and uncertain circumstances such as warfare in the Persian Gulf in 1991, the terrorism attacks of September 11, 2001, and the outbreak of SARS (severe acute respiratory syndrome) in Asia and Canada in 2003. The unexpected SARS outbreak had a negative impact on the global economy owing to the lack of information related to the new disease, which made people fearful. In fact tourism was the major industry to be affected by the SARS outbreak, especially in Asia.

Regarding the number of SARS cases reported by the World Health Organization (WHO), about 63 percent of the total number of cases were in China (5,326 cases); Hong Kong (1,755); Singapore (206); Taipei, Taiwan (692); Vietnam (63); world (8,459) (ADB 2003). The SARS outbreak caused severe impacts for Asian economies, even in countries such as Thailand where there was no SARS outbreak. Thus, Thailand will be used as a case to assess the social and economic impacts of SARS by applying Computable General Equilibrium (CGE) Modeling.

The paper is divided into five parts. The first part consists of introduction and statement of objectives. The second part includes a review and assessment of the impact of the aforementioned shocks on tourism, emphasizing SARS. Tourism income stability and an assessment of the impact of SARS on the Thai economy are presented in the third and fourth sections. The final section provides results and discussion.

FACTORS AFFECTING TOURISM

Tourism is widely recognized for the important role it can play in generating income, employment and tax revenues, in alleviating balance of payments constraints and in contributing to regional and national economic development. However, the demand for tourism and the choice of tourist destinations may be susceptible to large fluctuations in income, inflation and exchange rates, and, of course, unexpected events. Unexpected events related to political, social, economic, cultural, and environmental occurrences might affect tourism negatively, for example, political changes, wars and conflicts, and disease outbreaks.

Political instability causes adverse effects on tourism demand worldwide. For example, political instability in the Mediterranean showed the adverse effects on tourism demand by European countries of tourist origin and that of the United States using a dynamic model of demand for Mediterranean tourism

* *The paper was prepared as part of the work on "Tourism income and stability" under the project entitled "Integrated Development of Sustainable Tourism in the Mekong Region" with the financial support from the National Research Council of Thailand and Social Research Institute, Chiang Mai University. The author would like to express her gratitude to Prof. Dr. Mingsarn Kaosa-ard and Dr. Somchai Jitsuchon for their valuable comments.*

** *Dr. Acharee is Senior Research Specialist, TDRI's Natural Resources and Environment Program.*

(Syriopoulos 1995). The impact of the Persian Gulf War during the period 1991-1992 on the number of visitors to Thailand was detrimental, i.e., an estimated reduction of 0.6 million in the number of international visitors per year for two years, calculated by simultaneous system equations (TDRI 1997).[1] Another study which focused on the impact on Thailand's various tourism markets also confirmed that the Persian Gulf War had a strongly negative impact in the short term, with visitors from East Asia declining by 14 percent and others 16 percent (TDRI 2001).[2] A conflict within Thailand during that period also had a negative impact on tourism, especially in view of security concerns.

Other examples also exist: during the period October 1999 to April 2000, when large-scale riots broke out in Indonesia, there was a drastic drop of 6,860 tourist arrivals and estimated total tourism losses valued at US$ 329,280 to US$ 658,560 in the Gili Islands compared with the same period one year previously (Soemodinoo et al. 2001 cited by Kim et al. 2004). Another example from Indonesia is the Bali terrorist attack on October 12, 2002; tourism to Indonesia suffered negative growth (–2.3%), but the rest of Southeast Asia ended the year with 5 percent growth in tourism.

The terrorist attacks of September 11, 2001 caused significant downturns in tourism demand in the United States and worldwide. America's tourism performance has been affected by declines following those events (–5.3%, 2000-2002). This led to a regional ranking change for the first time in 2001, as America's decline was overwhelmed by the exceptional performance of Asia and the Pacific, which ranked second in 2001 and 2002 (WTO 2003a). The downturns in tourism demand worldwide created losses, especially in hotel business performance; for example, the corporate management operating margin[3] of the Four Seasons Hotel decreased from 67.9 percent in 2000 to 59.3 percent in 2001 and to 55.4 percent in 2002 (Four Seasons Hotel 2003).

Uncertainty has also played a major role in tourist markets, for example, in 2002 the threat of new terrorist attacks and the looming conflict in Iraq. These adverse conditions resulted not so much in decreases in the number of visitors and the amount of receipts from tourism, but shifted demand toward trips to domestic and familiar destinations that were closer to home, where tourists could travel by car, coach or train instead of by airplane (WTO 2003b; Richards 2003).

