A Progress Report

"APEC Economies beyond the Asian Crisis"

Asia-Pacific Economic Cooperation

APEC Economic Committee

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FOREWORD

Recovery is taking hold in much of Asia, and the upswing trend observed to date is likely to continue in the second half of 1999 through the year 2000. The acute phase of the Asian crisis is now over. However, many of challenges posed by the Asian crisis remain.

The Asian crisis has been a central concern for the APEC Community. To address this central concern, the APEC Economic Committee has undertaken a major research project titled "APEC Economies beyond the Asian Crisis" since early 1999. This project is forward-looking and growth-oriented, focusing on long-term implications of the crisis rather than on a postmortem of the crisis.

The issues to be addressed in this project are wide-ranging. The research work is being carried out as a collaborative effort led by four lead economies including Japan (growth potential), Korea (trade and investment), Chinese Taipei (small- and medium-sized enterprises: SMEs), and the Philippines (social impacts and policies).

The project is work in progress. This *Progress Report* is prepared, as an early result, for the Ministers' and Leaders' meetings in Auckland, September 1999. Research will be further developed, and a final report will be prepared in time for the Ministers' and Leaders' meetings in Brunei in November 2000.

The *Progress Report* consists of HIGHLIGHTS, PART I (main report), and PART II (background reports). The HIGHLIGHTS provides a succinct summary of the main findings of the main report. Background reports are progress reports on the project's individual sub-components.

Special thanks are due to four lead economies, Japan, Korea, Chinese Taipei, and the Philippines, which have put in major efforts to produce this report under very tight schedules. Other member economies have also contributed to improving this report by reviewing its earlier drafts and providing many useful comments. Thanks are also due to Mr. Bradley Crofts, Director (Program) at the APEC Secretariat, who has taken particular responsibility for seeing this report through to publication.

Mitsuru Taniuchi

Chair, APEC Economic Committee
Tokyo, September 1999

HIGHLIGHTS

1. Where Do We Stand in Understanding the Crisis?

- Two opposing views on the causes of the crisis.
  "The panic camp" holds that the crisis was a self-fulfilling panic caused by the inherent instability of international financial markets. "The home-grown camp" holds that the crisis was home-grown in the sense that crisis-affected economies had their own problems. Neither camp would contends that either view applies in a pure form, and there are views in between.
- A broad common understanding has emerged.
  Financial instability, particularly, volatility of short-term capital flows played an important role. Economies had such problems as financial sector weaknesses and inflexible exchange policy that left them vulnerable to reversals of capital.

2. A New Way of Looking at the Crisis

- A new angle is to look into structural weaknesses the crisis has highlighted. Its motivation is to find ways to maximize long-term growth potential.
  The focuses of existing studies are on the causes, and ways of crisis resolution and prevention. This new angle is forward-looking and growth-oriented.
- Long-term growth hinges on how structural weaknesses are addressed.
  Although it remains an open question how much structural weaknesses contributed to instigating the crisis, there is no denying that structural weaknesses inhibit future growth.
- It is important to identify what structural weaknesses the crisis has shed light on, and to address them.
  Many APEC economies in Asia and beyond confront, albeit to varied extents, structural problems similar to those the crisis has highlighted for Asian crisis-hit economies.
- The crisis has highlighted major weaknesses in four broad areas:
  - *the financial sector (such as ineffectual prudential regulations)*
  - *the corporate sector (such as weak corporate governance)*
  - *economic policy making (such as sequencing of liberalization)*
  - *social safety provision (such as securing minimal living standards in times of crises)*
- A well-developed SME sector was helpful in weathering the crisis.

3. Growth Prospects of APEC Economies

- Growth of the developing APEC economies is likely to slowdown over the next decade and beyond, according to preliminary results.
  That is because these economies will shift to higher developmental stages and population growth will slow down. Upgrading of human resources will have positive effects on growth, however.

- The rich growth potential of the APEC region is underscored, despite some slowdown in growth.
  Future development of trade and investment in the APEC region will be examined in the next stage of the project.
- Addressing structural weaknesses will make a difference to realize renewed growth over the longer term.

4. Refocusing APEC's Strategy for Cooperation

- The primary focus of APEC response to the crisis should be on longer-term issues of attaining robust growth.
  International financial institutions are best placed to fight a raging fire by mobilizing financial resources for crisis resolution. APEC's comparative advantage is to help its members redress structural weaknesses highlighted by the crisis so as to maximize the region's long-run growth potential.
- APEC should consider refocusing APEC cooperation under the goal of "consolidating the basis for growth in the 21st century" for the next few years.
  Under the goal of "consolidating the basis for growth", ECOTECH (economic and technical cooperation) can be focused on activities directly bearing on strengthening and opening markets and developing the social framework. "Consolidating the basis for growth" underscores the importance of TILF (trade and investment liberalization and facilitation), and enables TILF and ECOTECH to be promoted in an integrated manner.

PART I. Main Report

I. Introduction

(Economic Committee takes on a major research on the crisis)
The Asian financial and economic crisis has had wide-ranging, far-reaching impacts on APEC member economies in Asia and beyond. The crisis has been a central concern for the APEC community since its onset. It topped the agenda for the Leaders' and Ministers' meetings at Kuala Lumpur. Shaping a credible APEC response to the crisis is a major strategic objective for the 1999 APEC.

To address this central concern for APEC, the Economic Committee has been undertaking a research project focusing on long-term implications of the crisis. This research project, titled "*APEC Economies beyond the Asian Crisis*", is a two-year endeavor which started in early 1999. The project aims to highlight the factors shaping the future of APEC member economies, and outline likely scenarios for growth. Broad directions of policies to achieve sustainable growth and equitable development are to be suggested. Thus, this project is forward-looking, rather than focusing on postmortems on the crisis (i.e. why the crisis happened etc.).

The issues to be addressed in this project are wide-ranging. The research work is being carried out as a collaborative effort led by several lead economies including Japan (growth potential), Korea (trade and investment), Chinese Taipei (small- and medium-sized enterprises: SMEs), and the Philippines (social impacts and policies).

This progress report is prepared, as an early result, for the Ministers' and Leaders' Meetings in Auckland in September 1999. The final report will be delivered to the Brunei meetings in November 2000. As part of the implementation of the project, a major symposium will be held to discuss the project's research outputs and mobilize various view and perspectives in Tokyo in December 1999. Wide participation will be sought from APEC member governments, academia, major international organizations, journalism, and business.

(Value-added for APEC)
There is an emerging body of studies on issues concerning the crisis undertaken by multilateral institutions such as the IMF and the World Bank, academics, and business economists. What value does this research project add for APEC?

1) It fosters a sense of direction within the APEC community
An important value added of this project for APEC is to provide a vehicle for the APEC community to foster a sense of direction on the prospects of APEC economies and necessary policy actions. This project highlights some key structural issues the crisis has shed light on, and undertakes long-term projections of economic growth and trade and investment in the APEC region, taking into account long-term implications of the crisis.

2) It helps develop APEC responses to the challenge of regaining growth
Another value added of the project is to provide the analytical basis useful for refocusing and strengthening APEC cooperation activities. This project aims to suggest a broad policy directions for APEC cooperation, with the view to regaining robust growth over the long term.

II. Where Do We Stand in Understanding the Crisis?

The growing body of studies concerning the Asian crisis has largely focused on three areas; (1) the causes of the crisis (why the crisis happened), (2) crisis resolution (how best to resolve crises, including the appropriate role and policies of the IMF), and (3) crisis prevention (how best to prevent future crises). The three areas are interrelated, and in particular, prescriptions for crisis resolution and prevention rest in large part on the diagnosis on the causes of the crisis.

(Two views on the crisis)
There have long been two strands of thought on the causes of financial crises. One view holds that financial crises are self-fulfilling panics caused by the inherent instability of international financial markets, even if an economy maintains more or less sound economic fundamentals. The other view holds that a crisis is home-grown in the sense that the crisis-hit economy has its own problems such as imprudent economic policies, and that international financial markets are simply providing a necessary discipline. It is important to note that both views are consistent with capital flows providing important benefits in terms of an improved allocation of resources over time and across activities.

As with the previous crises, both strands of thought appear in discussion of the causes of the Asian crisis. Of course, few serious economists would contend that either view applies in a pure form, and there are views in between. The "panic" camp agrees that the crisis-hit Asian economies had serious problems such as under-regulated banking sectors, overvalued exchange rates, and real estate bubbles in the run-up to the crisis. However, the "panic" camp considers that such problems were not serious enough to warrant the onset of the crisis. In the similar vein, the "home-grown" camp acknowledges that there was an element of a financial panic in the Asian crisis, even though it was the underlying vulnerabilities of the crisis-hit economies that invited the crisis. The "home-grown" camp also considers that, due to panicked withdrawals of capital, the devastation of the crisis may have gone far beyond what could be attributed to underlying problems.

Different diagnoses may lead to different prescriptions for crisis resolution and prevention, at least assigning different weights to necessary measures. For example, if the Asian crisis was all about a self-fulfilling panic, then the most needed measures to rescue the crisis-hit economies might be the provision of prompt and sufficient liquidity rather than the tightening of fiscal and monetary policies and structural reforms. Effective measures to prevent future crises should be of a financial nature such as limiting short-term capital inflows and increasing foreign currency reserves (particularly in relation to short-term capital inflows). On the other hand, if the Asian crisis was home-grown, then resolute structural reforms need to be part of crisis resolution measures because they would help restore investor confidence. Such reforms should also be effective in warding off future crises.

(Broad common understanding)
These issues have not as yet been settled, and more research is needed to improve our understanding of the nature of the Asian crisis and ways to prevent similar crises in the future. However, it would not be premature to say that there has emerged some broad common understanding on what happened in East Asia in 1997. That is, volatility of capital flows, particularly short-term capital flows, played an important role in the Asian crisis (whether that was a primary or ancillary role remains unresolved). There were also

problems in such areas as financial sectors and exchange rate policy, which had made East Asian economies vulnerable to a crisis.

III. A New Way of Looking at the Crisis: Perspective of Maximizing Growth Potentials

(The crisis has shed light on structural weaknesses)
As mentioned earlier, there has been a growing body of studies focusing on the causes of the crisis, crisis resolution and prevention. The main motivation of those studies is our desire to minimize the devastation of the crisis this time and ward off devastation in the future.

There is another important angle from which to look at issues arising from the crisis. That angle is to look into structural weaknesses that the crisis has shed light on in a rather stark manner. Its underlying motivation is to maximizing long-term growth potential. As it will be shown later, looking at the crisis from this angle opens the way for APEC to refocus and strengthen its cooperation.

Such structural weaknesses in Asian economies had been spawned over time by spectacular growth and built up under the surface of booming economies. Even if one believed the polar view that financial panic, rather than fundamental weaknesses, was the root cause of the crisis, there would be no denying that long-term growth prospects hinge on how structural weaknesses highlighted by the crisis are addressed.

For example, the crisis has shed light on under-regulated financial sectors and weak corporate governance as important weaknesses in the crisis-hit economies. It is clear that the failure to strengthen the financial sector and corporate governance would lower growth potential over time. Another example is weaknesses in social safety provision that have been revealed by serious social impacts of the crisis on the crisis-hit economies. Underdeveloped and often-neglected social safety nets certainly did not cause the crisis, but it is now clear that sustainable, equitable growth over time would not be possible without addressing this revealed structural weakness.

