APEC Labour Markets: Structural Change and the Asian Financial Crisis

Tubagus Feridhanusetyawan*, Charles Stahl, & Phillip Toner*****

[**Abstract:** This study examines the impacts of longer-term structural changes on the labour markets of Asia Pacific Economic Cooperation (APEC) member economies, as well as the short-run labour market consequences of the Asian financial crisis. All APEC economies have experienced significant structural change in the process of development. A major factor in this structural change has been increased trade intensity (increase in exports and imports as a share of GDP) that has occurred over the last 20 years. Because these structural changes have been extensively induced by trade liberalisation, this study provides insights into the likely consequences of the implementation of APEC's agenda on trade and investment liberalisation and facilitation. The impact of structural change is examined using a range of data, such as disaggregated changes in output and employment by industry and occupation over the period 1980 to 1997, and data on changes in trade intensity for each of the APEC nations. Other data, such as changes in rates of urbanization, are also used to indicate the other important concomitant effects of economic transformation. For several Asian economies, the linear path of growth and structural change was severely disrupted by the Asian financial crisis. This article examines the impact of this crisis on Asian labour markets, in general, and those most affected by the crisis, in particular. In many countries within the region, a failure of education and training systems to respond to often rapid shifts in the skill composition of labour demand is leading to industry and occupation specific labour shortages. International labour migration within the APEC region is viewed as a product of these structural changes and a mechanism that assists in filling gaps in the labour markets of the region's economies.]

This study principally examines the effects of long-run structural change on labour markets within the APEC economies, but is also concerned with the impact of the Asian financial crisis on the labour markets of those economies most affected. Section 2 of the article covers the period from 1980 through to the late 1990s, a time when many of the developing APEC economies embarked on a period of rapid GDP growth led by a dramatic increase in the level of industrialisation and the expansion of international trade. This consideration of longer-run transformations in industrial and labour force structure provides a necessary context for understanding the changes that will flow from implementation of the APEC and WTO trade liberalisation agreements.

The Asian financial crisis has been a major setback for several of the Asian economies, and has caused a significant divergence from their linear path of structural change

*Tubagus Feridhanusetyawan is a Senior Research Fellow at the Center for Strategic and International Studies, Jakarta; **Charles Stahl is the Associate Director of the Centre for Asia Pacific Social Transformation Studies (CAPSTRANS), University of Newcastle, Australia; and ***Phillip Toner is a former Research Fellow with CAPSTRANS.

since 1980. Section 3 investigates the differential impacts of the Crisis through a comparison of four economies: Indonesia, Thailand, Korea and Hong Kong – China.

Section 4 is concerned with the education and training requirements essential to support changes in industrial and occupational structure in the long-term, while assisting the Crisis affected economies in overcoming their more immediate problems of unemployment and underemployment. In particular, the growth of manufacturing industry and associated physical infrastructure and services requires a significant improvement in general educational standards and a broad range of vocational and professional skills. In many cases, the inability of the education and vocational education system to adapt has meant that the supply of skills, at many different levels, has been a constraint on the growth of industry. This section also addresses the adjustment factor that operates in the region and assists in addressing imbalances in the supply and demand for specific skills – international labour migration.

Background on APEC

The Asia Pacific Economic Cooperation organisation was established in 1989 as an informal forum to facilitate trade liberalisation through out the Asia Pacific in response to the Uruguay Round. The 1994 Bogor Declaration set the long term goal of free trade and investment within the Asia Pacific. The Bogor Declaration hoped to realise the goal in 2010 for developed economies and 2020 for developing economies. The Bogor Declaration also clarified the three pillars on which APEC would be based:

- Trade and investment liberalisation and facilitation.
- Economic and technical co-operation (Ecotech) across APEC.
- Development co-operation.

Subsequent meetings in Osaka, Japan (1995); Manila, The Philippines (1996); Vancouver, Canada (1997) and Kuala Lumpur, Malaysia (1998) detailed the methods to achieve these three goals and timetables for reducing member economies' assistance for particular industries.

The twenty one members of APEC are listed in Table 1. The table also allocates each of the APEC members to one of four per capita income classifications based on World Bank methodology, viz. low income economies (LIEs), lower-middle income economies (LMIEs), upper-middle income economies (UMIEs) and high income economies (HIEs). The table highlights the great diversity in development levels across APEC economies, with HIEs having an average per capita income level at least twelve times greater than LIEs. Some HIEs, such as the US, have a per capita income level over twenty seven times that of LIEs.

It is important to note that the classification of the APEC economies to particular income groups in 1996 is very similar to their initial classification in 1980. That is to say the APEC economies have generally held their position relative to other APEC economies. The only exceptions are Hong Kong, Singapore and Chinese Taipei, which

in 1980 were classified in the UMIE group. This relative constancy in the relative per capita income classification of countries is due to a number of factors. These are the sustained differences in the growth of productivity (output per worker) across the countries and the initial large absolute differences in per capita income levels. The latter arises when the per capita income differences across countries are so great that many decades of high sustained growth would be required for a country to move across the income classifications.

Table 1: Classification of APEC Economies by Income per Capita* (1994 US$)

Low Income	Lower Middle Income	Upper Middle Income	High Income
≤ $725	$726 to $2,895	$2,896 to $8,955	≥ $8,956
Vietnam (200)	Indonesia (880)	Malaysia (3,480)	Taiwan (12,100)
China (530)	Philippines (950)	Chile (3,520)	New Zealand (13,350)
	PNG (1,240)	Mexico (4,180)	Australia (18,000)
	Peru (2,110)	Korea (8,260)	Canada (19,510)
	Thailand (2,410)		Hong Kong (21,650)
	Russia (2,650)		Singapore (22,500)
			Brunei (23,500)
			USA (25,880)
			Japan (34,630)

* Commencing in 1995, South Korea moved from the upper-middle income group of countries to the high income group. In 1998, China moved from the low income group to the lower-middle income group. The implosion of the Russian economy, commencing earlier in this decade, has seen it slip from the upper middle income group to the lower-middle income group.

Source: World Bank (1996) World Development Report 1996; PECC (1998), Human Development Report, 1997-1998.

Table 2 provides further analysis of Table 1 by comparing per capita income of the various APEC member economies with that of the United States. As can be seen from the table, the LIEs of Vietnam and China have just over 2% of the level of per capita income of the United States. Within the LMIEs, the figure ranges from 3.6% for Indonesia to 10.2% for Thailand. Within the UMIEs group, the percentages range from 12.3 for Mexico to 15.4 for Chile. Thus even in the UMIEs, per capita income is only a fraction of that prevailing in the United States. Even within the HIEs, there is significant discrepancies between per capita income, with Korea having just over one-third the per capita income level of the US.

These figures highlight the considerable inequality in international income distri-

bution among the APEC member economies and the relative economic power of the members. Table 2 also highlights the great variation across APEC in the relative size of national economies. For example, PNG has a national output equivalent to only 0.1% of that of the US, while that of Vietnam's is only 0.3%. On the other hand, even though China's per capita income is only 2.4% of that of the US, its massive population is reflected in the third highest GDP among the APEC economies. The table clearly demonstrates the economic dominance of the US and Japan within the Asia Pacific region. Japan alone has a GDP greater than that of all APEC countries combined, excluding the US.

Table 2: Selected Comparisons

	GNP per capita as % of US GNP per capita (1995)	Population 1997 (millions)	GDP (1995) (millions US$)
Vietnam	2.3	77	20,351
China	2.4	1,227	697,647
Indonesia	3.6	200	198,079
Philippines	3.9	73	74,180
PNG	4.3	5	4,901
Russia	8.3	147	344,711
Peru	8.6	25	57,424
Thailand	10.2	61	167,056
Mexico	12.3	95	250,038
Malaysia	14.4	21	85,311
Chile	15.4	15	67,297
Korea	36.0	46	455,476
Taiwan	47.4	21	256,000
New Zealand	53.2	4	57,070
Australia	69.4	19	348,782
Canada	71.8	30	568,928
Hong Kong	85.2	7	143,669
Brunei	88.2	0.3	6,783
Singapore	99.1	3	83,695
United States	100.0	268	6,952,020
Japan	146.9	126	5,108,540

Sources: World Bank, *World Development Report 1997, 1998/99*; PECC (1998), *Human Development Report, 1997-1998.*

Structural Change in APEC Countries, 1980-1997

An Overview of Structural Change

Since 1980, all APEC countries have experienced significant structural change, defined as a shift in the composition of national industrial structure (or a change in the contribution of different industries to total output and employment).[1] It has long been accepted that economic development is a process whereby sustained rises in per capita income are underpinned by continuous changes in the structure of production and employment, as well as the spatial arrangement of economic activity. More recent work has detailed and quantified these systematic changes in industrial structure at different stages of development (Chenery, Robinson and Syrquin; 1986).

Table 3a indicates the changing shares of sectors of the economy over time for APEC countries classified into one of the four per capita income groups, while Table 3b provides the same information for all countries to allow comparisions with APEC. The data were aggregated to highlight the systematic changes in industrial structure that occur at different levels of per capita income.

Table 3a: Industry Output as a Percentage of GDP (Weighted Average)

Per capita Income Classification	Agriculture		Industry		Manufacturing		Services	
	1980	1997	1980	1997	1980	1997	1980	1997
Low Income	30	20	49	51	41	40	21	29
Lower Middle	22	14	39	39	18	25	39	47
Upper Middle	10	6	35	36	23	24	55	57
High Income	3	2	36	29	23	19	61	64

Source: Derived from *World Bank, World Development Indicators 1998.*
Weighting based on countries' share of total GDP in their respective per capita income classification. Industrial classification is based on the International Standard Industrial Classification (ISIC). Industry includes manufacturing, mining, electricity gas and water and construction. Manufacturing is separated out for special attention, as is the usual practice.

Table 3b: Industry Output as a Percentage of GDP Global (Weighted Average)

Per capita Income Classification	Agriculture		Industry		Manufacturing		Services	
	1980	1997	1980	1997	1980	1997	1980	1997
Low Income	36	28	25	28	16	17	39	43
Lower Middle	25	15	41	41	28	29	34	44
Upper Middle	10	8	43	34	26	21	47	58
High Income	4	2	37	31	25	21	59	63

Source: Derived from World Bank (1999a), *World Development Indicators 1999.*

Before commencing a detailed commentary on Tables 3a and 3b, it is important to note that the data for LIEs countries is based only on China as data for Vietnam is unavailable prior to 1997. Further, the industrial structure of China in both 1980 and 1997 represents a considerable aberration from what would be expected of a LIE. In particular, the share of manufacturing in GDP at 41% in 1980 and 40% in 1997 is around 150% is much greater than other LIEs. In comparison, for the world as a whole the weighted average share of manufacturing in the total output of LIEs was 16% and 17% in 1980 and 1997, respectively.