Disease epidemics or outbreaks are considered as major unexpected factors, which might affect the tourism industry; examples include foot and mouth disease (FMD) in the United Kingdom and SARS in Asia. The FMD epidemic, which occurred during the period from February to March 2001 in the United Kingdom, caused estimated direct losses to the tourism industry (between March and August 2001) valued between £ 2.7 billion and £ 3.2 billion in terms of value added (Richards 2003).

SARS started in Asia and resulted in a global alert being issued by WHO on March 12, 2003. As mentioned previously, the outbreak of SARS in Asia caused adverse social and economic impacts in the region, especially in the tourism and transport sectors (airlines), with the total number of SARS cases reaching 8,459 cases.

The economic impacts of SARS on the travel and tourism sector (T&T) in China, Hong Kong, Singapore and Vietnam were estimated applying the Tourism Satellite Account (TSA). The results indicated a reduction in T&T GDP by 25 percent for China, and close to 40 percent for Hong Kong and Singapore (Table 1). Nonetheless, China's economic fundamentals were not weakened by SARS; those fundamentals included high foreign exchange reserves, cheap labor, current account surplus, strong domestic investment, and strong inflows of foreign direct investment (FDI) (ADB 2003; Fan 2003). The manufacturing sector, which contributes about half the economic growth rate, was not seriously affected by SARS. Tourism was the biggest casualty of SARS, including the related sectors such as the aviation industry, restaurants and hotels, and small and medium-sized enterprises. In addition, the weaker impact on Vietnam (a reduction in T&T GDP by 15%) can be partly explained by the Vietnamese government's ability

Table 1 Estimated Economic Impact of SARS on the Travel and Tourism Industry in Four Economies

Items	China (6 months' impact)	Hong Kong (4 months' impact)	Singapore (4 months' impact)	Vietnam (3 months' impact)
T&T industry GDP (US$ billion)	-7.6	-1.21	-	-
T&T industry GDP (percent)	-24.5	-41.10	-43.0	-15.0
T&T industry employment (000)	-2,802.2	-27.30	-17.5	-27.0

Source: WTTC. 2003. Tourism Satellite Account created by Oxford Economic Forecasting (OEF).

to control the SARS outbreak within a month of the outbreak. The impact of SARS depended on the seriousness and duration of the outbreak and the structure of the economy concerned, particularly the importance of service industries in GDP (Fan 2003).

Another study on assessment of the impact of SARS in developing Asia[4] revealed the chain of effects in an economy, such as inflows of foreign tourists falling sharply, which leads to cuts on both sides of the balance-of-payments service account and more losses in travel-related jobs (ADB 2003). Ultimately, all channel effects have an impact on GDP growth. The economic loss attributable to SARS was assessed using the Oxford Economic Forecasting (OEF) Model.[5] The results indicate that SARS caused significant losses in several Asian economies in terms of lost GDP: in nominal terms, about US$ 18 billion for East and Southeast Asian economies, or a loss of about 0.6 percent of the growth rate for these economies in 2003; the total final costs are close to US$ 60 billion, or about 2 percent of GDP (Tables 2 and 3).

In comparing the impact of SARS and the Iraq conflict on expected tourism revenue, the results are mixed among Asian countries and areas. The tourism revenue of South Korea, Indonesia, Malaysia, and Singapore is expected to be much lower as a result of both SARS and the Iraq conflict, while some economies, such as China, Hong Kong and Thailand, could be expected to benefit from the increase in tourism revenue assuming the effects of the conflict in Iraq (Table 2).

THAILAND TOURISM INCOME STABILITY[6]

Thailand ranks 18th in terms of worldwide arrivals in 2002, with 10.9 million international tourist arrivals; its share is equivalent to 1.5 percent of the global total, or 8.3 percent of that for Asia and the Pacific (WTO 2003a). Regarding international tourism receipts, Thailand ranks 15th, with revenues of US$ 7.9 billion; this is equivalent to 1.7 percent of the global total, or 8.3 percent of that for Asia and the Pacific in 2002.