(Structural problems inhibit future growth)
Future growth potential in Asia would be constrained by structural weaknesses that had been largely masked in the recent past but sharply revealed by the crisis. In order to secure sustainable growth over the long term, it is very important to identify such structural weaknesses and then address them head on. The Asian crisis has brought on devastation to the region, but it may be a blessing to the extent that it has fleshed out the economies' weaknesses to be redressed. Until recently, we might have been cavalier about them, dazzled by glaring records of strong growth. Since early 1999, there have been some encouraging signs that recovery is taking hold in Asian economies, but it is important that we should not become complacent in order to ensure that these weaknesses are addressed fully.

Box 1: Was the Asian miracle a myth after all? Or was the crisis only a hiccup?

In order to envision the future course of Asian economies, it is important to assess the crisis in the context of long-term growth. The above argument maintains that long-term growth of Asian economies would be inhibited unless structural weaknesses highlighted by the crisis are redressed, although the extent to which such structural weaknesses contributed to causing the crisis remains unresolved among researchers.

In this context, it is worth examining an often-asked question of whether Asian economies hit the wall because the Asian miracle was a myth or mirage after all, as Paul Krugman of MIT suggested earlier in his controversial paper. (Paul Krugman, "The Myth of Asia's Miracle", Foreign Affairs, November/December 1994.) If that is the case, we would have to expect a significant deceleration in growth in the long-run in Asia. An opposing view would hold that the crisis was only a hiccup (or temporary setback) for potentially strong economies, due to such reasons as whimsical capital movements. If that is the case, the economies could eventually return to the same growth trajectory as before after a few years of adjustment.

There appears little basis for claiming that Asian economies hit a wall because the Asian miracle was a myth. The thrust of Krugman's argument was two-fold. First, the growth pattern of East Asian economies were surprisingly similar to that of the Soviet economy in its high growth period of the 1950s, in that both economies achieved rapid growth by massively mobilizing capital and labor inputs ("input-driven growth"), rather than by increasing production efficiency. Second, input-driven growth would not be sustained as the law of diminishing returns sets in. What his argument implies for the region's growth prospects is that Asian economies would likely experience a gradual slowdown in growth, but not an abrupt, drastic downturn in growth. While the causes of the Asian crisis have been much debated, the issue of "input-driven growth" has not been discussed as a cause of the crisis in the controversy. In fact, Krugman himself concedes that he did not predict the crisis.

It would seem unlikely, however, that Asian economies would return to the same old growth trajectory, once the present painful adjustment is over. That is because the crisis has revealed structural weaknesses by which future growth potential will be constrained. Unless structural weaknesses are addressed, restoring and sustaining strong growth over the long term would be difficult. In that sense, the crisis was not just a hiccup. For the sake of argument, let us assume that there was no crisis in Asia this time. If that were the case, Asian economies would eventually experience either a gradual or abrupt slowdown of growth at some point in the future, as structural weaknesses start inhibiting growth. It is worth noting that economic growth would decelerate not because Asian growth is input-driven.

Asian economies still have the potential for growth, because stylized facts such as high saving rates, strong educational base, and outward-looking economic policies remain in place. Asian economies could continue strong growth through input mobilization as they had done earlier, as long as (a) the technology gap and education gap with more advanced economies remain and (b) structural reforms are undertaken.

IV. Structural Problems Highlighted by the Crisis

The Asian crisis has shed light on a number of structural weaknesses, which had earlier been largely masked by the glaring record of growth. Asian APEC economies would not be able to achieve sustainable, robust growth in the long term without redressing such structural weaknesses. By the same token, many other APEC economies, particularly developing member economies, confront similar structural weaknesses which the crisis has shed light on for Asian APEC economies, albeit to varied extents. Tackling structural weaknesses highlighted by the crisis opens the way for achieving renewed growth in the APEC region in the 21st century.

(Weakness in the financial sector)
Major weaknesses spotlighted by the crisis are those in the financial sector. In particular, two areas are important, although the details differ across economies.

1) Ineffectual prudential regulations and supervision
East Asian economies have actively introduced financial deregulation and capital account liberalization over the past two decades. However, such financial deregulation and liberalization has not been accompanied by commensurate strengthening of bank regulations for prudence. Ineffectual prudential regulations and supervision had led to excessive bank exposure to foreign-currency liabilities (particularly short-term debts), and imprudent lending to such sectors as real estate and related-party lending. The implicit guarantee of the banking sector provided by governments, combined with ineffectual prudential regulations and supervision, proved very costly for the public sector. Deposit insurance schemes, which could have calmed jittery depositors, were also not in place.[1]

2) Over-reliance on bank finance
In East Asia, banks (and bank-like financial intermediaries) have been dominant in corporate finance, while capital markets, in particular, bonds markets, have been underdeveloped. Over-reliance on bank lending, together with poorly regulated banks, had resulted in vulnerable financial positions of firms (financing long-term investment with short-term borrowing and over-indebtedness). Underdeveloped capital markets contributed to insufficient market monitoring and disciplining of corporate management.

(Weakness in the corporate sector)
The crisis has also highlighted some weaknesses in the corporate sector.

1) Weak corporate governance
Against the backdrop of continued strong growth, firms often made bullish investment to gain larger market shares and to diversify beyond core business, without paying due consideration to profitability. As a result, particularly Korean *Chaebols* had very high debt-equity ratios. While questionable investment lowers economic growth potential over time, over-leverage had made the corporate sector susceptible to a sharp economic downturn and interest rate surges during a crisis. In addition, the lack of transparency regarding financial positions of firms may have aggravated the herd behavior of foreign lenders and investors, because it was difficult to discern good companies from bad companies. Corporate

[1] A deposit insurance scheme would contribute to the stability of the banking system by warding off panicked runs on banks, but it would involve the risk of instilling moral hazard on the part of bank management. These two aspects must be weighed in considering the introduction of a new insurance scheme. While many developed economies have deposit insurance schemes, some economies like New Zealand have not instituted them.

governance needs to be strengthened to ensure the profitability and transparency of business activities through guidance and monitoring by independent boards and financiers (banks and institutional investors).

2) Underdeveloped legal infrastructure for business

The lack of well-developed bankruptcy laws and foreclosure procedures has been hindering corporate restructuring in the wake of the crisis. Bankruptcy laws are also critical to the task of bank restructuring in working out non-performing loans and promoting a market-based banking culture. Although the crisis-hit economies have introduced new legislation for bankruptcy and foreclosure, it takes time to effectively implement such legislation because of the lack of lawyers and other legal staff with expertise and experience in the field. Exit rules for failed firms and competition policy are the twin requirements for healthy development of the corporate sector.

3) Need to develop SMEs

The Asian crisis has had profound effects on SMEs. SMEs have been particularly affected by a credit crunch. On the other hand, a well-developed SME sector appears to have helped cushion the crisis' adverse impacts on the economy. A case in point is Chinese Taipei, which has managed to weather the crisis relatively well. The vast number of firms in Chinese Taipei indicates greater competition, which would lessen the risk of poor investment and management decisions. The vertically disintegrated industrial structure prevailing in Chinese Taipei also appears to have enabled its economy to deal with the credit crunch caused by the crisis, because capital requirements for firms under such an industrial structure are generally small. Chinese Taipei's experience indicates the need for other Asian economies to create conditions conducive to the development of SMEs. A well-developed, competitive SME sector is not only the engine of growth, but also contributes to the resiliency of an economy to downside risks. Enhancing management performance through education, improving capital markets and access to them are important issues to promote SME growth.

(Further need for better economic policy making)

Generally speaking, the track records of economic policies in East Asia are good. East Asian economies have managed to contain inflation with prudent monetary and fiscal policies, avoid chronic over-valuation of exchange rates, and pursue outward-looking policies for trade and investment. However, there are some areas in economic policy making that need strengthening.

1) Sequencing of liberalization[2]

What has become clear is that short-term capital liberalization under an under-regulated financial sector increases vulnerability to a financial crisis. The crisis highlighted the importance of sequencing of capital account liberalization and strengthening of the financial sector. Another issue of sequencing has to do with market opening for exporting sectors and domestic-market-oriented (or import-substitution) sectors. East Asian economies have pursued active market opening and deregulation for exporting sectors such as electronics, while domestic industries such as petrochemicals and steel have remained largely sheltered from foreign investment and competition, and as a result, East Asian economies have

[2] Conventional arguments as to sequencing of liberalization measures focus on the right sequencing of liberalizing trade, long-term capital including FDI, and short-term capital. The Asian crisis has highlighted heretofore less discussed issues of sequencing.

similar export structures concentrating in electronics.[3] The narrow and similar export specialization in East Asia worked as a factor to amplify downward pressures during the crisis.

2) Exchange rate policy

De facto US-dollar-peg exchange rate regimes in Thailand and some other East Asian economies are likely to have increased vulnerability to a financial crisis, as effective exchange rates swung as the exchange rates between US dollar and other currencies fluctuated, subjecting the economies to instability through changing incentives for exports and imports. Unhedged foreign borrowings were prevalent in Thailand where its currency, baht, had been largely fixed to the dollar over more than a decade, and they brought on devastating impacts on firms and banks as the baht plummeted. The crisis highlighted the need to review the exchange rate policy. Options to be considered include to introduce more flexibility in the exchange rate, and to peg the currency to a basket of major currencies reflecting trade partners.

(Underdeveloped social safety provision)

In some crisis-hit economies, the number of people in poverty has most likely risen significantly on the heels of the crisis, reversing the spectacular welfare gains over the past few decades. In particular, women, children and the elderly have suffered the most.

1) Need for public assistance to secure minimal living standards

As with many developing economies in the world, East Asian economies have basically relied on informal family-based assistance for household security. The continuation of strong growth over the past few decades had lifted living standards sharply and alleviated poverty in East Asia. However, the crisis has starkly revealed the need for the government-sanctioned schemes to assist the poor in times of sharp economic downturns. From a longer-term perspective, it is particularly important to prevent poor families' children dropping out from elementary and secondary education.

2) Need for unemployment insurance

The lack of unemployment insurance was also highlighted by the crisis, as a large number of workers lost jobs. The need for income support for the unemployed through a government-sanctioned insurance scheme had been masked by the continued rapid growth which had provided plenty of new employment opportunities. In fact, with the exception of Korea, East Asian economies do not have unemployment insurance schemes. Introducing a new insurance scheme during a crisis would not be a good idea, because a new scheme would require a minimum period of prior contributions, and its funding requirements would further depress the economies. It is important to plan for the future, however, once more stable conditions return.

V. Growth Prospects of APEC Economies

This research project undertakes projections over the next decade and beyond, in order to assess growth potential of APEC economies and changing patterns of trade and investment in quantitative terms. As discussed above, the Asian crisis has highlighted some important structural weaknesses in the crisis-hit economies in Asia. Other APEC economies in Asia

[3] The share of electronics in total exports had risen to 30-50% by the mid-1990s for Malaysia, the Philippines, Korea, and Thailand.

and beyond, especially developing member economies, face similar structural problems, albeit to varied extents. Long-term growth potential of the region hinges on how APEC economies address such structural problems. Thus, it is important for our projections of economic growth to take into account the significance of pursuing structural reforms on growth prospects. Our projections also need to take into account other important factors affecting future growth such as demographic changes and educational advancement. In this section, preliminary projection results of the region's growth are reported.