The reasons for this aberration are complex, but are mainly due to the fact that historically China has had a larger share of its workforce in manufacturing industry compared to other LIEs. Secondly, within China there have been very marked differences in the productivity of workers in agriculture and manufacturing. In 1980 and 1997, the value of manufacturing output per worker was 19 times and 10 times greater, respectively, than output per agricultural worker (World Bank 1999a). The combination of a larger share of employment in manufacturing and very large differences in output per worker between manufacturing and agriculture accounts for the large share of manufacturing in China's GDP.[2]

Structural Change in Detail

Agriculture: As is clearly indicated in Tables 3a and 3b, there has been a sustained decline in the share of agriculture in GDP over time within each of the income groups. The movement of a country into a higher income group only accelerates the decline in the share of agriculture in GDP. In 1980, agriculture accounted for around 30% of LIEs GDP within the APEC economies, compared to 3% in HIEs. By 1997, agriculture's share had declined to 20% and 2%, respectively, for the LIEs and HIEs. It should be noted that the share of agriculture in all LIEs has been substantially higher than is the case for China.

These changes over time within groups and across groups reflect the very rapid advances in agricultural productivity, the low income elasticity of demand for agricultural products,[3] and the many barriers to international trade in agricultural commodities. The high rates of productivity increase in agriculture and (mining) tend to be fully reflected in price reductions for the outputs of those industries over time. Thus even with an increasing physical volume of production, the total value of agricultural (and mining) output grows more slowly in comparison to industries with greater price stability.

Manufacturing: The famous development economists Kaldor, Chenery, Gerschenkron, Kuznets and Thirlwall have championed the central role of manufacturing industry in

structural change and development. They argue that manufacturing industry has been the "engine" of economic development in terms of the growth of exports, imparting a technological dynamism to the national economy, and being a major cause in the shift in occupational structure and the resulting transformation in education and training policies and institutions. These writers also emphasised the complementary improvement in agricultural productivity which acted initially as a major market for manufactures and later provided the major source of labour for manufacturing's continued growth. This argument is examined below.

In 1980, globally, manufacturing's share of GDP ranged from around 16% for the LIEs to a high of 25% and 26% for the HIEs and UMIEs, respectively. In 1997, globally for the LIEs, manufacturing's share remained relatively unchanged compared to 1980 at around 17%. In comparison, China claimed that in 1980 manufacturing accounted for 41% of GDP, declining slightly to 40% in 1997. These figures again underscore the difficulty in interpreting the Chinese data since the decade between 1987 and 1997 was a period of unparalleled growth in direct foreign and joint venture investment in China's manufacturing sector.

Looking at the APEC LMIEs group, it can be seen that in 1980 the share of manufacturing in GDP at 18% was substantially below the world average of 28%. However, its share within the APEC LMIEs increased markedly over the period to 25% in 1997, just slightly below the world average for that group, and comparable to the APEC UMIEs group.

Such a substantial rise in the share of manufacturing in GDP at the income level of the LMIEs group reflects a number of factors. Firstly, there is a high income elasticity of demand among consumers for manufactured products as their income increases beyond that needed for basic subsistence, i.e. a larger proportion of each increment in income is expended on manufactures. Secondly, the development of other industries, such as agriculture and construction, is associated with higher levels of mechanisation that increases the demand for manufactured equipment. The modernisation of these sectors is also associated with an expanded use of intermediate manufactured inputs such as fertilisers, bricks, concrete, and steel. These inputs, in turn, require for their production manufactured equipment and other manufactured intermediate inputs. Thus the expansion of manufacturing itself greatly increases its use of manufactured inputs. This is evident in the high levels of intra-industry trade in manufacturing industry (Chenery et al. 1986:223). This high level of intra-industry trade explains, in part, the explosive nature of growth in manufacturing as countries move from LIE to LMIE status (Kaldor 1996). Thirdly, there is the importance attached to industrialisation as a development strategy in East Asian economies. Such strategies based on simultaneous import-substitution and export expansion have been argued to be effective in promoting the growth of manufacturing in Japan, Taiwan and South Korea (Hughes 1988,

Amsden 1989, Wade 1990, Getubig & Oshima 1991, Chowdhury & Islam 1993).

Increased international mobility of capital, both in the form of direct foreign investment and access to world capital markets has greatly facilitated the establishment of manufacturing plants in developing countries. Finally, the liberalisation of world trade over the past 40 years, and the great increase in global intra-industry trade has resulted in the volume of world trade increasing many times faster than the growth in world output. Between 1950 and 1995 the volume of world output has expanded by 500%, while the volume of world trade increased by 1600% (Thirlwall 1999:430). This has created an environment very conducive to the growth of industrialising countries.

At the highest levels of per capita income, the income elasticity of demand for manufactures declines marginally and that for services increases. That is, the demand for services such as tourism, restaurants, health, education and banking and finance absorbs a proportionately larger share of per capita income. The reduction in the share of GDP accounted for by manufacturing also reflects the effects of the division of labour over time, whereby activities previously undertaken within a manufacturing firm, such as accountancy, legal and engineering services, transport and cleaning are purchased from other companies. These activities are then allocated to the services sector. These developments are reflected in Tables 3a and 3b in the decline in the relative importance of manufacturing between 1980 and 1997 for the HIEs group both in APEC and globally.

Australia stands out from other HIEs economies within APEC, and more broadly within the OECD, in having such a comparatively small share of GDP attributed to manufacturing. Manufacturing accounted for only 14% of Australian GDP in 1997, compared with 21% for Italy and the UK, the two countries with a per capita income closest to that of Australia (World Bank 1998).

Industry: Industry includes manufacturing, mining, construction and electricity, water & gas. As can be seen from Table 3b, globally, industry's share of GDP in 1997 ranges from 16% to 41%, being highest for the LMIEs group. Ignoring China, the APEC members' industry share is quite similar for the various income groups for 1997. The only outstanding difference between the global and APEC figures are for 1980 within the UMIE groups. In 1980, the APEC UMIEs had a substantially lower share for industry in comparison to the world average for this group. For the UMIEs globally, the share of industry in GDP declined sharply between 1980 and 1997 from 43% to 34%, whereas for the APEC UMIEs there was a rise from 35% to 36%. This difference undoubtedly reflects the continued and growing importance of manufactured exports over this period to the three APEC economies that comprise this group. The decline in industry's share of GDP for the HIEs, both within APEC and globally, largely reflects the declining importance of manufacturing. Increasingly, industry's share of GDP in the HIEs is

maintained by electricity, gas and water, whose share of GDP remains unchanged, and a growth in the share of construction. The growth of construction in part reflects derived demand for offices, schools, hospitals and retail structures following the growth in services. It also reflects improvements in the quality of residential accommodation and the necessary investment in improved infrastructure for the maintenance and growth of a HIEs economy (see section 2.6.1).

Services: Services has a rapid and sustained increase in the share of GDP both within each income group and over time. It is also important to note that the nature and quality of economic activity undertaken within the service sector changes over time. In LIEs, many "petty" services are provided such as the village barber, roadside vendors and personal transport though tuk-tuks and minibuses. In HIEs, these activities assume a higher level of value added as a result of a considerably higher level of capital investment. (The change in the structure of services is discussed in some detail in section 2.7.1.)

It has been noted earlier that the primary reasons for the growth in services are the increased division of labour with growth in the size of the economy that results in a reclassification of economic activity to services, and increase in the elasticity of demand for services at higher income levels. Another important factor in the growth of services is that rising per capita incomes are associated with increases in the share of GDP accounted for by government expenditures, much of which is devoted to spending on education and health, and public administration. (The construction sector also benefits from the rising share of government through infrastructure spending.) The financial services industry also grows strongly with rising incomes. This is due to the fact that at higher levels of per capita income a larger proportion of household income is saved, which is manifest in an increased demand for different types of investments by households.[4] The value of corporate sector savings, especially retained earnings, also increase over time with growth in the size of the economy. Aside from these domestic sources of savings, there has been a phenomenal increase in international flows of capital since the mid-1970s. These different sources of funds underpin the large growth in the financial services sector in HIEs economies.

Tables 4a and 4b indicate the changes in the share of central government revenue in GDP over the period 1980 to 1996. These central government figures exclude revenues raised by state, provincial and local governments. Excluding these latter sources understates government revenues in a number of countries such as Canada and the US. Correspondingly, it leads to comparatively high shares in unicameral New Zealand and city states such as Singapore.

Table 4a: Central Government Revenue as a Percent of GDP in APEC

	Country Name	1980	1996
Low	China		5.5
	Vietnam		
Lower Middle Income	Indonesia	21.3	17
	Peru	17.1	16
	PNG	23	22
	Philippines	14	18.6
	Thailand	14.3	19
	Russia		
Upper Middle Income	Malaysia	26.3	24.9
	Mexico	15.1	15.4
	Chile	32	23.2
High Income	Australia	21.7	24.3
	USA	20.2	20.7
	New Zealand	34.2	35.3
	Canada	18.5	20.6
	Japan	11.6	
	Hong Kong		
	Korea	17.7	21.3
	Singapore	25.4	29
	Taiwan		

Source: World Development Indicators 1999.

Note: Government revenue includes tax and non tax revenue.

Table 4b: Central Government Revenues as a Percent of GDP — Globally (Weighted Average)

	1980	1996
Low	12.9	14.4
Lower Middle Income		15.3
Upper Middle Income	20.8	24.1
High Income	22.7	28.7

Source: World Development Indicators 1999.

Table 4b indicates a clear relation between increase in the share of central government revenue and increase per capita income. This is due to a number of factors such as a marked reduction in "informal" economic activity, with formal activities subject to tax, and increased demand for the provision of public goods.[5] A similar relation holds for the APEC countries, with higher per capita income levels associated with higher shares of government revenues. However, for individual countries the relationship is quite mixed, with many countries experiencing declines in the share of government revenues over time. In many cases, such as PNG and Chile, these declines are due to financial crises, the standard policy response to which was to reduce government revenues and outlays.