Table 2 Expected Tourism Revenue Change from 2002 Level

Countries/areas	Repeat of 2002 growth (US$ billions)	Iraq conflict, no SARS (US$ billions)	Iraq conflict & SARS outbreak (US$ billions)	SARS outbreak only (US$ billions)	SARS outbreak (% of GDP)
East Asia					
China	2.0	1.0	-4.0	-5.0	-0.4
Hong Kong	0.8	0.4	-2.3	-2.7	-1.7
South Korea	0.3	-0.1	-0.9	-0.8	-0.2
Taiwan	0.2	0.0	-1.2	-1.2	-0.4
Southeast Asia					
Indonesia	-0.1	-0.4	-0.9	-0.5	-0.2
Malaysia	0.3	-0.1	-1.8	-1.7	-1.7
Philippines	0.1	0.0	-0.2	-0.2	-0.3
Singapore	0.0	-0.2	-1.3	-1.1	-1.2
Thailand	0.6	0.2	-1.1	-1.3	-0.9
Vietnam	0.2	0.1	-0.2	-0.4	-1.0
Total	**4.3**	**1.0**	**-13.9**	**-14.9**	**-0.5**

Source: ADB. 2003. Oxford Economic Forecasting (OEF).

Table 3 Costs of SARS for East and Southeast Asian Economies in 2003 (percentage of GDP)

Countries/areas	Estimated loss of tourism revenue	OEF Model GDP loss	OEF Model total final expenditure loss
East Asia			
China	0.4	0.5	1.3
Hong Kong	1.7	2.9	7.6
South Korea	0.2	0.1	1.2
Taiwan	0.4	0.5	1.6
Southeast Asia			
Indonesia	0.2	0.1	0.9
Malaysia	1.7	0.4	2.9
Philippines	0.3	0.0	0.7
Singapore	1.2	3.0	9.0
Thailand	0.9	1.4	3.2
Vietnam	1.0	1.1	1.1
Total	**0.5**	**0.6**	**2.0**

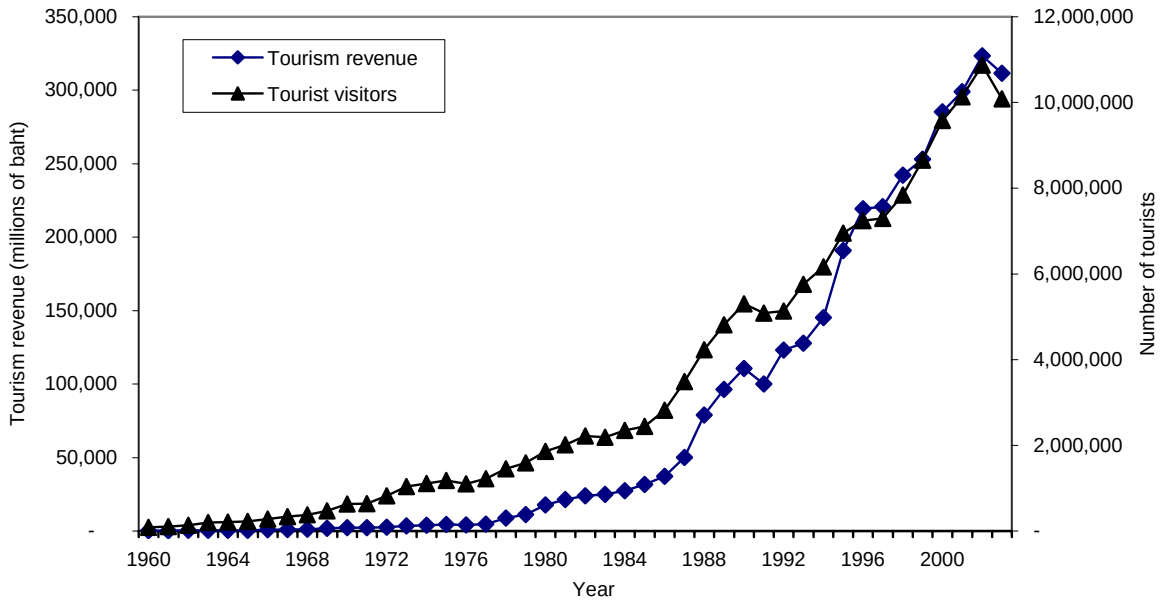
Source: ADB. 2003. Oxford Economic Forecasting (OEF).

In the last two decades, Thailand enjoyed increasing international tourism receipts, from 2.68 percent of GDP in 1980 to 5.93 percent in 2002. However, the GDP share decreased to 5.25 percent in 2003,[7] owing to the reduction of inbound tourists as a consequence of the SARS outbreak during the period from March to June 2003. Tourism income increased from 145 billion baht in 1994 to 312 billion baht in 2003. Tourism income increased with the diminishing growth rate: 12 percent before the 1997 Asian financial crisis (from 1994 to 1997); 9.0 percent during the period 1998-2002;[8] and the lowest level, 8.0 percent, was in the year 2003.