In our projection work, two econometric approaches are taken; conditional convergence model approach and the meta-production function approach. While both of the two approaches are firmly based on the modern theory of economic growth, they differ in the way the theory is applied empirically. Thus, the two approaches are complementary to each other. The conditional convergence model approach is based on the idea that economic growth rates among economies in different developmental stages tend to converge. The meta-production function approach attempts to estimate a production function underlying economic growth directly, and explicitly measure production efficiency with which different economies utilize their inputs of capital and labor.

Preliminary results of the two approaches are suggestive. The projection under the conditional convergence approach shows that long-term growth rate of APEC developing member economies would fall somewhat from that experienced prior to the Asian Crisis. (See Table (1).) The main reason for the fall in economic growth is in the slowdown in the speed of convergence, which is a consequence of the rise in the GDP level. Slower growth in population also contributes to the decline in economic growth. The positive effect of higher human capital stock on growth is insufficient to offset the above negative effects.

The meta-production function approach provides projection under two alternative scenarios: reform and non-reform scenarios. The reform scenario assumes full implementation of reform measures which address structural weaknesses revealed by the Asian crisis, and the non-reform scenario assumes that implementation of reform measures is incomplete. Under the reform scenario, economic growth remains high and, in the case of ASEAN, even exceeds rapid growth achieved in 1990-1997. (See Table (2).) Under the non-reform scenario, economic growth in the next decade would drop significantly from that in the 1990s. The decline in population growth would further reinforce the slowdown in economic growth.

Table: Growth Projection of the APEC Region: Preliminary Results

(1) Conditional Convergence Model Approach

	APEC Total	APEC Developed Economies	APEC Developing Economies	NIEs	ASEAN
Projection (1995-2015)	2.8	2.4	4.5	3.4	5.5
Actual (1970-1995)	3.3	2.9	7.1	8.4	6.6

(2) Meta-Production Function Approach

	APEC Total	APEC Developed Economies	APEC Developing Economies	NIEs	ASEAN
Projection (2000-2010)					
Reform Scenario	2.7	2.1	5.0	5.3	5.8
Non-Reform Scenario	2.5	2.1	4.1	4.6	3.2
Actual (1990-1997)	2.7	2.1	5.5	6.7	5.5

(Note) Annual real GDP growth rates, in percent.

The two approaches highlight the rich growth potential that APEC economies could continue to enjoy in the long-term. The conditional convergence model approach provides a reference projection in which the economies continue to follow the conditional convergence path observed prior to the Asian crisis. The meta-production function approach, on the other hand, shows the importance of the implementation of reform measures. It shows that addressing underlying structural weaknesses of APEC economies in Asia and beyond is vital for maximizing their long-term growth potential and realizing sustainable growth in the APEC region.

Box 2: Econometric Approaches to Growth Projection

The conditional convergence model approach is based on the idea that economic growth rates among economies in different developmental stages tend to converge. That is, the lower the initial level of per capita GDP of an economy is, the higher its economic growth rate for later years is, and as the economy gets matured, its pace of growth converges to that of more developed economies. However, it is also acknowledged that such convergence is conditional, in the sense that it can be observed only when differences in such factors as human capital stock and physical capital investment are taken into account.

The meta-production function approach attempts to estimate a production function underlying economic growth directly, unlike the conditional convergence approach. The meta-production assumes that; (i) all economies under consideration are subject to the same underlying production function, and (ii) each economy differs in the efficiency with which they utilize their inputs of capital and labor. The advantage of this approach is that the level of efficiency and the speed of efficiency improvement can be compared among different economies. An economy with the highest efficiency can be identified as the best practice economy (or most advanced economy), and other economies can be considered to be in the process of catching up to the best practice economy. These features come in handy when simulations under different scenarios are undertaken.

The meta-production function approach provides projection under two alternative scenarios; reform and non-reform scenarios. The reform scenario assumes full implementation of reform measures which address structural weaknesses revealed by the Asian crisis. The speed of efficiency improvement and the ratio of investment to GDP are assumed to be high under this scenario. In contrast, the non-reform scenario assumes that implementation of reform measures is unsatisfactory. The speed of efficiency improvement and the investment/GDP ratio are assumed to be lower under the non-reform scenario.

VI Refocusing APEC's Strategy for Cooperation

(Longer-term focus of APEC's response to the crisis)
What can APEC do to help its member economies put the crisis behind them and realize sustained growth in the next millennium? It is proposed that the primary focus of APEC's response to the crisis be on longer-term issues, rather than on acute, short-term issues of crisis resolution.

International financial institutions such as IMF, World Bank, and ADB, and industrialized countries have been providing assistance in the form of financial resources and technical advise to crisis-affected economies to get over the crisis. APEC does not have a strong comparative advantage over international financial institutions in the areas of addressing short-term issues of crisis resolution, or fighting a raging fire.

However, there is much scope for APEC in helping its member economies redress structural weaknesses highlighted by the crisis so as to maximize growth potential and attain robust growth in the APEC region in the long run. The above preliminary study on growth projections underscores in quantitative terms the importance of structural reforms for realizing renewed growth over the longer-term.

APEC has a unique potential to assist member economies to strengthen the basis for growth, because of diversity among members. Vastly different developmental stages of member economies make sharing experiences in policy design and implementation most effective.

(Consolidating the basis for growth in the 21st century)
In order to regain and sustain vigorous growth in the next millennium, it is very important to address structural weaknesses highlighted by the crisis during the recovery phase from the devastation inflicted by the crisis. Structural weaknesses of the crisis-hit APEC economies in Asia are shared, albeit to varied extents, by many other APEC economies, particularly developing member economies.

As discussed earlier, structural weaknesses highlighted by the crisis include weaknesses in the financial sector, the corporate sector, and economic and social policy frameworks. Tackling such weaknesses is essential for APEC economies to consolidate the basis for growth in the 21st century.

A suggested broad policy direction is that APEC consider refocusing APEC cooperation under the goal of "consolidating the basis for growth in the 21st century" for the next few years. "Consolidating the basis for growth" requires strengthening and opening markets and developing social framework, in order to redress structural problems which would inhibit growth in the long run. This goal of consolidating the basis for growth, which is of cross-cutting nature, would not replace TILF and ECOTECH as pillar policy agendas. Instead, it would facilitate prioritizing various ECOTECH activities to those directly bearing on strengthening and opening markets and developing social framework. It would also enable TILF and ECOTECH to be promoted in an integrated manner. Cooperation in the following areas is particularly important for consolidating the basis for growth. Specific arrangements to promote focused cooperation under the goal of consolidating the basis for growth need to be explored.

(Priority areas for cooperation for consolidating the basis for growth)
<u>1) Institution building and human resources development for structural reforms</u>
Institution building and human resources development are the key for redressing structural weaknesses highlighted by the crisis. The goal of consolidating the basis for growth enables a more focused approach to ECOTECH cooperation by addressing cross-cutting structural problems in the following areas.
- financial sector development (capital market development, supervision and prudential regulations etc.)
- competition policy and deregulation
- strengthening the corporate sector (corporate governance, legal infrastructure for business such as bankruptcy law, and development of SMEs and new business)
- economic policy governance (strengthening the capacity for policy planning and economic analysis)
- social safety nets

APEC has already undertaken important initiatives in this regard, and future APEC cooperation should build on such stocktaking within APEC, while avoiding duplication between various fora. In particular, as regards the financial sector development, APEC Finance Ministers have undertaken initiatives to strengthen regional financial and capital markets. The following initiatives are also important.

- Australian initiative on economic governance capacity building
- New Zealand's initiative on competition and regulatory principles
- US initiative on the social framework for growth
- April 1999 Joint Ministerial Statement by SME Ministers
- Japan's new initiatives on human resources development for structural reforms and strengthening market infrastructure
- Korea's initiative on knowledge-based industries

2) Trade and investment liberalization and facilitation

Trade and investment liberalization and facilitation (TILF) promotes growth in the region through more efficient international division of work and transfer of technology. It should be also noted that TILF is conducive to strengthening markets and thus consolidating the basis for growth, because promoting TILF addresses some of structural weaknesses highlighted by the crisis through increased competition and higher standards for corporate governance introduced by foreign investors. The 1999 study on the impact of trade liberalization carried out by the Economic Committee indicates that the implementation of trade liberalization and facilitation committed to date by APEC economies would increase real income (GDP) in the region by 0.4% or US$75 billion (at 1997 prices) per year.

There is scope for a more integrated approach to TILF and ECOTECH in two areas. First, facilitation of trade and investment has a great potential for expanding regional trade and investment and thus for reinvigorating growth, ECOTECH cooperation for facilitation should be given a priority. Second, as more liberalized trade and investment could produce adversely-affected groups in the society, ECOTECH cooperation focused on flexible labor markets and skills development is particularly important for consolidating the basis for growth through TILF.

PART II. Background Individual Reports

Background Individual Report No.1

Growth Potential of the APEC Economies After the Asian Crisis

1. Introduction

The aim of this component of the APEC Economic Committee project, *APEC Economies beyond the Asian Crisis,* is to produce a set of projection on the long-term growth potential of the APEC economies after the Asian Crisis. The projections are not intended to be precise forecasts, which are difficult to produce in such a situation as the present where considerable uncertainty exists. Instead, what is produced is a set of simulations under alternative scenarios with regards to the implementation of reform measures. It is designed not only to provide a quantitative basis for discussions on economic issues in the post-Asian Crisis era, but also to underline the importance of pursuing full-implementation of reform measures.

In choosing the methodological approach for projecting growth, the following criteria were applied; (i) the approach should have a sound basis in the economic literature; (ii) the approach should be able to produce long-term projections; and (iii) the approach should allow simulations under different scenarios. The approaches that have been chosen are *the conditional convergence model approach* and *the meta-production function approach*.

This background report describes the progress made towards our goal by summarizing the main features of the two approaches, the preliminary results of their estimations, and the projections they provide.

2. Conditional Convergence Model Approach

2-1. Main Features

The conditional convergence model approach[1] is based on the idea that there is a long-term tendency for per capita GDP of economies to *converge*; the lower the level of initial per capita GDP level is, the higher the growth rate of per capita GDP, and vice versa. The convergence is, however, *conditional*, in the sense that it can be observed only when the differences in such factors as the levels of human capital stock and physical capital investment are controlled for[2].