Structural Change and Trade

Tables 5a and 5b show changes in trade intensity over time and the share of manufactures in exports for the different income groups. A number of points emerge from Table 5a. First, the trade intensity of all income groups, defined as the share of imports and exports in GDP, increased markedly from 1980 to 1997. The fact that export and import propensities move together is not surprising. In most economies, the income elasticity of demand for imports is high. For example, the Australian Treasury's model of the Australian economy (the TRYM model) assumes that a 1% increase in GDP results in a 1.5% increase in imports. Almost all economies, with the exception of those that are both highly self-sufficient and have policies of import-substitution, such as Japan, have income elasticities of demand for imports above unity (McCombie and Thirlwall 1994). Some reasons for the high income elasticity of demand for imports include the cachet attached to many imported consumer items such as cars, electronics and perfumes. In addition, the elasticity of import growth with respect to export growth is also high. This is due to the increased globalisation of production whereby a given unit of exports incorporates an increasing share of imported components or capital goods used in its manufacture. For example, Australia's car manufactures are exporting an ever greater share of production, but they are also sourcing a larger share of components and models from overseas affiliates.

Second, reflecting the general tendency for trade intensity to increase with rises in per capita income, the LIEs in both 1980 (China) and 1997 (China and Vietnam) had a much lower trade intensity than other income groups. Nevertheless, the LIEs did experience a very large proportional rise in trade intensity due to changes in government policy towards economic liberalisation within the two communist states over the 1980s.

Table 5a: Selected International Trade Intensity Ratios. APEC 1980 and 1997

	Low Income		Lower Middle Income		Upper Middle Income		High Income		High Income excl. US & Japan	
Industry	1980	1997	1980	1997	1980	1997	1980	1997	1980	1997
Exports as % of GDP	6	22	28	27	21	37	14	15	32	55
Imports as % GDP	7	20	28	36	16	21	14	16	32	52
Manufactures as % of Exports	69	74	8	46	32	67	57	62	39	60

Source: World Bank, *World Development Indicators 1998.*
Low Income 1980 includes only China.

Table 5b: Selected International Trade Intensity Ratios. Global 1980 and 1997

	Low Income		Lower Middle Income		Upper Middle Income		High Income	
Industry	1980	1997	1980	1997	1980	1997	1980	1997
Exports as % of GDP	11	18	18	28	19	22	20	21
Imports as % GDP	17	23	19	27	18	23	21	20
Manufactures as % of Exports								

Source: World Bank, *World Development Indicators 1998.*

Third, the UMIEs consistently ran a large balance of trade surplus as indicated by the large excess of the share of exports in GDP over the share of imports. UMIEs, such as Malaysia, have an advanced and efficient manufacturing base and official strategies of export promotion. LMIEs groups are still in the process of creating such an efficient base and remain heavily dependent on imported capital goods and intermediate inputs (Chenery et al. 1986:225).

Fourth, it is evident that both the US and Japan have a unique foreign trade structure with comparatively very low rates of exports and imports in GDP. In 1997, exports and imports as a percentage of GDP were 10% and 9%, respectively, for Japan, and 12% and 13%, respectively, for the United States. This trade structure reflects a large degree of self-sufficiency (with the exception of raw materials in Japan). This, in turn,

is due to the large size of the domestic markets that permit the establishment of large plants that can reap economies of scale in the production of many products and a dense network of specialised producers in both countries. It is also a legacy of Japan's development strategy based on simultaneous export promotion and import substitution.

Fifth, the important role of manufacturing in structural change is also evident in Table 5a. All income groups experienced substantial increases in the share of manufactures in their exports. This is due to the establishment of more sophisticated plant, skills and management in all countries, which permits a movement away from commodity based exports for lower income economies. It also reflects the shifting of competitive advantage from labour intensive manufactures at middle income levels to more value-added transport, machinery and electrical and electronic products. It is also clear how important the growth of manufactured exports are in explaining the growing share of manufacturing in GDP in developing countries.

Trade and Direct Foreign Investment

A major stimulus to increased trade intensity can be provided by direct foreign investment (DFI). DFI entails a partial or complete ownership and control of existing or new assets by foreigners. In the case of developing economies such as Chile and China, DFI may be equivalent to 15-20% of total annual investment within the respective countries. Even for developed economies such as Singapore, DFI may be as much as 30% of domestic investment (Table 6). Other countries such as Japan and Korea have very low rates of DFI, largely reflecting different development strategies. Both Japan and Korea were reluctant to permit significant ownership of assets by foreigners. Japan, for example, relied mainly on domestic savings to promote industrialisation, while Korea relied heavily on foreign debt. Other countries such as Indonesia and Thailand relied heavily on both DFI and foreign borrowings to fund industrialisation.

Another important feature of Table 6 is the large sustained changes in annual DFI over time for many countries. In many cases, such as the large increase in DFI in China from the early 1990s, this is due to shifts in government policy that progressively liberalised DFI from the late 1980s.

The heavy reliance on foreign debt to fund industry investment across many of the rapidly growing East Asian economies prompted the famous development economist Hans W. Singer to note as early as 1984 that "export-led growth [has] really become debt-led growth." Singer also cautioned that the combination of high levels of short-term debt and floating exchange rates "meant that the whole continued process of global integration rested on shaky foundations" (Singer, 1984:85). This is remarkably prescient given the central role of high debt levels in the recent Asian Crisis.

Table 6: Direct Foreign Investment, Net Inflows (% of GDP)

Country Name	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Australia	1.17	1.29	1.35	1.69	0.20	1.23	1.97	1.87	3.07	2.78	2.20	1.34	1.71	1.06	1.20	4.06	1.61
Canada	2.21	0.23	0.03	0.61	1.40	0.39	0.79	1.97	1.24	1.11	1.33	0.49	0.85	0.87	1.56	1.93	1.10
Chile	0.77	1.17	1.65	0.68	0.41	0.69	0.65	1.11	0.58	4.57	1.94	1.52	1.64	1.77	3.40	2.48	5:51
China	0.00	0.00	0.21	0.28	0.49	0.54	0.63	0.86	1.04	0.99	0.98	1.16	2.67	6.37	6.25	5.14	4.93
Hong Kong, China	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Indonesia	0.23	0.14	0.24	0.34	0.25	0.36	0.32	0.51	0.65	0.67	0.96	1.16	1.28	1.27	1.19	2.16	3.52
Japan	0.03	0.02	0.04	0.03	0.00	0.05	0.01	0.05	-0.02	-0.04	0.06	0.04	0.07	0.00	0.02	0.00	0.00
Korea, Rep.	0.01	0.14	0.09	0.08	0.12	0.25	0.42	0.45	0.56	0.50	0.31	0.40	0.24	0.18	0.21	0.39	0.48
Malaysia	3.81	5.06	5.21	4.18	2.35	2.23	1.76	1.34	2.07	4.40	5.45	8.50	9.00	7.97	6.14	4.84	4.54
Mexico	1.11	1.13	0.96	0.31	0.22	0.27	1.18	2.32	1.42	1.36	1.00	1.51	1.21	1.09	2.61	3.33	2.28
New Zealand	0.80	1.14	1.39	0.75	5.66	5.65	4.24	3.53	3.95	3.85	4.03	3.10	5.22	5.69	4.81	5.24	0.43
Papua New Guinea	2.96	3.45	3.62	5.41	4.51	3.44	3.43	2.97	4.20	5.92	4.81	5.36	6.85	-0.04	-0.09	8.98	4.36
Peru	0.13	0.50	0.19	0.20	-0.45	0.01	0.12	0.13	0.15	0.21	0.12	-0.02	0.32	1.62	6.15	3.45	5.88
Philippines	-0.33	0.48	0.04	0.32	0.03	0.04	0.43	0.93	2.47	1.32	1.20	1.20	0.43	2.28	2.48	1.99	1.68
Russian Federation	..	..	..	..	..	..	..	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.56	0.56
Singapore	10.55	11.95	10.49	6.52	6.93	5.92	9.48	13.71	14.24	9.49	14.89	11.22	4.44	8.04	11.78	9.61	10.04
Thailand	0.59	0.83	0.52	0.87	0.96	0.42	0.61	0.70	1.79	2.46	2.85	2.05	1.90	1.44	0.95	1.23	1.26
United States	0.62	0.83	0.39	0.31	0.65	0.49	0.83	1.29	1.17	1.29	0.86	0.39	0.30	0.77	0.68	0.96	1.05
Vietnam	..	..	..	..	0.00	0.00	0.00	0.00	0.03	0.06	0.25	2.38	3.90	4.07	4.78	6.92	6.43

Source: World Bank 1998, *World Development Indicators 1998.*

Where increased exports are brought about by foreign investment, especially direct foreign investment by multinational firms, this can lead to the introduction of plant and equipment, training, work organisation and management techniques more advanced and productive than that existing within the recipient economy. Foreign investment can be an important catalyst for change throughout the economy by means such as inter and intra-industry labour mobility and the imposition of quality and technology standards on suppliers to the foreign enterprise.

Structural Change and Urbanisation

As the famous development economist Gunnar Myrdal observed, it is difficult, if not impossible, to identify a single chain of causation in the process of development (Myrdal 1958). Cause and effect are interdependent in a manner which led Myrdal to coin the term "cumulative causation" to describe both this double interaction and the way in which economic development has an internal dynamics promoting further growth. Change begets further change and growth begets further growth.[6] An important example of this process is the mutual interaction between structural change, economic development and urbanisation.

While there have been large cities throughout Asia in past centuries, these were but islands of concentrated humanity in a vast dispersed sea of rural life. What is genuinely novel is the current unprecedented proportion of populations within APEC countries living in large towns and cities. The direct association between growth in per capita income and growth in rates of urbanisation is evident in Table 7. For example, in 1980 only 19.6% of the Chinese population was urbanised compared to Japan, US and Australia, which had rates of 76.2%, 73.7% and 85.8%, respectively. By 1997, the Chinese rate of urbanisation had increased by nearly two-thirds to 31.02%.[7]

One of the most important factors in urbanisation is the growth of manufacturing,

> "the fact that in all known historical cases the development of manufacturing industries was closely associated with urbanisation must have deep-seated causes (Kaldor 1978:147).