The number of tourists to Thailand increased from 81,340 in 1960 to 10.08 million in 2003 (Figure 1). However, Thailand experienced negative growth in tourist numbers in 1976, 1983, and 1991 when there were political conflicts within the country or in the region, and again in 2003 owing to the unexpected outbreak of disease. During the last decade, tourist arrivals in Thailand had been increasing, with the average growth rate being 4.81 percent, while the average growth rate for length of stay (–0.04%) and that for expenditures (0.29%) remained relatively unchanged (Table 4). The real expenditure in baht per person per day remained relatively unchanged in the last decade, while the dollar amount of daily spending by tourists dropped significantly (Apichart and Kiratipong 2003). Overseas tourists in Thailand made expenditures[9] for shopping (32%), accommodation (25%), dinning out (16%), entertainment (11%), local transport (7%), sightseeing (5%) and others (4%). Even if tourist arrivals increase but real tourism receipts diminish owing to a higher inflation rate, lower spending, or lower average length of stay in the destination, increasing income from tourism for Thailand would stem mainly from increasing the number of visitors; however, the average expenditure per person per day and length of stay have not changed much in the last decade.

The stability of tourism income indicates how well the tourism industry operates under conditions of influence by internal and external factors. Stability or variations in tourism receipts over time can be explained by changes in variables such as income, inflation rate and exchange rate differentials as well as political factors (Syriopoulos 1995). During the period 1960-1994, the stability of income from tourism was on par with the stability of that from the export of goods and services measured by the coefficient of variation (COV) regardless of the factors affecting the variation. The COV[10] of tourism income was 143.3 percent and that of exports 143.0 percent (Nipon 1995 cited in TDRI 1997). In the last two decades, the COV of tourism income was 75.2 percent and that of exports 89.1 percent. However, there is non-significant difference. The result indicates that, compared with their means, the export of goods and services varies slightly more than income from tourism, but without statistically significant difference (Figure 2).

Figure 1 Number of International Tourists and Revenue, Thailand, 1960-2003



Note: 1976, 1983, 1991 and 2003 = negative growth in tourist numbers.

Source: TAT, various issues.

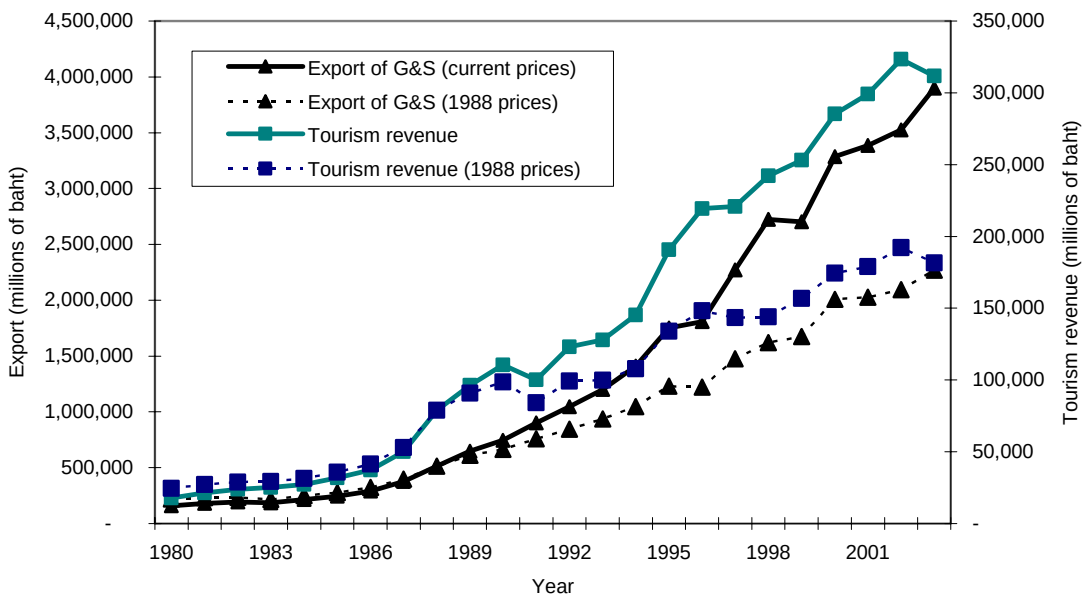
Table 4 International Tourist Arrivals and Receipts in Thailand, 1996 to 2005*