The estimating equation is of the following form;

$$(1)\qquad \frac{\dot{y}}{y} = const. + \beta_1 \ln(RPGDP) + \beta_2 \ln(POPG) + \beta_3 \ln(SCHOOL) + \beta_4 \ln(INVR) + \chi_i (CATEGORY_i),$$

[1] Earlier works include Barro (1991), and Barro and Sala-i-Martin (1991,1992).
[2] For theoretical discussion of conditional convergence, see Barro and Sala-i-Martin (1995) and Romer (1996).

where $\frac{\dot{y}}{y}$ denotes the average annual growth rate of per capita real *GDP* growth rate during the period 1970-1990; *RPGDP* the level of per capita GDP relative to that of the USA at the initial year 1970; *POPG* the average annual population growth rate during the period 1970-1990; *SCHOOL* the secondary school enrollment rate at the initial year 1970; the *INVR* the average investment/GDP ratio during the period 1970-1990; and $CATEGORY_i$ dummies to capture effects specific to the category of economies *i*. The equation is estimated on pool data of 104 economies, including almost all of the APEC economies. The five categories of economies that are used for the estimation are; the developed economies, Latin America, NIEs, ASEAN, and Africa[3].

RPGDP enters the equation to check whether the conditional convergence mechanism is really at work; *POPG* enters to take into account the effect of population growth rate on per capita GDP growth rate. *SCHOOL* and *INVR* are included in order to control for these factors so that the existence of conditional convergence mechanism can be checked. The data are taken mainly from the World Bank database[4], and ordinary least squares is employed as the estimation method.

2-2. Estimated Results

The estimated results are shown in Table 1. Most of the coefficients are significant and have the expected signs. In particular, the negative and significant coefficient on *RPGDP* confirms the existence of the convergence mechanism. The positive and significant coefficient on *SCHOOL* also confirms the importance of human capital on growth.

Table 1. Conditional Convergence Model Approach: Estimated Parameters

Const.	RPGDP	POPG	SCHOOL	INVR	LA	NIEs	ASEAN	AFRICA
0.034***	-0.005***	-0.004**	0.005***	0.021***	-0.010**	0.042***	0.011	0.008*
(0.012)	(0.001)	(0.002)	(0.002)	(0.005)	(0.004)	(0.007)	(0.007)	(0.004)

Numbers. of Observations = 104; Adjusted R-square = 0.567; F-statistics = 17.877***.
(Note) Figures in parentheses are standard deviations. "***","**" and "*" show statistical significance level at 1 percent, 5 percent, and 10 percent, respectively.

2-3. Preliminary Growth Projection

Making use of the estimated equation, average real GDP growth rates for the period 1995-2015 was projected for each category of economies. For the projection, *RPGDP* and *SCHOOL* are given their 1995 values. Furthermore, the following is assumed: (i) *POPG* follows the projections by the United Nations[5], which reflect the demographic consequences of changes in fertility and mortality rates. (ii) *INVR* takes the average annual value for the period 1970-1995, except for Japan, Korea, and ASEAN, where the ratios are assumed to fall, and (iii) *CATEGORY* dummy for NIEs, which had positive effect on growth in the past, would no longer be effective as the level of per capita GDP of NIEs would reach that of the

[3] APEC economies included are; *the APEC developed economies,* consisting of Australia, Canada, Japan, New Zealand, and the United States; *APEC Latin America* consisting of Chile, Mexico and Peru; *NIEs* consisting of Chinese Taipei; Hong Kong, China; Korea; and Singapore; *ASEAN* consisting of Indonesia, Thailand, the Philippines, and Malaysia; and *the other APEC developing economies* consisting of China and Papua New Guinea.
[4] Included in World Bank (1998).
[5] Included in UN (1996). The high-case projections are used for Latin America; Asia, except Japan, China, and Chinese Taipei; and Africa. The low-case projections are used for Japan and Europe. The medium-case projections are used for other economies.

developed economies.

The result of the projection for the APEC economies is summarized in Table 2. It shows that the long-term growth rate of real GDP would decline somewhat from that experienced prior to the Asian Crisis. The growth rates of NIEs and ASEAN in 1995-2015, for instance, fall to 3.4 percent and 5.5 percent, respectively, from 8.4 percent and 6.6 percent, respectively, in the period 1970-1995. The main reason for the fall in growth rates is the slowdown in the speed of convergence, which is a consequence of the rise in the GDP level. Decline in physical capital investment is also an important contributor for the fall in the growth rates. The fall in population growth rates also contributes in the decline in real growth rates. The positive effect of human capital stock on economic growth proves to be insufficient to offset these negative effects on growth.

Table 2. Conditional Convergence Model Approach: Projection
(Annual real GDP growth rates, in percent)

	APEC Total	APEC Developed Economies	APEC Developing Economies	NIEs	ASEAN
Projection (1995-2015)	2.8	2.4	4.5	3.4	5.5
Actual (1970-1995)	3.3	2.9	7.1	8.4	6.6

Note: The real GDP growth rates are obtained by multiplying per capita real GDP growth rates by population growth rates.

3. Meta-Production Function Approach

3-1. Main Features

The meta-production function approach[6] is an attempt to explicitly estimate a production function, which is only implicitly assumed in the conditional convergence model approach discussed above. Compared to other approaches to production function, however, the meta-production function approach has the following features: It assumes that (i) all economies under consideration are subject to the same production function, and that (ii) each economy differs in the efficiency with which they utilize their inputs. This approach makes it possible to compare the level and the speed of improvement in efficiency among the economies concerned. The economy with the highest efficiency can also be identified as the best practice economy, and the others can be considered to be in their process of catching up to it.

The estimated equation is

$$(2) \qquad \ln Y_{it} = const. + \beta_1 \ln K_{it} + \beta_2 \ln L_{it} + \chi_i A_i + \psi_i T_i + \omega_j D_j ,$$

where Y_{it} denotes the real GDP, K_{it} the capital stock, L_{it} the employment in economy i at time t; and A_i and T_i denote constants and time trends, respectively, specific to the categories of economies i. The estimated coefficients of K_{it} and L_{it} correspond to the factor income shares of capital and labor, respectively. A_i s and T_i s are included to capture the initial efficiency level and the speed of efficiency improvement, respectively, specific to

[6] Meta-production function was first introduced by Hayami and Ruttan (1970) and applied empirically by, among others, Lau and Yotopoulos (1989), and Boskin and Lau (1992).

the categories of economies *i.* D_j s are dummy variables included in order to take into account various factors specific to certain economies and the effect of the banking crisis that took place in Latin America.

The estimation is made using panel data of thirteen APEC economies, each having annual data for the period 1970-1997. All APEC economies, for which data necessary for the estimation are available, have been chosen. The four categories of economies that are used for the estimation are; the APEC developed economies, APEC Latin America, NIEs, and ASEAN[7]. The data are taken from the Penn World Table[8], and updated up to 1997 by statistical information from the IMF, OECD, and local authorities. The random-effect panel-data estimation method is used for estimation.

3-2. Estimated Result

The estimated results are summarized in Table 3. They show that the initial levels of efficiency of NIEs and ASEAN at 1970 were 44 percent and 38 percent, respectively, of that of the developed economies[9]. They also show that the speed of efficiency improvement of the developed economies, NIEs, and ASEAN are 0.4 percent, 2.9 percent, and 1.2 percent per annum, respectively[10]. It confirms that the efficiency of NIEs and ASEAN, which were both far behind that of the developed economies in 1970, has been catching up rapidly in the period prior to the Asian Crisis.

Table 3. Meta-Production Function Approach: Estimated Parameters

Const.	K	L	A (LA)	A (NIEs)	A (ASEAN)	T(Develped)	T (NIEs)	T ASEAN)
2.2305***	0.4238***	0.5336***	-0.2878	-0.8155***	-0.9702***	0.0036***	0.0285***	0.0119***
(0.3257)	(0.0197)	(0.0431)	(0.2116)	(0.2137)	(0.2458)	(0.0011)	(0.0015)	(0.0014)

D1	D2	D3	D4	D5
-0.0780**	-0.2532***	-0.0639**	-0.1027***	-0.1190***
(0.0329)	(0.0367)	(0.0308)	(0.0335)	(0.01861)

Nos. of Observations = 13 x 28; R-square Overall = 0.9829; Chi-square = 12045.06***.

Notes:

1. Figures in parentheses are standard deviations. "***","**" and "*" show statistical significance level at 1 percent, 5 percent, and 10 percent, respectively.
2. D1 is for Peru in the 1980s, D2 for Peru in the 1990s, D3 for NZ in the 1980s, D4 for NZ in the 1990s, and D5 for the banking crisis in Latin America.
3. T (Developed) is for Australia, Japan, and the USA.

3-3. Preliminary Projections

On the basis of the estimated meta-production function, growth projections have been made for the period 2000-2010. In order to examine the effect of the reform measures on growth, projections have been made for two alternative scenarios; *the reform scenario* and *the non-reform scenario*.

[7] APEC economies included are; *the APEC developed economies* consisting of Australia, Canada, Japan, New Zealand, and the United States; *APEC Latin America* consisting of Chile, Mexico, and Peru; *NIEs* consisting of Hong Kong, Korea, and Chinese Taipei; and *ASEAN* consisting of the Philippines and Thailand.

[8] Based on the Penn World Table, Mark 5.6, available from the Web site of the National Bureau of Economic Research. It is an updated version of the older one included in Summers and Heston (1991).

[9] Since the initial levels of efficiency of the developed economies are assumed to be unity (its logarithm thus becomes zero), relative levels of efficiency of NIEs and ASEAN can be derived by taking the exponential of the coefficients of "A"s (e.g. exp (-0.8155) = 0.44).

[10] Both values for APEC Latin America turned out to be both statistically insignificant, and are, therefore, not presented here.

Both scenarios assume that the future values of labor input, L_{it}, would follow the projection by the International Labor Organization[11]. Both scenarios also assume that the future values of capital input, K_{it}, would be consistent with those implied by the growth theory, and would be determined by such factors as the population growth rate, the speed of efficiency improvement, and the investment/GDP ratio. The difference between the two scenarios, therefore, comes from the difference in the speed of efficiency improvement and in the investment/GDP ratio.

The reform scenario assumes full implementation of the reform measures that are designed to address the structural weaknesses revealed by the Asian Crisis. It is assumed that the speed of efficiency improvement of Korea remains high at 2.9 percent, and that of the ASEAN rises to 3 percent[12]. It is also assumed that the investment/GDP ratios stay high at the average value of the period 1985-1997. In contrast, *the non-reform scenario* assumes that implementation of reform measures is unsatisfactory. The speeds of efficiency improvement of Korea and ASEAN are to fall to 1 percent and 0.5 percent, respectively. The investment/GDP ratio for both Korea and ASEAN are also assumed to fall to the average of the period 1970-1985[13].

The results of the projections are summarized in Table 4. They show that, under *the Reform Scenario*, rapid improvement in efficiency and the high level of investment enable the real GDP growth rate to remain high and, in the case of ASEAN, even exceed the high growth rate achieved during the period 1990-1997. If the reform is implemented only unsatisfactorily, as in *the Non-Reform Scenario*, the slowdown in the improvement in the efficiency and the low investment make the growth rate to drop significantly from that in the 1990s. The decline in employment growth rate will further reinforce the slowdown in growth.