These "causes" include the broad range of externalities arising from industrial agglomeration, such as the creation of skilled labour markets; proximity to a dense network of suppliers of raw materials and intermediate inputs that is a feature of manufacturing industry; and, nearness to final markets. Similar economies of agglomeration apply to other service industries such as finance and business services. As the famous regional economist Jane Jacobs has noted, development occurs through the growth of cities. It is an often overlooked fact that the overwhelming bulk of a developed nation's GDP is produced in its large cities (Jacobs 1984).[8]

Table 7: Urban Population (% of total)

	Country	1980	1986	1996
Low	China	19.6	24.5	31.02
	Vietnam	19.2	19.62	19.46
Lower Middle Income	Indonesia	22.2	27	36.36
	Peru	64.6	67.3	71.28
	PNG	13	14.2	16.28
	Philippines	37.5	44.16	54.92
	Thailand	17	18.06	20.32
	Russia			
Upper Middle Income	Malaysia	42	46.66	54.34
	Mexico	66.3	70.18	73.6
	Chile	81.2	82.74	84.04
High Income	Australia	85.8	85.42	84.7
	USA	73.7	74.64	76.32
	New Zealand	83.4	83.9	86.1
	Canada	75.7	76.44	76.78
	Japan	76.2	76.84	78.26
	Hong Kong	91.5	93.14	95.14
	Singapore	100	100	100
	Korea	56.9	66.68	82.28
	Taiwan			

Source: World Bank 1998, *World Development Indicators, 1998.*

The growth of manufacturing industry is a strong demand "pull" factor in the movement of population from rural to urban areas. Wages of urban industrial workers can be 300-400% higher than the earnings of agricultural day labourers (World Development Indicators 1999). On the other hand, improvements in agricultural productivity act as a supply "push" factor due to rapid and continual reduction in the need for labour.

There are other mechanisms whereby urbanisation feeds back into development. For example, it has been argued that urbanisation is associated with a reduction in the average size of households and the rise of the nuclear family. This reduction in average household size greatly increases the demand for consumer durables, as each household requires separate stoves, refrigerators and motor vehicles etc. (Yoshikawa 1993).

Summary of Factors Affecting Changes in Industrial Structure and Output

Up to this point, a number of factors have been identified as driving structural change. These include, firstly, consumer behaviour and especially changing income elasticities of demand for different goods and services with rising per capita incomes. These changes

in consumer demand patterns give rise to the production of new goods and services and new industries. Examples of the latter include the rapid growth in share of manufactures in consumer spending at low to upper middle income levels and the shift in expenditure to services at high income levels. Secondly, technological change alters production processes and generates new products. Technological change is used broadly to encompass (1) increased division of labour or specialisation of production within and across industries; (2) increased mechanisation of all production processes (otherwise known as increased capital labour ratio); (3) changes in the industry input mix over time required to produce a given commodity; and (4) the introduction of new products. Thirdly, there are other endogenous changes, most notably an increase in state expenditures and increased urbanisation with rising per capita income levels. Fourthly, there is the large increase in international trade and capital flows that has greatly facilitated industrialisation throughout the Asia-Pacific region. Finally, state policies to promote industrialisation as the means to improve living standards undoubtedly accelerated the process of structural change in many Asian countries, such as Japan, Taiwan, South Korea, Malaysia and Singapore.

Labour Market Effects of Structural Change

So far we have examined the major "stylised facts" regarding structural change within APEC economies and the causes of these changes. We now turn to an examination of the labour market effects of these changes in industrial structure.

Table 8: Industry Distribution of Employment *(Weighted Average)*

	Low Income		Lower Middle Income		Upper Middle Income		High Income	
Industry	**1987**	**1997**	**1980**	**1997**	**1980**	**1997**	**1980**	**1997**
Agriculture, Hunting, Forestry, & Fishing	60.0	47.4	57.9	41.5	27.2	18.8	6.4	3.9
Mining, Quarrying	1.6	1.2	0.7	0.7	1.0	0.4	0.8	0.4
Manufacturing	15.8	13.8	9.4	12.4	19.7	18.9	23.4	18.1
Electricity, Gas & Water	0.3	0.4	0.2	0.4	0.5	0.5	1.0	0.9
Construction	4.5	5.0	3.0	5.3	5.6	7.0	7.4	7.7
Trade, restaurants & hotels	4.9	6.9	11.6	18.4	18.7	22.5	20.7	21.7
Transport, storage & communication	· 2.8	3.0	2.9	4.8	4.2	4.9	5.8	6.2

Financing, insurance, real estate, business services	0.4	0.6	0.9	1.5	1.7	5.8	7.2	10.7
Community, social & personal services	2.7	2.6	13.7	15.3	20.8	21.3	27.1	30.3
Not adequately defined	7.1	19.0	0.0	0.0	0.6			
	100	100	100	100	100	100	100	100

Source: International Labour Organisation for industry employment and World Development Indicators 1998 for country income classification. LIEs include only China with base period 1987. UMIE Mexico has base period 1988.

Employment by Industry: It is evident from Table 8 that there is a close correspondence between change in industries' share of output and industries' share of employment. Table 8 is based on the International Standard Industrial Classification (ISIC). The main points are:

- The share of agriculture in employment declines dramatically with rising income. Agriculture's share of employment in HIEs countries is around 15 times smaller than its share in LIEs countries. The large share of employment in agriculture in LIEs and LMIEs countries reflect relatively low levels of labour productivity due to a combination of lack of mechanisation and comparatively small land holdings. In some countries, there is a considerable level of underemployment in the agricultural sector during the slack part of the seasons. The opening up of off-farm employment opportunities encourages underemployed farm workers to take up alternative employment. The continued growth of such opportunities encourages investment in mechanisation and land consolidation that releases further labour from agriculture (Shand 1986; Oshima 1983). In general, the large labour reserves in agriculture are crucial in supplying plentiful and comparatively cheap labour, which provide the competitive advantage for developing countries' emerging manufacturing industries.

  Agricultural employment is much less significant in China than in other LIEs economies. In 1997, agriculture in China accounted for 47% of all employment compared to India and Pakistan where around 65% of all labour is engaged in agriculture.

  Employment in construction increases over time within each income level and with increments in income. This is due to the fact that construction is an integral part of gross fixed capital formation (GFCF) and it remains a relatively constant share of GDP at all per capita income levels. In HIEs, construction constitutes around 50-60% of GFCF, with the remainder comprising equipment investment. With rising per capita income, the "quality" of residential housing improves, usually resulting

in larger floor space per person and increase in luxury inclusions. Secondly, productivity growth in construction is less than that of many other industries, so that labour requirements per unit of construction output decline only gradually over time (Raftery 1991). Thirdly, as noted earlier the growth of services, such as shops, tourism, hospitals and offices generates large derived demand for construction inputs.

- The apparent discrepancy in the decline in manufacturing employment over the period in the LIEs, from 16% to 14%, is largely explained by the very high proportion of labour classified to "not adequately defined." It would be expected that the share of manufacturing employment in China would have remained the same or even increased given that the share of manufacturing in GDP remained constant over the period. In 1980, manufacturing increased its share of employment within each income group from LMI to HI. By 1997, manufacturing employment plateaus, having a slightly smaller share of employment in the two highest income groups than it did in 1980. This is due to those factors mentioned earlier, such as rapid increases in productivity (fewer resources are required to produce more output); declining elasticity of demand for manufactures and reclassification of manufacturing activity to services.
- Employment in electricity, gas and water increases with increments in income reflecting higher energy inputs per unit of GDP, due to increasing mechanisation and greater use of electrical equipment in services, offices and households. The growth of water is related to a number of factors such as infrastructure investment in water, sewerage and drainage as a result of rapid urbanisation with increase per capita income and the spread of certain manufacturing activities like food processing, steel and micro-chip production which are particularly intensive in their water usage.
- Trade, restaurants and hotels, increases with income and accounts for around 21% of total employment in UMIEs and HIEs. The trade category encompasses both retail and wholesale trade. The growth in these industries is largely driven by increases in disposable income. At higher income levels, there is increased reliance by households on purchasing of commodities such as processed food and clothing, rather than undertaking domestic household production of these items. Concomitantly, improvements in the efficiency of the transport and distribution system make possible the supply of an ever widening array of commodities to consumers.
- It is notable that transport and storage increases its share of GDP and employment over time within each income group and with each increment in income. This reflects growth in domestic and international travel, enormous growth in international trade and the division of labour which results in a great increase in the trade of components and semi-finished goods. Continuing high levels of public and private investment in communications are also a prerequisite to development.

- The finance, insurance, real estate & business services industry experiences the largest proportional gain in employment as development proceeds. In 1980, it accounted for only 0.4% of LIEs employment but 7.2% of HIEs employment. (The figures for 1997 are 0.6% and 10.7%, respectively). The growth in the finance component of this industry is due to higher savings rates at higher per capita income levels, huge growth in the international mobility of capital and increased sophistication in regulation of the financial system and more diverse financial instruments. Improved regulation of the financial system is important in shifting household savings from physical assets such as gold hoarding to one based mostly on cash deposits. This shift to a largely monetary form of savings greatly improves the efficiency of capital markets and promotes further investment (Thirlwall 1999:338). The growth of business services encompasses a broad range of activities such as accountancy, law, and technical services, including engineering, surveying, architecture and computer programming consultancies. The growth in these industries is directly related to increased capital intensity and technological sophistication of production. A substantial share of the growth in business services is accounted for by the division of labour and out-sourcing of activities.
- Community, social and personal services has by far the largest share of employment in the HIEs, accounting for 30% of total employment. This share is around 13 times larger than in the LIEs. The key contributors to this industry are education, health and public administration. These three are, in turn, largely a function of the growth of government expenditures in GDP at higher per capita income levels. For example, public expenditure on health as a share of GDP is around 6% in Australia, the United States and Malaysia. It is only 2.6% of GDP in China. Total (public and private) expenditure on health as a share of GDP in Australia and the US is around 9% and 14.5%, respectively. In Indonesia and China it is 1.7% and 3.8%, respectively (World Bank Development Indicators 1998).

Employment by Occupation: The relationship between employment by industry and a country's industrial structure is relatively straightforward as, with few exceptions, an industry's share of GDP is closely correlated with its share of total employment. In addition, the same classification system, that is ISIC, is used in the definition of industry's output and employment. The relationship is more complex with respect to employment by occupation. This is because the same occupations, say a truck driver, clerk or computer programmer, can be employed across a broad range of industries.