Year	Tourists Number (millions)	Tourists Change (%)	Average length of stay (days)	Average expenditure /person/day (baht)	Average expenditure change (%)	Revenue (millions of baht)	Revenue Change (%)
1996	7.19	3.46	8.23	3,706	0.34	219,364	14.99
1997	7.22	0.41	8.33	3,672	-0.92	220,754	0.63
1998	7.76	7.53	8.40	3,713	1.12	242,177	9.70
1999	8.58	10.50	7.96	3,705	-0.23	253,018	4.48
2000	9.51	10.82	7.77	3,861	4.23	285,272	12.75
2001	10.06	5.82	7.93	3,748	-2.93	299,047	4.83
2002	10.80	7.33	7.98	3,754	0.16	323,484	8.17
2003	10.00	-7.36	8.19	3,774	0.55	309,269	-4.39
2004	12.00	19.95	8.00	4,000	5.97	384,000	24.16
2005	13.38	11.50	8.10	4,150	3.75	450,000	17.19

Note: * 1996-2003—Actual; 2004-2005—Tourism Strategy of the Ministry of Tourism and Sports.

Source: http://www2.tat.or.th/stat/web/static_index.php (August 30, 2004).

Figure 2 Export of Goods and Services and Tourism Revenue, Thailand, 1980-2003



Source: TAT statistics and BOT statistics.

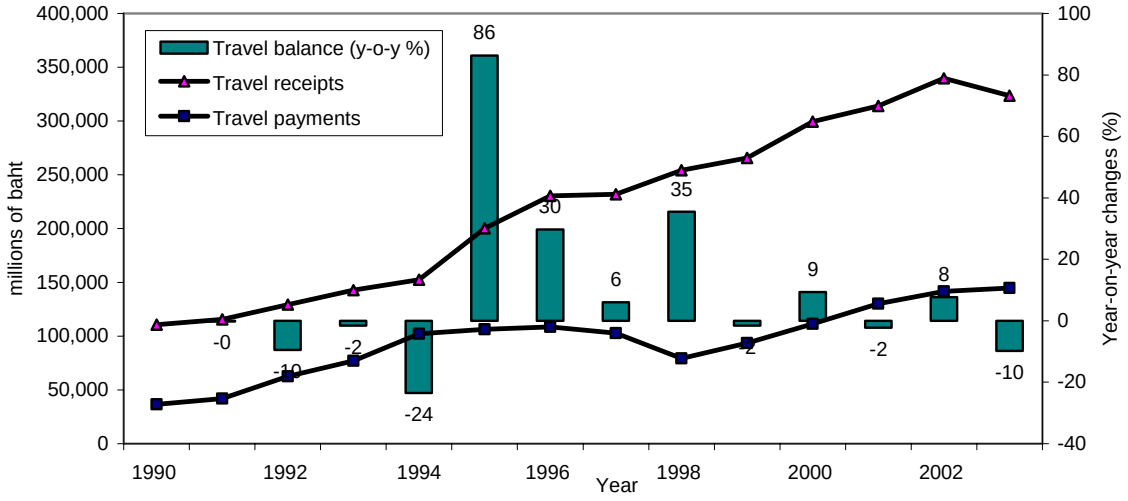
The travel account forms a significant part in the balance of payments account. With a positive travel balance,[11] Thailand experienced a diminishing growth rate before the 1997 Asian crisis. After the crisis, travel payments declined at the rate of –23 percent annually, while travel receipts increased by 10 percent; therefore, the growth rate of the travel balance became positive with some slowdown in 1999 and 2001. Owing to the SARS outbreak in 2003, tourism receipts declined at a faster rate than the drop in tourism payments; net service income registered a surplus of only 179 billion baht, compared with a surplus of 198 billion baht in 2002, or a decline of –10 percent (Figure 3).