Table 4. Meta-Production Function Approach: Projections
(Annual real GDP growth rates, in percent)

	APEC Total	APEC Developed Economies	APEC Developing Economies	NIEs	ASEAN
Projection (2000-2010)					
Reform Scenario	2.7	2.1	5.0	5.3	5.8
Non-Reform Scenario	2.5	2.1	4.1	4.6	3.2
Actual (1990-1997)	2.7	2.1	5.5	6.7	5.5

[11] Included in ILO (1998).
[12] Because NIEs are assumed to improve their efficiency by 3 percent per annum, they will be able to catch up to the efficiency level of the developed economies during the projection period. It is therefore assumed that the efficiency improvement in NIEs would slowdown to the pace of the developed economies once they have caught up.
[13] The speed of efficiency improvement of APEC Latin America is assumed to rise to 1 percent in both scenarios.

4. Tentative Conclusion

The two approaches have highlighted the rich growth potential that the APEC economies could continue to enjoy in the long-term. *The conditional convergence model approach* provides a reference projection, which corresponds to the real GDP growth rate when the economies continue to follow the conditional convergence path observed prior to the Asian Crisis.

The meta-production function approach, on the other hand, shows the importance of the implementation of reform measures. By producing simulations under two alternative scenarios, it shows that addressing the underlying weaknesses of the crisis-affected economies and others that are subject to similar problems is vital for the long-term growth potential of the APEC economies.

The estimations and the projections of the two approaches presented here are yet to be improved and refined. The final report will be submitted by the Ministerial Meeting in Brunei in 2000.

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Background Individual Report No.2

APEC Economies beyond the Asian Crisis: Trade and Investment

1. Introduction

Over the last three decades, Asian economies have experienced higher economic growth than any other economic region. During the 1990s, Asia accounted for more than half of the GDP growth of the world economy. Asian economies as a whole also play a significant role in the world economy since they account for a large share of trade both in terms of destination of exports and origin of imports. Further, Asia has increasingly received a large share of the world's capital funds through foreign direct investment and portfolio investment as well as through international loans. Accordingly, the economic downturn in the Asian region due to the financial crisis inflicted a major shock on the global economy, affecting both the global financial system and, through trade links, the economic performance of the world's economies. Due to the region's growing influence, there is serious concern over the impact of currency depreciation in the region on international economic growth, trade and investment.

This study estimates the long-term impact of the Asian crisis on patterns of trade and investment in the APEC region and attempts to draw policy implications that may minimize the negative influence of the crisis on member economies. The study is a two-year project, and this year pilot studies will be carried out through conducting a survey on literature and statistics and a simple model simulation. We also plan to provide simulation results on the possible patterns of trade and investment in the APEC region in 2010, based on the projection of long-term growth in the region given in "Background Report 1: Growth Potential of the APEC Economies After the Economic Crisis".

2. Growth and Exchange Rate Trends

Economic growth rates in four ASEAN economies (Indonesia, Malaysia, the Philippines and Thailand) and Korea declined significantly in 1997 and 1998. Table 1 shows that compared to their average rates of GDP growth of between 6% and 8% prior to the crisis, the five above-mentioned countries all experienced a drastic reduction in growth rates after the crisis broke out. A slowdown of economic growth has also been seen other Asian economies, such as Chinese Taipei, China and Singapore, albeit to a lesser degree. Reduction in growth rates caused unemployment rates to grow and the operation rates of production facilities to decrease.

Table 1: Reduction in Growth Rates

	1996 (%)	1998 (%)	Reduction in Growth Rate (%) [1]
Korea	7.1	-6.7	-13.8
Thailand	6.4	-8.5	-14.9
Indonesia	8	-15.3	-23.3
Philippines	5.8	-2	-7.8
Malaysia	8.6	-6	-14.6
Chinese Taipei	5.7	3.8	-1.9
Singapore	6.9	0.8	-6.1

Note: 1) Difference between growth rate of 1996 and that of 1998
Source: *DRI World Economic Outlook*, Spring, 1999

The start of the crisis was marked by sharply depreciating exchange rates. As seen in Table 2, the crisis-affected Asian economies experienced depreciation rates ranging between 38 to 84% during 1997-1998. With the currency depreciation came apparent opportunities to increase exports. However, desperate efforts to expand exports by several economies with a similar structure of exports provoked a competitive reduction of export prices. Even though the Asian economies tried to increase exports in order to escape the crisis by improving their trade balances, their performances were not satisfactory and in 1998 the economies recorded no growth of export revenues for the first time since 1991.

Table 2: Asian Currency Depreciation

	Local Currency/US$ (6/15/97)	Local Currency/US$ (6/15/98)	Depreciation
Korea	888	1436	-38.25 %
Thailand	25.3	43.8	-42.20 %
Indonesia	2432	14699	-83.50 %
Philippines	26.4	42.4	-37.70 %
Malaysia	2.52	4.1	-38.50 %
Chinese Taipei	27.9	34.9	-20.10 %
Singapore	1.43	1.75	-18.30 %

Source: Data Stream

Currency depreciation caused higher import prices in terms of the local currencies and, compounded by a shrinkage in domestic demand in general, led to a lower demand for imports. The lower import volume resulted in the impact of the Asian crisis spreading to other regions. Table 3 summarizes pre- and post-crisis trends in trade and foreign investment in the Asian crisis region. In general, countries suffering from the financial crisis recorded decreased trade flows from 1997 to 1998. Since foreign direct investment (FDI) figures for the whole of 1998 are not available, this study compares 1997 FDI flows to 1996 flows. For Korea and Thailand, FDI increased while for the other three crisis afflicted countries (Malaysia, Indonesia and the Philippines), FDI decreased.

Table 3: Trade and FDI

	Trade (US$ billions)				FDI inflows (US$ millions)	
	Exports		Imports			
	1997	1998	1997	1998	1996	1997
Korea	168.7(7.5)	177.6(5.3)	171.9(-2.4)	128.1(-25.5)	2,325(30.9)	2,341(0.7)
Thailand	72.4(1.4)	73.0(0.8)	71.3(8.7)	59.1(-17.1)	2,268(13.3)	3,600(58.7)
Indonesia	60.1(2.4)	50.0(-16.8)	60.7(0.9)	42.4(-30.1)	6,194(42.5)	5,350(-13.6)
Philippines	40.3(14.5)	36.2(-10.2)	48.8(12.4)	39.0(-20.1)	1,520(4.2)	1,253(-17.6)
Malaysia	77.9(1.3)	69.8(10.4)	74.0(1.3)	53.1(-28.3)	4,672(13.1)	3,754(-19.6)

Note: Numbers in parentheses are percentage changes over previous year
Sources: DRI, *World Market Report*, Second Quarter 1999; UNCTAD, *World Investment Report*, 1998.

3. Preliminary Results and Policy Implications

In this pilot study, we have attempted to assess the impact of the Asian financial crisis on trade and foreign investment using the CGE model simulation. Our analysis focuses on the impacts of the economic slowdown in the five crisis affected economies (Indonesia, Korea, Malaysia, Philippines, Thailand) rather than on the APEC economies as a whole. The model analyzes the impact from the supply perspective, assuming a decline in primary production factors in those five economies. Our preliminary results suggest that most of the impact is expected to be borne by the afflicted economies in Asia. Exports and imports of the five economies most seriously afflicted by the Asian crisis are estimated to drop sharply, while the negative impact on exports and imports in other regions is expected to be modest. A similar impact is expected in foreign direct investment.

The finding that the crisis economies are most seriously affected implies that the afflicted regions should be most active in overcoming the financial crisis. In order to overcome the crisis, the economies should reform their financial systems and improve the international competitiveness of their industries, leading to a return to full access to international credit. Those economies that have received rescue packages coordinated by the International Monetary Fund (IMF) have promised to implement a package of reforms. Korea can be regarded as one of most successful cases, overcoming the financial crisis in a short period of time. Much of its success is due to Korea's quick and thorough system of reform implemented since the outbreak of the crisis. Since one of the causes of the financial crisis was a deterioration of trade balances and over-capacity in some industries, such as the semiconductor, chemical, and steel sectors, the improvement of international competitiveness through industrial restructuring will be essential in preventing a recurrence of another financial crisis.

The rigid exchange rate regime maintained by the region's economies also contributed greatly to the financial crisis. The exchange rate should be flexibly maintained according to market changes and the strength of the currency as reflected in the current account balance. Korea has done much to liberalize its exchange rate system and essentially now has a free floating system.

The East Asian crisis has highlighted that contagion is one of the most serious problems among neighboring economies. Thus, there may be a need to complement individual economy safeguarding measures with global surveillance and regional efforts. Under the Manila Framework, and as requested by the ASEAN Finance Ministers, the Asian

Development Bank (ADB) is considering the establishment of a regional monitoring mechanism. If this regional monitoring mechanism is realized, potential financial crises similar to Asia's could be prevented to some degree.

Currency depreciation and a slowdown in the growth rates, through a combination of income and price effects, leads to a sharp reduction of imports in the East Asian economies. On the other hand, the increased exports of these affected Asian economies to industrial economies, due to the substitution effect of price change, leads to an increased market share for East Asian economies in the US, Japan, the EU, and other emerging market economies. Improvement in external balances will inevitably be a component of recovery in the Asian economies, due to their need to service their outstanding foreign debt as well as to offset the contraction in domestic demand. However, this may trigger developed countries to raise trade barriers against Asian exports and the Asian countries should work out a way to cope with the potential protectionism of the industrial countries.

Considering the deepening of economic interdependencies within the Asian region, regional cooperation to overcome and prevent this type of economic crisis is essential. The recent rapid devaluation of currencies in Asian economies has been caused, at least in part, by large deficits in external balances. There have been signs of several movements in some economies to protect the market and to postpone the implementation of market opening measures. Yet, trade liberalization is beneficial to these economies. A number of recent studies show that Asian developing countries are expected to be among those making the largest economic gains due to the implementation of trade liberalization measures under the APEC initiatives. Trade liberalization measures within the region, including tariff reduction, will surely stimulate additional trade due to a reduction of export and import prices. Further, according to a report by the APEC Secretariat, world trade would expand by 16.8% if liberalization of the measures suggested in the Bogor Declaration were fully implemented. Therefore, Asia needs to remain committed to trade liberalization (including trade facilitation measures such as improving customs clearance, and harmonization of standards and conformance issues, such as recognition of tests) without regard to its current situation.

4. Planned Project Output

In the second stage of the study, we will estimate the long-term impact of the crisis on trade and investment in the APEC region and provide a picture of the future development of trade and investment in the APEC region in 2010. The analysis will be conducted using CGE (Computable General Equilibrium) model simulations. The simulations will incorporate the projections of long-term growth rates in the region which have been estimated in "Background Report 1: Growth Potential of the APEC Economies". As in the case of the long-term growth sub-component, possible development of trade and investment will be shown based on the two alternative scenarios, the reform case and the non-reform case.

Possible outcomes of the simulations are as follows.

- Change in exports and imports by economies and regions in 2010
- Change in production by sectors and by economies
- Patterns of specialization in each economy in 2010
- Patterns of trade and investment among APEC economies

Comparing the outcomes of the reform and non-reform scenario, we will also describe some policy implications for the APEC TILF agenda, so that we can maximize the potential growth of the economies and the benefits of open and free trade and investment in the region.