Table 9: Occupational Distribution of Employment, 1980 and 1997 (Weighted Average)

	Low Income		Lower Middle Income		Upper Middle Income		High Income	
Occupational			**1980**	**1997**	**1980**	**1997**	**1980**	**1997**
Professional, technical & related workers			5	5	7	4	13	17
Administrative & managerial workers			1	3	2	3	8	10
Clerical & related workers			3	4	9	11	17	15
Sales workers			10	12	14	9	9	12
Service workers			5	8	13	20	11	12
Agriculture, animal husbandry & forestry workers, fishermen & hunters			59	41	27	18	6	4
Production & related workers, transport equipment operators & labourers			16	21	29	35	33	29
Workers not classifiable by occupation		.		5			2	

Source: International Labour Organisation (1998) for occupational employment and World Development Indicators 1998 for country income classification.
Note: some columns may not sum to 100 due to rounding errors. LMIEs excludes Indonesia. Peru base period is 1987. UMIEs Mexico has base period 1988. High Income New Zealand base period is 1987.

The distribution of employment by occupation reflects the demand for a range of skills, experience and qualifications within an economy. The occupations in Table 9 are based on the International Standard Classification of Occupations (ISCO). The classification is at a high level of aggregation, and while it provides a broad picture of occupational change over time and at different per capita income levels the absence of details can mask changes in the demand for particular skills. This applies particularly to the category "Production & related workers, transport equipment operators & labourers." This category covers a very broad range of occupations, from skilled tradespersons to truck and bus drivers and labourers. The general education, vocational education and skill requirements for each of these occupations varies markedly and the proportions of

these occupations in total employment changes significantly with rising per capita income.

The main points to emerge from Table 9 include:

- There is a shift over time and with each increment in income from an agricultural based occupational structure to a predominantly service and manufacturing based structure. This is evident in the dramatic reduction in the share of the workforce in agricultural occupations, which declined from 59% of LIEs workforce in 1980 to 4% in HIEs countries in 1997.
- Not unexpectedly, the demand for Professional & Technical and Administrative & Managerial workers increases as per capita income grows. This reflects not only increased technical sophistication in production and the large numbers of skilled employees in education and health, but also the development of public and private sector bureaucracies. This, in turn, is related to the growth in the absolute size of private companies, particularly joint-stock companies, as development proceeds and with it the necessary creation of an independent managerial and administrative class separate from the owners of these companies. It also reflects the growing importance of public sector employment with the growth in per capita income.
- The proportion of clerical workers also increases with income level, though interestingly in the latest period at the highest income level the share of clerical and related workers declines. This reflects a number of factors such as new technology and reduced public sector employment over the 1990s in HIEs.
- The proportion of service workers increases over time, and with increments in income, due to the growing significance of the broad-based service industries such as restaurants, accommodation and personal services. The Service category includes housekeepers, cooks, waiters, building caretakers, laundry workers, hairdressers and security workers.
- Reflecting the growth in manufacturing, construction and transport industries over time is the growth in the share of Production & related workers. As noted above, this category is too broad to determine movements in skills requirements. It is the case, however, that as development proceeds the share of skilled and qualified tradespersons in this category increases (Bhagavan 1990:205). The decline in the share of Production & related workers at the highest income level in the latest period is due to the decline in the share of manufacturing in output and employment.

The structural changes in output and employment reviewed above progressed in a virtually linear fashion from the late 70s and early 80s up until the Asian crisis. That crisis has severely disrupted the transformation process, and in several cases has actually reversed it. How long it will take these economies to get back on the growth and structural change track is a moot point. But let us now turn our attention to the impact of the crisis on those economies most affected.

Labour Market Impacts of the Asian Financial Crisis

An Overview

Since late 1997, several Asian countries have been experiencing a serious financial crisis. There has been a massive financial capital outflow from Asia, which has led to currency depreciation, high interest rate environment, financial sector collapse and unviable corporate balance sheets. Indonesia, Thailand, South Korea and other countries are having serious cash-flow problems. It was clear that there was a reverse expectation about the future growth of Asia that led to the financial capital outflow, but the main cause of the reverse expectation needs further examination and is beyond the scope of this study.

Many studies have been written and published about the crisis, and early findings suggest that there are several common causal factors in some Asian countries in crisis such as weak banking sector, non-transparent economic policy, poor governance and a chronic misallocation of economic resources. But there are also country specific factors that characterized the nature of resource misallocation. For example, Korea had serious problems with its conglomerates, Thailand had problems with its fixed exchange rate regime, and Indonesia had its problems of confidence in the national leadership and excessive monetary expansion.

The depth and the policy responses to the crisis also varied between countries. The impact of the financial crisis on the real sector depends on the depth and the duration of the crisis itself. In most Asian countries, the impact of the financial crisis on the real sector is likely to be minimal and short term in nature. There will be some significant impact in Korea, Thailand and Indonesia, the three countries most seriously affected by the crisis, but the impact of the crisis on the readjustment of the real sector vary. Government policy in responding to the crisis also results in different impacts of the crisis in each country. Excessive monetary expansion in Indonesia to save the banking sector, for example, explains the 85% inflation rates in 1998 compared to only around 10% in Thailand. Capital controls in Malaysia have also been a unique policy response that might not work for other countries.

The Impact of the Crisis on the Labor Markets: A Descriptive Analysis

This section presents a descriptive analysis on the impact of the Asian crisis on labour markets in four economies: Thailand, South Korea, Indonesia and Hong Kong-China. These four economies are used as an example on how the impact of the crisis on the labour market varies between economies. The first three economies are the three worst affected by the financial crisis, and Hong Kong-China is included because of the marked rise in its unemployment rate. APEC HRD Working Group (1998) presented the early and limited results of the labour market impacts and responses of Thailand and Indonesia (Haworth 1998). The following will discuss the latest available data. The impacts of

the crisis on the labour markets of these economies will be discussed by looking at three indicators: the unemployment and underemployment rate, the changing labour market structure, and wages and income. However, it is important to first discuss the pre-crisis situation to appreciate the extent of the crisis.

Between 1975 - 1995, the East Asia region watched an impressive improvement of social conditions. The region experienced a two-thirds drop in poverty (with calculations based on the head-count index), substantial gains in life expectancy, declines in infant mortality rates and increases in school enrollment (Atinc & Walton 1998). The pace of poverty reduction was faster than any other developing region. This remarkable progress cannot be separated from the abilities of these East Asian countries to maintain sustained economic growth – a growth driven by the modern sectors such as manufacturing, construction, and a variety of service activities.

Such growth had allowed Korea and Thailand to experience a period of full employment, and Indonesia, a relatively low unemployment, for at least two decades. Meanwhile, in all three economies, labour has shifted from agriculture to the more productive and better-paid non-agricultural sectors such as urban industries and services. Although the agricultural sector still accounted for a significant portion of employment in Indonesia (44%) and Thailand (40%) in 1996, the movement shift of employment to the more modern sectors continues (ILO 1998).[9] Between 1985 and 1996, employment in the industrial sector (inclusive of mining & quarrying; manufacturing; electricity, gas & water; and construction) in Indonesia grew annually by 8.2%. For Thailand the corresponding figure was 7.6%. This was accompanied by increases in real wages. Even in Indonesia, where more than half of those employed are working in the rural and informal sector, real wages increased by an average of 5.9% per annum between 1990 - 1996. Nevertheless, wage employment accounted for less than 30% of total employment in Indonesia and 40% in Thailand. This showed that traditional agriculture and the urban informal sectors are still significant in both of these economies. Poverty, as mentioned before, had also decreased significantly in these economies. Between 1975 and 1995, the population under the poverty line in Indonesia declined from 64.3% to only 11.4%. In Thailand, the proportional decrease was even more impressive, from 8.1% to less than 1% in 1995 (Atinc & Walton 1998).

Unemployment and Underemployment During the Crisis

Table 10 shows the impacts of the crisis towards open unemployment. The crisis has induced a sharp increase of open unemployment in Thailand, Korea and Hong Kong-China. Unemployment rates have doubled in both Thailand and Hong Kong-China, and almost tripled in Korea. In Hong Kong-China, the most significant rise came from the construction sector, mainly due to the completion of the Airport Core Program, as well as a slow down in private sector activities following the downturn in the property market. In Indonesia, unemployment has also increased, but much less than predicted. According to the National Labour Survey (*Sakernas*), there has been only a slight in-

crease of unemployment from 4.7% to 5.5% between 1997 and 1998. The difference in unemployment figures between Indonesia, Thailand, Hong Kong-China and Korea, reflects differences in labour market flexibility. These data show how the Indonesian labour market has been flexible in adjusting to the crisis, and the adjustment is taking place in the form of 30% to 40% decreases in real wages rather than the increase in unemployment.

However, it seems that the adverse impacts of the crisis on the labour market cannot be reduced from the open unemployment figures alone. In Korea, for instance, the crisis has discouraged workers from entering the labour force. Labour force participation rate fell from 63.1% to 61.5% between the second quarter of 1997 and 1998, representing a decrease of 1.6 million in labour force participation compared to what it would have been had the pre-crisis trend of labour force growth in Korea continued (Lee 1998). In Hong Kong-China, the median duration of unemployment increased from 70 days to 83 days. For those in employment, some must work longer hours – reflected in the increase of those working 50 hours or more per week from 25.4% in the fourth quarter of 1997 to 26.0% in the fourth quarter of 1998 (Government of Hong Kong – China 1999).

Table 10: Increase in Unemployment, 1997-1998

	Pre Crisis		Latest data	
	Unemployment ('000)	Unemployment Rate (percent)	Unemployment ('000)	Unemployment Rate (percent)
Hong Kong-China[1]	77 (Q4 1997)	2.5	201 (Q4 1998)	5.7
Indonesia[2]	4,197 (Aug 97)	4.7	5,064 (Aug 98)	5.5
Korea[3]	451 (Oct 97)	2.3	1,651 (July 98)	8.2
Thailand[4]	698 (Feb 97)	2.2	1,479 (Feb 98)	4.6

Sources: 1. General Household Survey, Census and Statistics Department.
2. Central Bureau for Statistics, *National Labor Force Survey* (Sakernas).
3. Republic of Korea, National Statistics Office.
4. Thailand, National Statistical Office: *Labor Force Survey*, Round 1.