ECONOMIC AND SOCIAL IMPACTS OF SARS OUTBREAK

Among the major factors affecting the stability of tourism income are unexpected events, such as wars, terrorism, conflicts and disease outbreaks, which might affect the security of tourists. Although WHO did not consider Thailand a SARS area, the outbreak had negative impacts on the Thai economy, particularly on the tourism industry. International tourist numbers declined by 30 to 40 percent during the outbreak period compared with the same period in the previous year (Figure 4), while total tourism revenue decreased by 5 percent.[12] NESDB (2003) estimated the loss of tourism

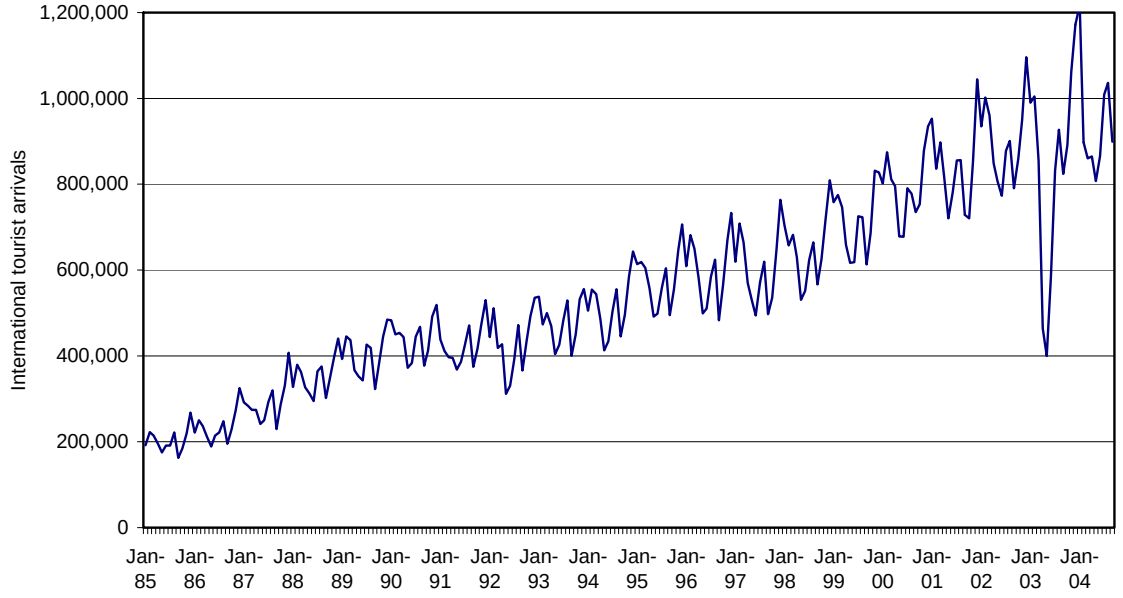
income to be about 31 billion baht, based on the fact that the number of foreign tourists dropped substantially, i.e., by 40.2 percent (975,709 people x 8 days x 4,000 baht/day). Additionally, Akarapong (2004) forecast the tourist arrivals and tourism, assuming no SARS outbreak. The methodology applied in forecasting tourist arrivals is the Seasonal AutoRegressive Integrated Moving Average (SARIMA) model. The number of tourists from March to June 2003 was forecast to be over 3.5 million, while the actual number reached only 2.3 million (Table 5).

Figure 3 Travel Receipts, Travel Payments, and Year-on-year Changes, Thailand, 1990-2003



Source: BOT statistics.

Figure 4 Monthly International Tourist Arrivals, Thailand, 1985-2004



Source: TAT data.

Table 5 Tourism Revenue Loss Estimates as a Result of the SARS Outbreak in Thailand, March to June 2003

Month	Predicted (number)	Actual (number)	Difference (number)	Percentage of the difference	Average of length of stay (days/visit)	Revenue loss estimates (million baht)
March	994,704	861,259	-133,445	-13.42	8.52	4,268
April	910,455	470,969	-439,486	-48.27	7.89	13,016
May	802,591	404,563	-398,028	-49.59	7.32	10,937
June	816,515	591,164	-225,351	-27.60	7.44	6,294
Total	**3,524,265**	**2,327,955**	**-1,196,310**	**-34.72**[1]	**7.79**[1]	**34,515**

Note: 1 = average.
Source: Akarapong 2004.