Background Individual Report No.3

Changing Competitiveness of SMEs in APEC: Past Performance and Beyond the Crisis

1. Introduction: The Role of SMEs in the Crisis and Beyond

The Asian crisis has had wide-ranging impacts on APEC member economies. In particular, the crisis has had great impacts on and implications for small and medium-sized enterprises (SMEs). The SME sector is the core of most economies and constitutes the bulk of the private sector, which is an important focal point of APEC work. Therefore, it would be worthwhile to analyze the role of SMEs, examine the conditions for the healthy, sustainable development of the SME sector, and explore opportunities and future prospects for the sector. It is also suggested that a well-developed SME sector could contribute to cushioning an economy from the adverse impacts of occurrences such as the Asian crisis. For example, *The Economist* (November 7, 1998, *Taiwan Survey*, p.9) quoted an analyst as saying "The sheer number of small and medium-sized companies means greater competition, which lessens the risk of poor management and the kind of large-scale industry failures that lead to a national crisis."

Linkages with priorities laid down by Ministers and the Business/Private Sector

Ministers with responsibility for SMEs and representatives of the business/private sector from around the APEC region met in Christchurch, New Zealand, 26-28 April 1999 to discuss key issues affecting SME growth. There was a clear convergence of views about the key issues that needed to be addressed to promote SME growth.[1] They noted that "SMEs will be the engine of growth in the knowledge-based economies of the future. By their nature they are innovative, flexible and opportunity seeking. Any action taken by economies must have considerable regard to the needs of SMEs and the environment they must operate in. Faster growth by SMEs requires action across a wide range of policy areas, which demands a coordinated approach across the APEC work program".[2] This study also aims to address the concerns of the Ministers and business through providing an analytical basis for developing SMEs as an engine of growth for the good of APEC peoples.

Preliminary Results

This progress report utilizes the theory of industrial organization, institutional economics, regulatory economics, and cooperative game theory to develop a new framework for studying SMEs with a focus on the feature of vertical disintegration.

[1] Furthermore, the SME Policy Level Group was established in 1994, with the objective of helping SMEs to improve their competitiveness and the Integrated Plan of Action for SME Development (SPAN), 1998, was formulated to address how best to harness and increase the potential for SMEs.
[2] *Joint Ministerial Statement*, APEC Sixth SME Ministerial Meeting 26-28 April 1999, Christchurch, New Zealand.

Major findings from our preliminary study are as follows:

- It is important to lower both the minimum efficiency scale (MES) and the entry barrier for SMEs to perform competitively.
- The more vertically disintegrated an industry is, the smaller the MES is, and the easier it is for SMEs to enter the market and perform competitively.
- Furthermore, in a vertically disintegrated industry, SMEs are less capital-demanding and hence it is easier for them to contend with a credit crunch problem such as that caused by the Asian financial crisis.
- However, a vertically disintegrated industry may incur high transaction costs. Accordingly, how to lower transaction costs for SMEs is an important policy issue.

In what follows, Section 2 summarizes a literature survey on the role of SMEs. Section 3 demonstrates why it is important to analyze SMEs from the viewpoint of vertical disintegration. Section 3 applies the theory of industrial organization to justify our approach, and shows that Chinese Taipei, Silicon Valley in the U.S.A., and the Japanese electronics, auto, and machine tool industries are good examples of vertical disintegration. Section 4 studies the relationship between SME development, MES and entry barrier from a dynamic viewpoint. Section 5 applies the concepts of agency cost and transaction cost to evaluate, from a static viewpoint, a vertically disintegrated industry and an industry with vertically integrated firms. Section 6 utilizes the findings of Sections 4 and 5 to interpret the case of Chinese Taipei. Section 7 discusses the policy implications of our study.

2. The Role of SMEs

Let us first briefly summarize the important roles of SMEs noted in existing literature:

(i) *Job Generation*. SMEs absorb unemployed or frustrated workers in remote areas, or in discriminated circumstances (Storey, 1982; Little, 1987; Suri, 1988; FitzRoy, 1991; Hart and Hanvey, 1995).

(ii) *Entrepreneurship Breeding*. Scholars emphasize the 'seedbed' role of SMEs (Beesley and Hamilton, 1984). SMEs are considered as incubators (Johnson and Cathcart, 1979). Since most new market entrants are SMEs, as are the majority of existing firms, the SME sector provides a very large share of the entrepreneurship in an economy (Bates, 1990).

(iii) *Developing and Spreading Technology*. SMEs normally perform well in the imitation stage of technological progress. More and more evidence shows that SMEs are also capable of providing innovative energy (Acs and Audretsch, 1987, 1993; Cohen and Klepper, 1992; Audretsch and Vivarelli, 1996).

(iv) *Networking*. Through building horizontal as well as vertical relationships with other firms, SMEs are important participants in the network of production (Howard, 1990; van Dijk, 1995).

(v) *Stimulating a Stagnant Economy*. This role is emphasized particularly by scholars from Europe (Giaoutzi, Nijkamp and Storey, 1988; Liargovas, 1998).

(vi) *Social Functions*. For example, SMEs help to eliminate alienation among workers (Nooteboom, 1988), defend social justice and avoid waste of resources (Goffee and Scase, 1985), enhance equitable income distribution by providing jobs (Marsden,

1981; Little, 1987), and enhance consumer wellbeing by providing variety (Storey, 1983).

3. The Significance of Vertical Disintegration

Vertical disintegration is a situation where each firm specializes in a specific stage of the production process. The semiconductor industry of Chinese Taipei is a good example for vertical disintegration. In the "upstream" of this industry, all of the design houses specialize in IC design and are not involved in IC manufacturing, while in the "downstream," IC foundry manufactures typically specialize in IC manufacturing and are not involved in IC design (one famous example is TSMC, which is the world's leading IC foundry manufacturer).

Based upon industrial organization theory, an economic environment is essentially characterized by its industrial organization, which, in turn, is determined by *the degree of vertical integration*, conglomerate, the magnitude of the MES, the level of entry barriers, the number of sellers and buyers, etc. (Scherer and Ross, 1993, Ch. 1). This characterization process justifies our focus on the vertical disintegration in studying the SME issues.

While Chinese Taipei has a well-developed SME sector, its economy is also characterized by vertical disintegration. The footwear industry is a case in point.

In conducting a comparative study of the footwear industry in Chinese Taipei and South Korea, Levy (1991, pp.154-5) observes that Chinese Taipei has more SMEs than South Korea does. Levy (1991, p.156) goes further by analyzing industrial organization:

> The footwear industry in Chinese Taipei is organized via the subdivision among independent firms of the various processes of production. Some specialize in lasting (the assembly of uppers and soles); some in the manufacture of soles; some in the cutting of materials for footwear uppers; and some in the stitching of uppers. It is rare for a footwear firm in Chinese Taipei to perform in-house more than at most two of the various subprocesses.

In other words, Chinese Taipei's footwear industry is vertically disintegrated. By contrast, Levy (1991, p.159) notes that "throughout the 1970s Korean manufacturers were organized on a vertically-integrated basis, performing in-house the various tasks of sole manufacture, cutting, stitching of uppers, and lasting".

Silicon Valley is another example where a vertically disintegrated industrial organization plays an important role in a success story. During the 1970s, Northern California's Silicon Valley and Boston's Route 128 attracted international acclaim as the world's leading centers of innovation in electronics. However, during the early 1980s, the leading producers in both regions experienced their own particular crises. Silicon Valley chipmakers relinquished the market for semiconductor memory to Japanese competitors, while Route 128 minicomputer companies watched their customers shift to workstations and personal computers. Saxenian (1994, p.1) observes that:

> The performance of these two regional economies diverged, however, in the 1980s. In Silicon Valley, a new generation of semiconductor and computer start-ups emerged alongside established companies. The dramatic success of start-ups such as Sun Microsystems, Conner Peripherals, and Cypress Semiconductor, and the continued

> dynamism of large companies such as Hewlett-Packard and Intel, were evidence that Silicon Valley had regained its former vitality. Route 128, in contrast, showed few signs of reversing a decline that had begun in the early 1980s.

Saxenian utilizes the "industrial system" to account for Silicon Valley's super adaptive capacity during the 1980s, and notes that Silicon Valley has a network-based and decentralized industrial system (p.9) while Route 128 is dominated by a small number of relatively integrated corporations (p.3).

Saxenian (1994, p.5) notes that "Producers of electronics, autos, and machine tools, for example, rely on extensive networks of small and medium-sized suppliers, to which they are linked through ties of trust and partial ownership."[3] He also attributes the successes of these industries to their network-based industrial systems (p.4).

4. SME Development, MES, Entry Barrier, and Vertical Disintegration: A Dynamic Viewpoint

The scale at which a firm no longer enjoys cost saving as it enlarges is the minimum efficiency size (MES) of the firm. In the literature of industrial organization, MES plays a key role in determining the size distribution of firms within an industry. In a vertically integrated industry, if one wants to start up a business one might have to produce most of the intermediate goods, at least when the incumbents refuse to supply such goods to the newcomer. Therefore, both the MES and entry barriers are high in such an industry. On the contrary, in a vertically disintegrated industry, both the MES and entry barriers are relatively low, and hence it is relatively easy for SMEs to enter the market.

The footwear industry again is a case in point. The decision of Mitsubishi, the leading Japanese trading company dealing in footwear, to relocate its production for export to the U.S. market from Japan to Chinese Taipei and South Korea sparked the take-off of footwear export industries in the latter two economies. It seems that Chinese Taipei had lower entry barrier than South Korea did, since, as shown in Table 1, in Chinese Taipei the export surge was accompanied by the entry of many new firms, while in South Korea the export surge was, for the most part, accompanied by an expansion in the size of the existing operations (Levy, 1991, p.155, p.159).

Hu (1999b) applies Stigler's survival test (Stigler, 1969, p.73) to measure the MES[4], and finds that since the 1970s, Chinese Taipei's manufacturing SMEs (enterprises with less than 100 employees) pass the survival test. This implies that the MES is so small that most of the SMEs are able to attain it. In fact, not only did SMEs in the manufacturing sector survive after the 1970s, but those in other sectors such as mining and quarrying and construction (Schive and Hu, 1999; Hu, 1999a) likewise passed the test.

The above argument also implies that the dynamic advantage of vertical disintegration is effective in lowering the MES as well as the entry barriers.

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[3] This observation is consistent with one finding of Uryu, Sunada and Nakahashi (1993), who argue that the Toyota Group and the Nissan Group are business groups of the vertical "keiretsu" type, and they are more "open" than either General Motors or Ford.

[4] The idea of the survival test is that if the market share of firms of a specific size increases over time, it implies that firms of such a size is efficient and hence this size cannot be smaller than the MES.

Table 1: Footwear Exports of Korea and Chinese Taipei, 1969-1986

US$ million

	Korea			Chinese Taipei		
	Total export value	Number of firms	Average export value per firm	Total export value	Number of firms	Average export value per firm
1971	50	9	5.6	69	178	0.4
1975	200	16	12.5	258	305	0.8
1980	904	25	36.1	1,411	582	2.4
1985	1,571	68	23.1	2,301	1,140	2.0

Source: Levy (1991).