Similarly, the slight increase of unemployment in Indonesia should be interpreted carefully. Open unemployment in Indonesia's statistics is defined as "working for less than one hour a week, and at the same time, is looking for a job." When real income is

shrinking as a result of stagflation in a country where there is no unemployment benefits and social security, people cannot afford to be unemployed. Thus when some people work for a mere two hours, either in the formal or informal sectors, they will not be counted as unemployed.

The slight increase of unemployment in Indonesia should not be interpreted as an absence of many serious layoffs. Instead, it merely shows that the Indonesian labour market is quite flexible. Those laid off from one sector moved to work in other sectors or the informal sector. However, it is often accompanied by lower real wages, reduced working hours or both.

Along with the increase in unemployment, the crisis has also produced an increase in underemployment. Hong Kong-China experienced a significant rise in underemployment from 1.3% in the fourth quarter of 1997 to 3.0% in the fourth quarter of 1998. The most distinct increases are in construction, transport, restaurants, manufacturing and retail trade (Government of Hong Kong – China 1999).

In Indonesia, there was an increase of underemployment (defined as persons working less than 35 hours) from 36% in August 1997 to 39% in August 1998. Two forces are at work in influencing the number of unemployment. On the one hand, after the crisis, the reduction of employment opportunities might reduce the number of working hours and increase underemployment. However, on the other hand, sharp reductions in real wages and income might force people to work more hours and therefore reduce the extent of underemployment.

Meanwhile, it is interesting to note the case of underemployment in Thailand. Early in the crisis, underemployment (defined as persons working from one to 20 hours per week) increased dramatically from 544,000 (1.7%) in February 1997 to 1.48 million (4.6%) in February 1998. However, when the underemployment of August 1997 and August 1998 were compared, they showed only a modest increase from 2.2% to 2.9% (World Bank 1999b). Hence in Thailand, the dramatic increase early in the crisis seemed to be a transitional phenomenon as companies tried to cope by operating at half capacity. By August 1998, as the crisis perpetuated and companies were forced to close, the impacts of the crisis shifted to overt unemployment (World Bank, 1999b).

Changes in Employment

There are at least three kinds of changes in employment following industrialisation: the urbanisation of labour, the moving away from agriculture towards more modern sectors, and the move from informal sectors to more promising formal sectors. The economic crisis is expected to slow down these transformations of the employment structures. Those who lose their jobs in the urban areas might either go back to their rural homes, move back into traditional agriculture or, for some who could not be absorbed by the rural economy, join the urban informal sectors.

The migration back to the rural homes, or ruralisation, clearly occurred as an initial response to the crisis. In Korea, beginning from January 1998, there was a sharp in-

crease of migration into the rural areas. Every month, more than 100,000 urbanites move to rural areas.[10] Meanwhile, in Indonesia, the crisis had reduced the growth of urban employment from an annual 5.2% during the booming years of 1990-1996, to a mere 3.1% between 1997 - 1998. At the same time, the annual growth of rural employment shot up from 0.6% before the crisis to 2.3% in 1997 - 1998.

In Thailand, the initial impact seems to have occurred in the urban areas, causing a large number of workers to move to the rural areas. Most of them were headed to the poor Northeast areas, which traditionally had been the largest source of rural-urban migrations (Kittiprapas 1998). However, the skills of these returnees – most of whom used to work as craftsmen or labourers – did not match with the available agriculture employment in the rural areas. As a result, by August 1998, it appears that the rural economy could not support the large returnees and many seem to have returned to the urban centers in search for work (World Bank 1999b).

In terms of sectoral allocation, agriculture plays a significant role in absorbing the laid-off workers. A recent paper, Thailand's National Economic and Social Development Board (NESDB) team used a sophisticated econometric analysis to examine the index of the crisis impacts compared to "counterfactual" trend growth rates in employment and other indicators in the absence of the crisis.[11] Among their findings is that the agricultural sector has played an important role in cushioning crisis impacts as employment shifted from the informal non-farm sector to the informal farm sector. Nevertheless, the agricultural sector experienced a slight decrease in employment of almost 3%. Meanwhile in Korea, the crisis has, for the first time in 18 years, brought about an employment increase in agriculture and fishery sectors (Chung & Choi 1998).

In Indonesia, the crisis has reversed the growth trend of employment in the agriculture sector. Prior to the crisis, agricultural employment declined rapidly from 56% of total employment in 1990 to around 44% in 1996. During the crisis, the National Labour Survey Data (*Sakernas)* noted a reverse in this trend as employment in agriculture grew by 13% between 1997 – 1998. Interestingly enough, the growth of employment in agriculture not only happened in rural areas, but in urban areas as well. There is an increase of agricultural activities in the urban areas from the pre-crisis growth of 2.2% to 45% in 1997 – 1998. Part of the explanation for this phenomenon lies in the utilisation of unused property lands in urban areas for agricultural purposes as a result of the crisis.

Almost all other sectors experienced a decline in terms of employment. Table 11 shows that in Indonesia, the utility sector experienced the largest decrease (37%), followed by mining (23%), construction (16%), and manufacturing (10%). In Thailand, the largest decrease was in the construction sector (31.5%). However, the service and commerce sectors experienced a slight increase of 7.5% and 3.0% respectively, presumably due to a large movement of people from formal to informal sectors (Kittiprapas 1998). In both Thailand and Indonesia, the crisis hit male-dominated sectors such as construction and mining.

Table 11: Employment by Sector in Indonesia and Thailand, 1997 – 1998

	Indonesia[1]			Thailand[2]		
	1997	1998	Growth	1997	1998	Growth
Total	**85.41**	**87.67**	**2.7**	**30.27**	**29.41**	**-2.8**
Agriculture, Forestry, Hunting, Fishery	34.88	39.41	13.0	11.94	11.64	-2.5
Mining and Quarrying	0.88	0.67	-23.0	n.a	n.a	n.a
Manufacturing	11.01	9.93	-9.8	5.00	4.92	-1.5
Electricity, Gas, Water	0.23	0.15	-36.9	n.a	n.a	n.a
Construction	4.19	3.52	-15.9	2.98	2.04	-31.5
Trade, Restaurant, Hotel	16.95	16.81	-0.8	n.a	n.a	n.a
Transportation, Storage, Communication	4.13	4.15	0.7	4.60	4.74	3.0
Finance, Insurance, R. Estate, Business Services	0.66	0.62	-5.8	1.10	1.07	-2.2
Community, Social, Personal Services	12.57	12.39	-1.4	4.40	4.73	7.5
Others	0.00	0.00	-100.0	0.25	0.26	6.5

Sources: 1. Central Bureau for Statistics, *National Labor Force Survey* (Sakernas).
2. Thailand, National Statistical Office: *Labor Force Survey*, Round 1.

Meanwhile, in both Indonesia and Thailand, the number of people entering the informal sector has increased. In Thailand, the increase was a mere 1.9%, not as substantial as expected. In Indonesia, the process of moving into the informal sector was strong, both in the urban and rural areas. Prior to the crisis (between 1990 and 1996), people in urban areas were leaving the informal sector at the annual rate of 2.9%, the trend shifted sharply during 1997 - 1998 as the growth of the informal sector went up to 10.3%. A similar trend happened in rural areas, albeit not as salient, where the trend shifted from pre-crisis annual growth of minus one to a 5.8% growth between 1997 and 1998.

Wages and Income

The decline in wages had a more significant impact on welfare compared to open unemployment. In general, real wages declined in all sectors, although some more severe than others. Comparing the data from Thailand's Labour Force Survey (LFS) between February 1997 and February 1998, over this period real wages declined by close to 6% across all worker categories (World Bank 1999b). The decline is much greater in urban areas with 8.3%, compared with 4.7% in rural areas. According to a study by the NEDSB team, the severe impact on the real income per earner came from the reduction in work

hours and hourly productivity.

Meanwhile, in Indonesia the decline is much more severe: between August 1997 and August 1998, the decline of real wages was 34.1%. The utility sector contributed the most to the decline with 39.1%, followed by the manufacturing sector (37.7%) and the construction sector (33.5%) (Feridhanusetyawan 1999). The decline in real income was very much connected to the inflation rate which, in 1998, rose to 77.6%. The increase in the rate of inflation itself was a direct result of the depreciation of the rupiah, whose value declined by 500-600%.

Hong Kong-China experienced a slowdown in the growth of earnings. Overall, earnings as measured by payroll per person engaged in the third quarter of 1998 were up to 3% in money terms over a year earlier. This was slower than the 5% increase in both the first and second quarters of 1998, and even starker compared to the 10% rise in 1997. In real terms, wages and earnings were static in the first nine months of 1998, compared to increases of 4% and 1%, respectively, in the same period in 1997 (Government of Hong Kong – China 1999).

The impacts by gender also varied. In Thailand, at the aggregate level, the decline in real wages was about the same for males and females. However, in urban areas the decline of real wages for females exceeded that for males, and vice versa in rural areas. Overall, real wages declines for males were largest in the urban construction and rural services, while for females it was in urban manufacturing and rural small-scale trading (World Bank 1999b). In Indonesia, the decline in real wages for males far exceeded that for females. Out of the total 34.1% decline in real wages, males contributed 51.5% and females 33.8%.

In terms of income change, according to Kakwani (1998), Thai agricultural workers experienced no significant reduction in real income. In the non-agricultural sectors, however, the same study found that average real income of private employees in the manufacturing, trade, banking and insurance, and the services sector had significantly declined as a result of the crisis (Kittiprapas 1998). Unfortunately, no similar income data are available for Indonesia and Korea.

The Asian financial crisis and its spillover into the real economy, with its resulting extensive unemployment, made it clear that the governments in the Asia region should consider the development of social safety nets. It is unrealistic to expect extended families to shoulder what are supposed to be broader social responsibilities since these Asian workers, upon whose labour the industrial miracle of Asia has been built, no longer live in rural villages in extended families. Rather, they live in urban areas and typically in a nuclear family with a working spouse and children who require a lengthy education in order to service the increasingly sophisticated skill requirements of the development process. They cannot suddenly suffer a decline in income to zero without placing a considerable stress on the family unit. Failure to recognize this reality may increase the rate of family dissolution, with its accompanying social pathologies.