Scenarios

Reductions in international tourist arrivals meant not only a loss in tourism revenue, but also losses in other tourism-related businesses as well. Therefore, the CGE model[13] was used to estimate the economic and social impacts of SARS outbreak. The scenarios tested in this model are: a) with SARS outbreak, and b) without SARS outbreak. It is assumed that "without SARS outbreak" scenario will base on the forecast international tourist arrivals and tourism income for the period of March to June 2003 using SARIMA model.[14]

RESULTS AND DISCUSSION

Based on the forecast tourism arrivals by SARIMA model, assuming no SARS outbreak, the number of international tourists between March to June 2003 was forecast to be 35 percent higher than the actual tourist arrivals. The difference in tourist numbers was then converted to a tourism revenue loss of around 34.5 billion baht (Table 5). The results from the CGE model reveal that if SARS outbreak had not occurred, the tourism revenue will increase by 11.00 percent compared with the scenario "with SARS outbreak" (Table 6). The effects on different sectors were as follows: GDP service sector +0.52 percent; GDP industrial sector +0.34 percent and GDP agricultural sector +0.31 percent. The service balance was positive (24.33%) owing to the increase of tourism revenue, while the trade balance was negative (–10.92%). Moreover, some service sectors related to tourism activities would receive some gain; these included hotels (+2.55%); local transportation (+1.83%); restaurants (+1.22%) and entertainment (+0.60%). In terms of social impacts, households in all income ranges would have positive affect, if SARS outbreak had not occurred, more or less equally in relation to their initial income, with the range being +0.52 to +0.59 percent for farm households and +0.62 to +0.64 percent for non-farm households, with the average being +0.61 percent (Table 6).

Table 6 Estimation of Economic and Social Impacts with and without SARS Outbreak

ITEMS	Unit	Scenarios		Growth (%)
		with SARS	without SARS	
Tourism income	billion baht	314	349	11.00
GDP agriculture	billion baht	605	607	0.31
GDP industrial	billion baht	2,513	2,522	0.34
GDP service	billion baht	2,705	2,719	0.52
GDP	billion baht	5,823	5,848	0.42
Total export goods and services	billion baht	3,827	3,859	0.83
Total import goods and services	billion baht	3,564	3,577	0.37
Trade balance	billion baht	128	114	-10.92
Service balance	billion baht	135	167	24.33
Current account balance	billion baht	192	211	9.78
Household Income				
All households income	billion baht	3,732	3,755	0.61
Share of the richest group 20%	%	57.75	57.75	0.01
Share of the next richest group 20%	%	19.75	19.76	0.00
Share of the middle group 20%	%	11.39	11.39	-0.01
Share of the next poorest group 20%	%	7.20	7.19	-0.03
Share of the poorest group 20%	%	3.91	3.91	-0.03

Source: Macroeconomic Policy Program, TDRI estimation.

Like other unexpected events, the SARS outbreak proved to be a substantial factor negatively affecting international tourism in the short term. During the period from April to June 2003, the SARS outbreak disrupted short-term economic prospects; in August 2003 the rate of tourist arrivals started to return to normal. The social and economic impacts were not as costly as expected owing to the immediate measures implemented by the Thai government, as well as domestic tourism promotion. Nevertheless, tourism is a fragile industry, and is very susceptible to economic conditions, political instability as well as safety concerns; therefore, an early warning system for tourism security, and effective prevention measures are necessary to guarantee tourist safety because safety is the most crucial issue in this sector.

ENDNOTES

1 TDRI (1997) applied dynamic forecasting models with "three simple structural equations," namely, foreign arrivals, length of stays in Thailand, and tourist expenditure.

2 TDRI (2001) applied three single equations, namely, foreign arrivals, length of stays in Thailand, and tourist expenditures, concentrating on different markets.

3 Management operating margin is equal to management earnings before other operating items divided by management revenues.

4 The tourism sector accounts for over 9 percent of GDP in East Asia (China, Hong Kong, South Korea, and Taiwan) and about 11 percent in Southeast Asia (Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam).

5 This estimate takes account of the direct economic effects of SARS (tourism and consumption loss) and the indirect impacts. The relationships within the model allow for the repercussions of consumer spending on investment, the export and import of goods, employment, and prices, on the assumption that a SARS epidemic does not recur, and tourism recovers by late 2003.

6 Acharee (2004).

7 Despite the impact of the SARS outbreak, GDP in 2003 ended up, with a growth rate of 6.7 percent owing to continued expansion of domestic demand, both private consumption and investment, and high export growth (NESDB 2003).

8 In December 1997, the "Amazing Thailand" tourism promotion campaign was launched in Bangkok and internationally (17 offices overseas coordinated the launch of the campaign internationally). Amazing Thailand extended over two years, with cultural performances, handicraft displays, traditional dancing and processing throughout. Tourism promotion had a positive impact on the number of visitors (TDRI 1997; TDRI 2001).