5. The Evaluation of Vertical Disintegration: Static Viewpoint

Agency cost

Agency gap is an important issue in the modern economy. Imagine that a principal, a shareholder for example, contracts with an agent, a manager for example, to take some action that benefits the principal. The literature of principal-agent relationships argues that if the principal cannot practically monitor the agent at all times, the agent may steal, not work hard, or engage in other opportunistic behavior that lowers productivity. In such case, there is an "agency gap" between the principal and the agent.[5] The cost caused by this agency gap is referred to as "agency cost." In modern corporations, there is a so-called internal control system headed by the board of directors to handle the agency-gap problem. However, after conducting an extensive survey, Jensen (1993, p.850) concludes that "Substantial data support the proposition that the internal control systems of publicly held corporations have generally failed to cause managers to maximize efficiency and value," and hence there is an agency "gulf" rather than an agency "gap".

As mentioned above, the sizes of enterprises in a vertically disintegrated industry are relatively small, and hence the gaps between the managers and the shareholders are narrowed. For example, in a small firm, the manager and the owner are usually one and the same person, and hence the agency gap does not even exist. Therefore, the problem is less severe in a vertically disintegrated industry than a vertically integrated one.

Transaction costs

Vertical disintegration may incur transaction costs since a vertically disintegrated industry uses the market mechanism to allocate resources and the transaction cost is the cost of using the market mechanism: transaction costs are the expenses of finding a trading partner and making a trade for a good or service other than the price paid for that good or service. These costs include the time and money spent in finding someone with whom to trade, and in specifying the details of the good or service. This type of transaction cost might be referred to as a *technical transaction cost*. Other transaction costs include the costs of bargaining, writing and enforcing a contract. This type of transaction cost might be referred to as a *strategic transaction cost*.

[5] Please refer to Perloff (1999, Ch. 20) for an introduction to the principal-agent literature.

Strictly speaking, technical transaction costs are also incurred by vertically integrated firms, at least to some extent, when they conduct an internal transaction. Furthermore, it is important to note that strategic transaction costs decrease as *the size of the whole industry* increases. There are two justifications for this argument. According to cooperative game theory, if both the number of sellers and the number of buyers are large enough then there exists a unique term of trade (Varian, 1984, p.238), and hence both the strategic behavior and the strategic transaction cost automatically vanish. In other words, the main disadvantage of a vertically disintegrated industry arises from the so-called asset specificity, which may cause opportunism, production hold-ups, and underinvestment (Tirole, 1988, p.21). However, if the size of an industry is large enough, there are many sellers and buyers for intermediate goods, and hence asset specificity vanishes.

In summary, the advantage of vertical disintegration is the relative insignificance of agency costs while the potential disadvantage is the transaction costs.[6] However, the disadvantage can be overcome if the size of the whole industry is large enough.

6. Interpreting the Case of Chinese Taipei

One significant feature of the Chinese Taipei economy is vertical disintegration; implying that agency costs are relatively insignificant and entry barriers are relatively low there. Though Chinese Taipei's enterprises are typically small, the large size of most of its export industries help keep strategic transaction costs at insignificant levels. Chinese Taipei presents an industrial organization that keeps the advantages of vertical disintegration while overcoming the disadvantages at the same time.

7. Preliminary Policy Implication

It is recognized that "the build-up of structural weaknesses, which had been masked by the impressive record of growth, was an important underlying factor for the crisis." Therefore, it is important to address how to achieve an ideal economic structure. Our results imply that an ideal economic structure is one in which both agency gap and transaction costs are relatively low. In particular, from the viewpoint of SMEs, the ideal economic structure is one where both the MES and entry barriers are relatively low. Our results indicate that these desirable characteristics can be attained if the industrial structure is vertically disintegrated and the size of the whole industry is large enough.

Ministers with responsibility for SMEs and business from around the APEC region met in Christchurch in April 1999 and noted that SMEs are looking for a competitive low cost environment that allows them to perform efficiently and effectively. Our results show that in order to allow SMEs to perform competitively, it is more important to keep both the MES and entry barriers at sufficiently low levels than to directly subsidize them, and that, the

[6] It is needless to say that the performance of an industry is essentially determined by whether it can realize scale economy. The realization of scale economy, however, is not a matter of whether the industry is vertically disintegrated. One reason runs as follows. A vertically integrated firm can accomplish scale economy by *labor division within the firm* (i.e., by labor division between its different departments). Nonetheless, a vertically disintegrated industry also can accomplish scale economy by *labor division between firms*, each of which specializes in an area. In other words, a vertically disintegrated industry accomplishes scale economy via *external economy* while a large firm accomplishes scale economy via *internal economy*.

MES is relatively small in a vertically disintegrated industry. Hence SMEs are less capital demanding in a vertically disintegrated industry and it is easier for them to deal with a credit crunch caused such as that by the Asian financial crisis.

Antitrust policy plays a significant role in determining the level of entry barriers, as noted by Amsden and Singh (1994, p.941). However, antitrust policy is often neglected in East Asia's economic development. For example, in their seminal analysis of industrial organization in Japan, Caves and Uekusa (1976, p.157) concluded that inadequate anti-monopoly policy has placed significant costs on the Japanese economy in the form of allocative inefficiency and diversion of rivalry into costly non-priced forms. They questioned the role of creating recession cartels and entry barriers. Therefore, enforcing antitrust policy is conductive to the growth of SMEs.[7] In short, policies not discriminating between large and small enterprises are key to the successful development of SMEs (Schive, 1999).

In the initial development phase of an industry, the size of the industry is typically small, and hence the transaction costs are likely to be high if the industry is vertically disintegrated. Therefore, it is a reasonable strategy to develop the industry in a vertically integrated fashion in the initial stage. However, this strategy may hamper further development as vertical integration raises entry barriers and hence hinders competition. In other words, a vertically integrated industrial organization has the structural weakness of hindering competition. Therefore, it is important to restructure such industries once they are large enough. Competition policy, again, could contribute to this process since it helps lower entry barriers for SMEs.

Like the idea of "critical mass", there is a threshold effect: it is important for a vertically disintegrated industry to increase its size until it reaches beyond a critical value; otherwise, there is a "vicious circle." Some kind of "big push" is needed to cross the threshold. Ironically, the herd behavior of economic agents can play a positive role in crossing the threshold, though such herd behavior may cause problems in the financial markets.

[7] There is another reason why competition policy might be able to deal in general with the structural weakness problem. It is recognized that one cause of the Asian financial crisis was that some financial institutions had too much market power. One main purpose of antitrust policy is to decrease the market power of economic agents in order to prevent them from manipulating the markets.

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Background Individual Report No.4

Social Impacts of the Asian Crisis

1. Introduction

The study aims to examine the impact of the regional financial crisis on the various social sectors of APEC economies and to recommend policy options which would minimize the adverse effects of any similar crisis in the future. As almost two years have elapsed since the crisis started, the study hopes to give empirical evidence on its effects and implications for the social sectors. The study will draw from empirical results of various existing studies. Additional quantitative analysis will be undertaken as necessary.

The study covers at the outset an examination of the impact of the financial crisis on the budgets of the affected economies particularly for the social sectors. Specifically, the study focuses on the following areas: employment/ unemployment; education and human capital; health and nutrition, gender dimension and other social impacts.

Preliminary findings of the study are summarized in the progress report. Given the fragmented nature of social statistics, we have also made use of other indicators, for example, rising prices, lay-offs, and business closures, to explain the social effects of the crisis. Responses of affected groups to questions on the crisis, though qualitative, give significant indications on how they were affected by the crisis. Additional data/information is being gathered to further substantiate these findings.

2. Impact on the Social Sectors

The financial crisis in the Asian region has caused difficulties to a number of its economies. After decades of unprecedented growth, Southeast and East Asia's growth fell. In the worst affected economies like Thailand, Indonesia and Korea, growth in the gross domestic product (GDP) turned abruptly negative in 1998 following a period of growth of over 7% per annum (1992-1996). Economies that have been less affected, namely the Philippines and Singapore, also experienced a significant deceleration in growth in 1998. The huge depreciation in most of these economies caused severe import compression and pushed up inflation rates resulting in a sharp fall in consumption and average income. There is greater concern though for the distributional consequences of the crisis particularly its impact on the various social sectors. The most immediate impacts of the crisis are related to job losses; scarcity of food and rising food prices; and a squeeze on basic social programs, especially health and education, as a result of budget constraints.

Government budgets of the affected economies were reduced as the economic recession caused a drastic decline in tax revenues. In Thailand, government expenditures have been reduced substantially since 1997. Budgetary cuts have been effected in general administration, defense, investment, construction, and public utilities. Government agencies were not allowed to increase personnel or compensation schemes and allowances for government officials were reduced. Even the number of scholarships sending students to study abroad was reduced. In 1998, Thailand tried not to cut its budget for health, education and long-term manpower development through additional saving measures in other areas

such as the budgets of the ministries of agriculture, interior and cooperatives which have extensive community programs.

With reduced fiscal resources, the Philippine government imposed a 25% mandatory reserve to the 1998 budget of all agencies and a 10% cut in the internal revenue allotment of local government units. Malaysia initially announced a reduction in government expenditures by 20% and postponed several infrastructure projects in 1998 but eventually announced a countercyclical policy when the GDP became negative in the first quarter.

2.1 Employment

For many households the main bulk of their income is wages and salaries. With lower real incomes arising from unemployment, inflation and contraction in demand, consumption of basic goods (including food) and services declined thereby affecting the health and education status of the population.

Unemployment rates (percent)

	1991	1992	1993	1994	1995	1996	1997	1998
Korea	2.3	2.4	2.8	2.4	2.0	2.0	2.6	6.8
Indonesia	2.5	2.7	3.1	4.4	7.2	4.9	4.3	5.1
Malaysia	4.3	3.7	3.0	2.9	2.8	2.5	2.7	3.9
Philippines	10.5	9.8	9.3	9.5	9.5	8.6	8.7	10.1
Thailand	3.1	3.0	2.6	2.6	2.6	2.0	3.5	4.0

Source: *1999 APEC Economic Outlook.*

As the crisis impacted on the real economy, the most severely affected economies have all experienced massive lay-offs. Unemployment rates rose sharply in 1998 as compared to 1997 levels: Indonesia, from 4.3% to 5.1%; Korea, from 2.6% to 6.8%; Thailand, from 3.5% to 4.0%; Malaysia, from 2.7% to 3.9% and the Philippines from 8.7% to 10.1%.

In the case of Korea, up until February 1998, most of the lay-offs occurred in connection with enterprise bankruptcies. The number of bankruptcies ranged between 1,000 and 1,500 per month in the first 11 months of 1997 jumping to over 3,000 in December before finally dropping to 2,749 in March 1998. While modest job losses were recorded in the last two months of 1997, they were accelerated by the economic recession with total employment falling by 686,000 jobs in January 1998 as compared to January 1997.

In Indonesia, business contraction as well as the liquidation of 16 banks in November 1997 and another 7 in March 1998 led to a large number of lay-offs affecting not only the low income and low-skilled workers but middle-income and highly skilled workers as well. It has been estimated that unemployment could reach 13.4 million in 1998 which may lead to an increased incidence of poverty.

Some 54,000 workers were recorded to have been retrenched in Thailand over the period January 1997 to February 1998. These reflect only those lay-offs where severance payments were made. The actual number of crisis-induced lay-offs, however, was believed to be substantially higher. The Industry Association in Thailand reported job losses of some 422,000 by the end of 1997.