The Implications of Structural Change for Education Training and International Labour Migration

Overview

As we have seen, the unprecedented growth of the Asia-Pacific economies over the last quarter century, up untii the crisis, has been associated with significant changes in the structure of production and the distribution of employment. These changes have and are placing unprecedented demands on educational and training institutions to provide the quantity and quality of human resources needed to underwrite continued change. The fundamental policy concern is how to keep both management's and worker's capabilities advancing in parallel with the structural changes which underpin the growth process. A failure to manage this problem may manifest in skill bottlenecks that can impede both recovery and future economic growth, and may also retard the move to higher value-added industries. Hence, an acceleration of the capacity of the education and training systems to respond to changing skill requirements is essential.

In the less developed economies of the region[12], the principal challenge is quality primary and lower secondary education, basic training for the workforce, and overcoming the scarcity of management, particularly at the middle levels. Meanwhile, for the newly industrialized economies (NIEs) of the region, prior to the crisis, the major problem was labour scarcity. Labour shortages were requiring these economies to move quickly to more capital-intensive and skilled labour-intensive technologies. The challenge was, and still is, how to quickly improve the skills of a workforce that currently has a relatively low level of educational attainment, and hence is ill equipped to employ new technologies. Thought needs to be given also to programs that can harness private sector incentives to upgrade workers' skills. Private sector involvement will complement public sector activities in this area. In one way, the current crisis can be viewed as an opportunity in the sense that it gives the NIEs a breathing space, after over 20 years of a breakneck pace of development, to improve both the quantity and quality of their skilled labour force.

In the liberalizing industrial economies of Australia, Canada, Japan and New Zealand, the major problem is how to improve the level of skills, educational attainment and hence productivity of managers and their workforce who have become used to high levels of tariff and non-tariff protection of domestic industries for years. To compete in the global economy as high wage economies will require high levels of productivity underpinned by a highly educated, flexible and skilled workforce. Yet a substantial proportion of the workforce remains low skilled. To effectively incorporate them into the labour force and prevent the growth of long-term unemployment, innovative policies in education and training is needed.

Structural Change and Skills Shortages

Increases in the demand for improved skills is directly related to change in industry structure and the development of more technologically advanced industries. The driving force in the development of and demand for skilled production, trade, technical and professional occupations is the industrial sector and related services. "The high degree of industrialisation in East Asia, on the one hand, and the modest degrees of industrialisation in Southeast and South Asia, on the other, are reflected in the relative strengths of the professional, technical and managerial classes (Bhagavan 1993: 200). This relation between industrial structure and skill requirements has been used by the United Nations Industrial Development Organisation (UNIDO) to develop a "technological complexity index" (TCI). This index "measures the level of skill required for the manufacture of some 140 products in the capital goods sector, ranging from the most skill-intensive to the least, from ships to shears, as it were." The reason for focussing on the capital goods sector is that "the technological capability of a country is manifest in the skills required for the production of capital goods" (Bhagavan 1993:196).[13]

There are very large differences across the APEC economies in terms of the level of technical sophistication within their industrial sectors. A decade ago, South Korea for example, had a TCI score more than six times that of Hong Kong, Malaysia and Thailand; and two times that of the Philippines. At early stages of industrialisation the demand by industry for skilled trade, technical and professional labour is low. At low to moderate levels of technological development unskilled and semi-skilled workers predominate.

> "Semi-skilled workers usually do repetitive part work in conjunction with specific-purpose equipment. Their narrowly defined, highly machine specific tasks are learnt on the job in relatively short time. Their work can be learnt and performed without a previous grounding in secondary or vocational training. Together with unskilled workers, they constitute the great majority of the industrial labour force in selected Asian countries'(Bhagavan 1993:1204).

As development proceeds there is a shift from "low value added to high value added manufacturing or from manufacturing to the tertiary sector. Skills of a higher order are required to bring about the changes" (Iredale and Mitchell 1995:81). In a recent study of six APEC countries, including developed and developing nations, Mitchell and Iredale not only identified a systematic pattern of occupational skills shortages but also some of the problems with the national training systems which, in many cases, have responded inadequately to these shortages. The significance of "current shortages of various skills [is that they] threaten to slow growth, increase wages and costs and increase the capacity for workers to job-hop...between countries to improve their own position" (Iredale and Mitchell 1995:81).

The key skill shortages include:

Professional occupations (normally requiring tertiary qualifications)

- Mechanical engineers

- Information Technology

Management occupations

- Production and operations managers

Trade occupations

- Toolmakers
- Electrical mechanics
- Motor vehicle mechanics

(Iredale and Mitchell, 1995:55-72).

The reasons for the skill shortages vary across occupations and countries. Rapid and sustained economic growth and development invariably are associated with significant shifts in industrial and occupational structure. Changes in productive structure, and even in the spatial distribution of production, leave gaps in the labour market. In fact, it is not unusual for significant industry and occupation specific labour shortages to prevail in the midst of generalised unemployment. Trade and investment liberalisation has augmented these shifts in productive structure and further contributed to the emergence of sector specific labour shortages.

They also result from a combination of rapid economic growth in which the rate of new job creation exceeds the rate of labour force growth; and inadequate and/or inappropriate training. In developing economies training facilities often cannot keep up with the latest equipment on which to train students, and teachers cannot keep abreast of the latest technologies. There is frequently no accreditation of public and private training institutions, which results in variable quality of training outcomes (Siddiqui 1992). Again in developing economies, given the incapacity of the state to invest heavily in education and training there is much greater reliance on wholly on-the-job training as a source of skilled trade and production staff. There are a number of problems with such a form of trade and technical training. The balance of such training is on the acquisition of firm specific skills which can reduce labour mobility within the economy since there is no external assessment and certification of such training.[14] Assessment and certification of training improves labour mobility since there are transparent and known standards by which trainees and their competence have been assessed. This aids employers in determining the skill levels of prospective staff (Ushiyama 1992). Labour mobility is economically beneficial since it aids the transfer of workers to new growing regions or industries. Wholly on the job training also lacks the theoretical content by which a student comes to understand the general principles underlying the production process. This, in turn, allows for better problem solving, especially when confronted by novel situations or technologies (Curtain 1994).

Further compounding the labour shortage problems generated by rapid structural change have been fundamental demographic changes within those countries experiencing rapid growth and development. In High and Middle Income countries especially, such as Japan, Taiwan, Singapore and Malaysia growing household income and more liberal attitudes toward the education and labour market participation of women invariably lead to a substantial decline in fertility rates and, eventually, population and labour

force growth rates. Thus at the very time that the demand for labour is growing rapidly, the labour force growth rate is declining. Augmenting the decline in the labour force growth rate is an overall decline in the labour force participation rate that is the direct result of the need for workers to acquire an ever increasing amount of formal education and training. This applies, in particular, to the 15-24 year age cohort which have rapidly rising school and tertiary education retention rates in developing countries. Middle and High Income economies have also exhausted the once large under-employed agricultural labour reserves (Penning 1996:21, Stahl 1996: 86). To some extent however, these trends are offset by a rise in the female labour force participation rate (World Bank, 1995: Lim, 1993).

Education and Training Implications of Structural Change

Sections 2.1-2.6 demonstrated the large-scale changes in industrial composition of output and industry and occupational employment structure as development proceeds. These sections also addresses the many causes of these systematic transformations. This section considers the adjustments in education and training systems that have been required to effect these transformations in the industrial structure and labour markets. Improved education has manifold positive effects on economic development. Of particular importance are positive externalities, defined broadly as benefits conferred on others through the consumption, investment or production activity of individuals, and for which no remuneration is made. Raising the education level of a population reduces fertility and thus allows higher household savings rates, which in turn aids capital accumulation.[15] Raising the education level of women is especially influential in reducing fertility rates (Thirlwall 1999:197-198). Improved education is also associated with a "reduction in the spread of infectious diseases" (World Bank 1993:197). Raising the education level of the population allows investors to introduce more technically advanced and efficient capital equipment and production techniques.

Table 12a shows there is some correlation between the share of GDP on education and the level of per capita income. There are also notable exceptions. Japan for instance, spends around half of some other High Income countries. This comparatively low spending is largely due to the fact that the population growth of the 0-14 age group actually declined by 2 per cent per annum over the period 1980-1997 (World Development Indicators, 1999).

A key factor in the sustained and high growth rates of the East Asian economies such as Korea, Taiwan, Singapore and Hong Kong is a combination of high quality of education and adequate quantity of public spending (see Table 12b). The level of education spending within the high growth economies was somewhat higher than in slower growing economies. Focusing only on education spending as a share of GDP can give misleading results. This is because within high growth economies a fixed share of GDP devoted to education results in a rapid increase in real resources over a short period of time. Given the high growth rates in North Asia over the 1980s for example, a constant

share of education spending in GDP would double the real educational resources each decade. Reinforcing this is that the high growth East Asian economies such as Singapore, Korea, Malaysia and Hong Kong had very low or even negative growth in their school age populations. In combination the effect of rapid economic growth and static or declining school age populations meant that more resources were being made available per student (World Bank 1993:194).

Table 12a: Public Spending on Education. Percent of GNP (UNESCO)

	Country	1980	1992	1996
Low	China	2.5	2	2.3
	Vietnam			2.6
Lower Middle Income	Indonesia	1.7	2.2	1.4
	Peru	3.1		2.9
	PNG			
	Philippines	1.7	2.3	2.2
	Thailand	3.4	4	4.1
Upper Middle Income	Korea	3.7	4.2	3.7
	Malaysia	6	5.5	5.2
	Mexico	4.7	4.8	4.9
	Russian Federation	3.5	4	
	Chile	4.6	2.8	3.1
High Income	Australia	5.5	6	5.6
	USA	6.7	5.5	5.4
	New Zealand	5.8	7.3	7.3
	Canada	6.9	7.6	7
	Japan	5.8		3.6
	Hong Kong			2.9
	Singapore	2.8	3.2	3
	Taiwan			

Source: World Development Indicators 1998.
Note: Public expenditure on education "is the percentage of GNP accounted for by public spending on public education plus subsidies to private education."