9 Average overseas tourism spending by category, 1994-2002 (calculated from TAT data).

10 The coefficient of variation expresses the standard deviation as a percentage of mean value; this allows a comparison of the variability of different variables. The smaller COV indicates more stability.

11 Travel covers primarily goods and services acquired by "travelers," either for personal consumption or for business, during their stay outside their country of residence for a period of less than one year. There is an exception for students and patients regardless of their duration of stay, military and embassy personnel, and workers. The balance of payments is a summary of the economic transactions between residents and non-residents that take place during a specific time period.

12 Tourism revenue for 2003 was 10 percent less than the expected target (TAT 2004). After the SARS outbreak, TAT adjusted its target: tourist arrivals dropped from 11.13 million to 9.70 million, or a reduction of 10.15 percent; tourism revenue declined from 360.6 billion baht to 289.6 billion baht, or a reduction of 10.47 percent.

13 The CGE model was created by using SAM 2001, which consists of 1,007 accounts, 79 production sectors, 20 households classified by income class, agriculture and non-agriculture, business corporation, government, household consumption, private investment, public expenditures, saving pools, tourism and the rest of the world (TDRI 2002). The CGE model was developed by the Macroeconomic Policy Program, Thailand Development Research Institute, 2004.

14 Akarapong 2004.

REFERENCES

Acharee Sattarasart. 2004. Tourism income growth and stability. Paper presented at the Seminar on "Integrated Development of Sustainable Tourism in the Mekong Region," Friday 15th – Saturday 16th October 2004 at Anantara Resort & Spa Golden Triangle Chiang Saen, Chiang Rai, Thailand.

Akarapong Untong. 2004. The impact of the SARS outbreak on Thailand's tourism industry: A SARIMA model approach. Paper presented at the Seminar on

"Integrated Development of Sustainable Tourism in the Mekong Region," Friday 15th – Saturday 16th October 2004 at Anantara Resort & Spa Golden Triangle Chiang Saen, Chiang Rai, Thailand.

Apichat Pongsirirushakun, and Kiratipong Naewmalee. 2003. "An Analysis of Foreign Tourist Expenditure in Thailand." *TDRI Quarterly Review* 18 (2), June.

Asian Development Bank (ADB). 2003. *Assessing the Impact and Cost of SARS in Developing Asia*. Manila: ADB.

Bank of Thailand (BOT) data.

Fan, Emma Xiaoqin. 2003. *SARS: Economic Impacts and Implications*. Economics and Research Department Policy Brief series no. 15. Manila: Asian Development Bank.

Four Seasons Hotels. 2003. Annual Information Form. Bangkok.

Kim, Seongseop, Seungryung Nam, and Kihong Kim. 2004. News shock impact on inbound tourist demand: volatility in South Korea. In Second Asia-Pacific CHRIE (APacCHRIE) Conference & The Sixth Biennial Conference on Tourism in Asia. "Hospitality, Tourism & Foodservice Industry in Asia: Development, Marketing & Sustainability," Phuket, Thailand, May 27-29.

National Economic and Social Development Board (NESDB). 2003. *Thai Economic Performance in Q2 and Outlook for 2003*. Bangkok: NESDB.

Richards, Patsy. 2003. *Tourism*. Research Paper 03/73, 23 September. London: Economic Policy & Statistics, House of Commons Library.

Syriopoulos, Theodore C. 1995. "A Dynamic Model of Demand for Mediterranean Tourism." *International Review of Applied Economics* 9 (3): 318-36.

Thailand Development Research Institute (TDRI). 1997. *Master Plan for Tourism Industry*. Bangkok: TDRI.

_____. 2001. *A Study for the National Action Plan for the Tourism Industry*. Bangkok: TDRI.

_____. 2002. *Computable General Equilibrium Modeling*. Bangkok: TDRI.

Tourism Authority of Thailand (TAT). 2004. "International Tourism in Thailand 2003." *E-TAT Tourism Journal* (January-March). http://www2.tat.or.th/tat/e-journal/47jan-mar/index.html (July 5, 2004).

_____. 2004. "Tourism Authority of Thailand data." http://www2.tat.or.th/stat/web/static_index.php (August 30, 2004).

World Trade Organization (WTO). 2003a. "Fact and Figures." http://www.world-tourism.org

_____. 2003b. "Tourism Highlight Edition 2003." http://www.world-tourism.org

WTTC. 2003. "SARS Economic Impact." http://www.wttc.org/