Figures released by the Department of Labor and Employment (DOLE) in the Philippines reveal the substantial number of job losses arising from the crisis Some 1,126 firms involving 54,514 workers reported closures and retrenchments during the first five months of 1998 as compared to 1,103 firms involving 59,861 workers reported in 1997. The figures, however, do not reflect the new entrants to the labor force. The *El Nino* phenomenon undermined the capacity of the agriculture sector to absorb workers laid-off from the manufacturing, construction and services sectors. However, in Malaysia, some displaced workers were absorbed by the agriculture and export-oriented industries which despite the crisis experienced labor shortages.

The change in employment has not been gender- or age–neutral. Female heads of households are a particularly vulnerable group in most societies. In Korea, where only a small number of women are employed, the women tend to lose their jobs first. In Thailand, more than 50% of the 53,896 laid-off workers reported were women (based on data from the Ministry of Labor and Social Welfare for the period January 1997-February 1998). The combined effects of a decline in new hiring as well as an increased labor force in affected economies are seen to reduce employment and re-employment prospects of both new entrants and older workers. In Korea, those in the 20-29 age bracket and those who are less educated were observed to have been the most adversely affected by the crisis.

The phenomenon of reverse labor migration has been observed in the affected economies. Reverse labor migration occurs when sectoral employment shifts from urban to rural areas, or more specifically from industry to agriculture. It also applies for displaced overseas workers as they try to find employment in their home countries, further aggravating the unemployment rate. This type of migration implies a loss of remittances to the home village or country, as the case may be, as well as increasing the socio-economic stress on the communities trying to absorb the newly unemployed.

A government survey in Thailand reported some 188,000 workers returning to rural areas as of January 1998. In Indonesia, employment in agriculture increased by more than 5 million in 1998 while the number of non-agricultural workers was reduced by 2.3 million people during the same period.

The crisis also put pressure on economies hiring foreign workers and on labor-supplying economies. Declining labor demand has forced the host economies to repatriate foreign workers to cut down on costs and provide opportunities for their citizens. The abrupt retrenchment, repatriation and loss of income of migrant workers mean for many, the inability to repay debt leading to eventual entrapment in a vicious debt and poverty cycle. In the Philippines, other economies are viewed as a market for surplus labor and a good source of foreign currency in the form of remittances. With the economic downturn in 1998, employment of Filipino labor overseas declined mainly because of a decrease in deployment in Hong Kong, China; Chinese Taipei; Malaysia; Singapore; and Thailand. In addition, a deepening of the crisis would also trigger the return to Indonesia of many of its nationals working overseas.

2.2 Income and Prices

In a paper prepared by the Asian Development Bank (ADB) focusing on four selected economies: Indonesia, Lao PDR, Thailand and the Philippines, all focused groups decried the sudden price escalation during the past year and a half, although in a number of cases, certain groups have benefited from the price rise. In Indonesia, there were sharp increases in the prices of daily necessities, such as food and transportation which drove many to make certain changes in their lifestyles. Fixed income groups like civil servants and private sector employees were the most affected. In the case of Indonesian farmers, higher prices for fertilizers and pesticides coupled with the *El Nino* drought led to a severe decline in production. Export crops, for example, copra, nuts and cocoa benefited from significant price increases but the advantages largely went to the plantation owners and not the plantation laborers. The income from fishing rose with significantly higher prices for fish, but as above, the owners of shrimp ponds and fishing boats got the windfall. Small fishermen complained of higher maintenance costs for boats and equipment.

In the case of the Philippines, 40% of community households were forced to reduce purchases of items that they normally buy. This has been attributed to the high cost of farm inputs, the severe drought and the stranglehold on agricultural prices exerted by middlemen and traders. Many daily wage earners lost their jobs and replacement employment became scarce. The slowdown in real estate and construction, factory closures and business retrenchment led to higher unemployment rates among the urban poor and middle-income families. However, only a very few families interviewed, all of them urban, reported cutting down to two meals per day during the past year.

Nearly four-fifths of rural households surveyed in Thailand reported that 1998 was more difficult for them economically than in 1997. More than half reported that their incomes had declined while about 40% cited reduction in welfare benefits.

While we wait for more recent data to assess the impact of the crisis on income distribution, the following may be used to gauge its effect in the affected economies. An increase in unemployment will generate households with very low incomes and this will worsen income distribution. As wages fall among those who stay in jobs and lower incomes in a greater number of unemployed households, the income gap between wage earners and asset holders are more likely to widen. Further, the effects of the crisis on the incomes of those who retain their jobs will vary. The manufacturing sectors which have lost most of the jobs are traditionally the medium and high wage sectors among similarly skilled production workers. The job losses of production workers and laborers who have been the most affected by the crisis will further push down the tail of the wage distribution curve. Differences in age and in educational attainment and the gender gap will result in further income inequality.

The crisis has effectively reversed the gains in poverty alleviation achieved by Malaysia, Thailand, Korea and Indonesia during the recent past. The proportion of poor Indonesians is estimated to rise to 40% of total population in1998 from only 11% in 1997. In Malaysia, the proportion is also expected to rise to 8% in 1998 from 6.8% in the previous year. Thailand's poverty incidence is estimated to be at 15.3% in 1998, up from the 11.4% recorded in 1996.

2.3 Education and Human Capital

In the face of income reduction and price increases, school enrollment is likely to fall. Households were forced to withdraw their children from school, either to help augment family income, help in the household or the family could not just afford sending their children to school. In Indonesia, school enrollment declined by 1% for primary school students and 14% for secondary students during the school year 1998/1999. This decline in enrollment occurred despite the abolition of entrance fees in public schools.

In the Philippines, enrollment rates are expected to decline as studies have found that enrollment rates in all levels are both highly and positively correlated with per capita GNP and real educational expenditure of government. It was also revealed that college enrollment is positively correlated with the unemployment rate. This indicates that new graduates who cannot find jobs tend to return and continue with their studies.

The higher cost of education has also contributed greatly to the increase in dropout rates across the affected economies. The impact of the crisis appears to be more pronounced for secondary school students in Indonesia with drop out rates increasing from 4% in 1996/1997 to 12% in 1998/1999. The primary school drop out rate also rose from 3% to 6% in the same period. The inability of the parents to finance the education of their children has led to an increase in demand for educational scholarships and safety nets.

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The rising cost of education has brought about the substitution of private education by public. In Indonesia and in the Philippines, parents with children in private schools have complained of higher tuition fees and expenses for uniforms, school supplies, food, transportation money and lodging for boarders. Budget cuts in Thailand were having an impact on two-thirds of the schools, eliminating milk programs and reducing purchases of teaching materials. Donations from parents and local communities also fell.

However, there is concern regarding the reduction of the educational systems' capacity to provide quality education services due to the higher costs following the crisis. Maintaining the quality of education both private and public is going to be a hard task as there are minimal resources available. Modernization programs for schools, such as the establishment of computer laboratories, have been put on hold. Likewise, cutbacks in the number of teachers will further erode the educational standards.

2.4 Health and Nutrition

The crisis had a negative effect on the population's health and nutritional status in the affected economies. Demand for publicly provided health services has increased but the public sector's ability to cope with this increased demand has been greatly constrained by the increased prices of imported drugs and the limited budget. The reduction in health expenditures implies that certain government health programs such as immunization programs and preventive health services could be stopped.

The increased incidence of poverty will lead to more malnutrition and higher vulnerability to disease in impoverished households. The crisis initially caused a general increase in prices and a decline in real incomes. These changes lowered the demand for food for all income groups, adversely affecting their nutritional status. A sustained shortfall of nutrients in the diet, especially protein, could cause an increase in the prevalence of malnutrition.

Over a period, malnutrition could drive down the average I.Q. level, thereby compromising the level and quality of human capital of a generation.

In Indonesia, the high costs of drugs and health services have been blamed for the deterioration of its populace's health. The incidence of malnutrition has been rising rapidly due to families' inability to buy food as prices more than doubled. Expectant mothers can no longer afford prenatal care. Common vaccinations are too costly forcing households to stop vaccinating their children. Budget cuts in Thailand have forced them to abandon some of their health programs such as the distribution of condoms and other contraceptives. Cuts in the public health sector budget also affected medical expenses of civil servants.

The Department of Health (DOH) in the Philippines estimated that as a result of the peso depreciation, the cost of imported vaccines will increase by between 31% and 44%, which translates to about 20.5 million less vaccines in 1998.

2.5 Gender Dimensions

Discrimination and the prevailing biases against them have been demonstrated in the crisis' effects on women. It has already been noted that women are usually the first workers to be laid-off. This is attributed to the fact that women workers have a lesser degree of unionization than their male counterparts. Also, firms would be able to save more if women are laid-off instead of men as women have more benefits, such as maternity benefits, than men do. There is a general view in society that women are secondary income earners therefore making the decision to drop them all the easier.

To sustain the family income, some women seek employment in the informal sector, including prostitution. Studies have shown that in 1998, 50 to 100 women per month are absorbed by the red light district in Indonesia, as compared to the 20 women per month rate in 1997. In the Philippines, particularly in Mindanao and Naga City, prostitution has been increasing since September 1998. Sex workers are also plying their trade across borders as evidenced by the capture and subsequent deportation of foreign prostitutes in the Philippines last year. The increasing number of prostitutes in the region has raised the concern, particularly in health circles, that it might worsen the problem of prevention and control of the HIV virus.

Households in the region usually prefer to let boys go to school rather than girls especially during a crisis situation. Such is the case in Indonesia, where enrollment rates for girls in junior secondary school fell by 19.4% in 1998, whereas boys' enrollment rate dropped by 14.4%.

3. Measures to Address the Social Impact of the Crisis

Government responses have been mostly to create jobs and prevent further job losses. South Korea has implemented public works projects to absorb the jobless. Indonesia embarked on labor-intensive projects to generate temporary employment and resorted to the distribution of free food in some areas. In the Philippines, the DOLE together with labor and employers' groups worked out an accord for social stability and harmony. The accord commits the employers to exercise restraint in the lay-off, termination and rotation of their employees, while labor commits to exercise utmost restraint in declaring or holding strikes, 'slowdowns', or other forms of work stoppages. Korea carried out consultations on labor-management issues after the establishment of a tripartite labor-employer-government

commission. Thailand implemented a severance payment requirement if employers were to lay-off workers.

In Korea, unemployment insurance schemes are available to a small fraction of the population but there are plans to allow broader coverage. A number of economies obtained loans from multilateral financing institutions to stem the adverse social effects of the crisis. In the case of Malaysia, the World Bank has approved a $300 million loan to provide assistance to vulnerable groups hit by the crisis including funds for small farmers, micro-credit for small business, development and skills training, among others. Thailand secured loans from the ADB and WB amounting to $500 million and $430 million to finance its Social Sector Program and Social Investment Project, respectively. These projects will cover labor market and social welfare, and health and education, respectively.

4. Policy Options and Development Strategies/Conclusion

The crisis threatens progress made to date with social policies across the board. This requires APEC to take an in-depth look at the new and emerging realities for social development starting with social safety nets but extending to broader issues of health, education systems and other social issues. It is also important to consider community perception of the social impact when shaping policy responses to the crisis.

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