Table 12b: Public Spending on Education. Percent of GNP (UNESCO) Global 1980 and 1996

Low Income		Lower Middle Income		Upper Middle Income		High Income	
1980	1996	1980	1996	1980	1996	1980	1996
3.4		3.9	5.1	4	4.8	5.6	5.3

Source: World Bank, *World Development Indicators 1999.*

One measure of the quality of education is the near universal primary school enrolments in 1980 and low illiteracy rates in Korea, Philippines and Singapore. (As Table 13 indicates at least among males in the latter). It has also been argued that the high growth economies focused on raising the basic levels of literacy and numeracy of the broad population. This goal was achieved by devoting a comparatively large share of public education spending to primary education. Subsequently, at higher levels of development, a larger share of education spending was devoted to secondary schooling.

> "The allocation of public expenditure between basic and higher education is the major public policy factor that accounts for East Asia's extraordinary performance with regard to the quantity of basic education provided. The share of public expenditure on education allocated to basic education has been consistently higher in East Asia than elsewhere (World Bank 1993:199).

In high growth countries such as Korea and Taiwan, tertiary education is largely provided by the private sector. The state does attempt to redress equity issues through scholarships. In other countries, such as Pakistan and India a disproportionate share of public educational resources are devoted to the tertiary sector. This results in a mismatch between the needs of the labour market and the products of the education system, resulting to quite high level of unemployment amongst graduates and migration to other countries (Ogawa and Tsuya, 1993:62, World Bank 1995:37, Bhagavan, 1993:20). Also in many developing countries a large share of educational spending is devoted to private religious schools. (This spending is not normally included in UNESCO data). These schools, which are common in Indonesia, typically have a less academically or vocationally oriented curriculum.

Table 13: Illiteracy Rate, Adult Female and Male (% of females and males 15+)

	Country	Female 1985	Male 1985	Female 1995	Male 1995
Low	China	44.7	19.6	27.3	10.1
	Vietnam	20.3	10.4	8.8	3.5
Lower Middle Income	Indonesia	36.5	19.6	22	10.4
	Peru	25.5	10.5	17	5.5
	PNG	68	39.8	37.3	19
	Philippines	12.7	11.8	5.7	5
	Thailand	13.3	5.3	8.4	4
Upper Middle Income	Korea	8.9	1.7	3.3	0.7
	Malaysia	35	16.8	21.9	10.9
	Mexico	18	12.5	12.6	8.2
	Chile	8.1	7.4	5	4.6
High Income	Australia				
	USA				

New Zealand				
Canada				
Japan				
Hong Kong	19.1	5.3	11.8	4
Singapore	21.4	6.6	13.7	4.1
Taiwan				

Source: World Bank, *World Development Indicators 1998.*
Note: The definition of illiteracy is the incapacity to "understand, read and write a short, simple statement about their everyday life."

It is important to note however, that improving educational attainment is a supply-side or facilitative measure in development, but does not in itself ensure that these human resources will be employed. In other words, investment in education is a *necessary* but not a *sufficient* condition for development to occur (World Bank 1995:21). A dramatic example of this is provided in Table 14 which shows average year of schooling in 1992/93 for males and females over the age of 25. There are countries in every income classification with similar average years of education. Singapore males, for example had fewer years of education than Low Income Chinese and Vietnamese males. Notwithstanding these discrepancies there is a positive association between average years of education and rising per capita income levels.

Table 14 also indicates the rapidity of social and economic transformation. Countries such as Singapore and Malaysia which have low levels of education in the older generation, currently have universal rates of primary schooling and very high rates of secondary schooling (as do virtually all developing APEC countries).

Table 14: Mean Years of Schooling in APEC Countries. Males and Females Over the Age of 25

	Country	Mean Years of Schooling Male (25+)	Mean Years of Schooling Female (25+)
Low	China (1993)	6.3	3.8
	Vietnam (1996)	7.2	5
Lower Middle Income	Indonesia (1993)	5.3	3.1
	Peru (1993)	7.3	5.8
	PNG		
	Philippines(1992)	8	7.2
	Thailand(1992)	4.4	3.4
Upper Middle Income	Korea (1993)	11.6	7.1
	Malaysia (1993)	5.9	5.2

	Mexico (1993)	8.6	5
	Russian Federation (1993)	(total) 9	
	Chile (1993)	8.1	7.4
High Income	Australia (1993)	12.1	11.9
	United States (1993)	12.3	12.4
	New Zealand (1993)	10.5	10.9
	Canada (1993)	12.4	12
	Japan (1993)	10.9	10.7
	Hong Kong (1996)	9.1	7.8
	Singapore(1992)	5.5	4.5
	Chinese Taipei (1996)	9.3	7.9

Sources: member economy reports; World Development Report; Human Development Report; World Resources; UNESCO.

International Labour Migration

One very important labour market mechanism in the APEC region is to bridge the gap between the output of education and training institutions and labour market needs is international labour migration. The importance of migration, especially of the short-term contract type, which may allow migrants to reside for around 3 years, is indicated by the fact that these so-called guest workers can comprise up to 20% of the receiving countries workforce. Aside from skill shortages other factors promote migration. These include, readily available information about potential destination countries, historical ties between immigration and emigration countries, reduced transportation and communication costs, the development of migration networks based on kinship and locality ties, the growth of an immigration industry, and the internationalisation of education and training.

These various forces and facilitating factors can be put in the catch-all category of "push" factors. However, it is "pull" factors operating in the immigration countries that give reality to emigration pressures; that result in the actual movement of workers across national boundaries. Without the need for immigrant labour by countries, the international flow of workers would be reduced to a mere trickle.

The major APEC exporters of labour are Indonesia, the Philippines, China and Thailand. Aside from APEC countries, the Middle East is an important destination for these migrants. It is an interesting fact that countries such as Thailand are both a major source of migrants to other countries and recipient of migrants. This in part reflects the large flows of illegal migrants, who take advantage of common borders, and the differ-

ent skill levels of those departing Thailand and those entering the country (Stahl 1996). On the surface, it might be considered that the labour market changes associated with fast growth and development will lead only to shortages in the higher level of skills, given the inevitable lags in the reorientation of education and training institutions to the realities of a rapidly changing labour market. However, almost invariably rapid growth and development lead to the shortage of lower level skills as well, even in the midst of some generalised unemployment. This phenomenon is explained by a rise in employment expectations by native workers – more attractive jobs at better rates of pay – and the avoidance of low-wage low-skilled jobs, particularly those viewed as being dirty, difficult and dangerous (the 3D jobs). The advent of social safety nets in some countries may also serve to raise the job reservation price and job preferences of native workers. This then creates gaps in the lower-skills end of the labour market. For example, unskilled labour from Indonesia and Philippines moves to more developed countries in the region as construction labour and even work in the agricultural sector in countries such as Malaysia where higher earnings in industry and generally rising education levels have depleted the country–side of labour. The Philippines is also an important source of trade, technical and professional labour to the region. This is due to the combined effect of comparatively well developed education systems with high rates of primary and secondary school enrolments and a slowly growing economy with limited job opportunities (Iredale and Mitchell 1995:46-48). In this, the Philippines is in a similar position to that of India and Pakistan, which export large numbers of skilled workers (Bhagavan, 1993:200).

Conclusions

The unprecedented growth of the APEC economies over the last quarter century has been associated with significant structural changes and an increasing degree of economic integration in the form of trade and foreign investment. Further movements toward trade liberalisation in accordance with the APEC trade and investment liberalisation and facilitation agenda will augment these structural changes and further increase the degree of economic integration.

While trade induced structural transformations taking place in the region provide wide-ranging benefits for both capital and labour, there are also costs associated with these changes that are not evenly distributed. Workers in declining industries disproportionately bear these costs. Whereas capital in declining industries is relatively free to move internationally to a more competitive wage environment, workers generally are not. Although most displaced workers can find employment in newly emerging industries, many others find the transition difficult. Their lack of skills and education, or their location, may result in periods of long-term unemployment or underemployment.

For the rapidly growing APEC economies, this problem is to some extent mitigated by the expanding job opportunities in the services sector, for others – the slower growing liberalising industrial economies, in particular – the problem of long-term unemployment has become serious. Helping those left behind (the unskilled, socially ill-adapted, older workers and those in declining regions) is a major challenge, but moral imperatives and social cohesion demand policies that will address their plight. In some cases, community employment may need to be expanded to address these problems, financed in part from the significant gains that the majority has experienced as a result of the new opportunities presented by continued structural change and economic integration.[16] Indeed, redistribution of income is a legitimate response to compensate those who have been adversely affected by trade liberalisation. That strong advocate of trade liberalisation, Paul Samuelson, has argued that "Free trade will *not* necessarily maximise the real income or consumption and utility possibilities of *any one country* [and] free trade will not necessarily maximise the income, consumption and utility possibilities of a subset of persons or factors within a country" (Samuelson 1962:139). Compensation from winners to losers is necessary to make free trade optimal for all parties.

Notes

1. More broadly, "structural transformation...may be defined as the set of changes in the composition of demand, trade, production and factor use that takes place as per capita income increases" (Chenery, Robinson and Syrquin 1986:31)
2. It is also possible that, for whatever reasons, economic activities are being classified belonging to the manufacturing sector that would otherwise not be collated in other countries or that would be allocated to other industries. This may include simple village based food preparation, machinery repairs and village wood and metal working.
3. This implies that as per capita income increases, a declining proportion of income is expended on agricultural and food products.
4. For the world as a whole, for the period 1985-1993, the household savings rate in LIEs was 11.2% of GDP, for HIEs it was 20.0% of GDP. The corresponding figures for LMIEs and UMIEs were 16.7% and 19.5%, respectively (Thirlwall 1999:333). There are, however, very large differences in household savings behaviour across countries at the same level of income. China and India for example, have gross domestic savings rates double that of the HIEs as a group (Thirlwall 1999:329). On the other hand, households in the United States have for the past several years been dis-saving, that is, spending more than they earn. This increase in household indebtedness is attributed to a "wealth effect" resulting from large unrealised capital gains in assets such as shares and property. These marked discrepancies between individual country and average rates of saving highlight the perils of generalisations in economics.
5. Public goods have a number of properties, but the main feature that distinguishes them from private market goods is that it is not possible for the owner of a public good to appropriate all the benefits arising from use of the good in production or consumption. Secondly, most public goods must be provided collectively, that is, to be effective they must be provided to all or most people.
6. While Myrdal noted the internal dynamics in growth he highlighted the fact that growth is also contingent on many factors, especially of an institutional and historical nature. He also argued that the process of "cumulative causation" could operate in reverse. A temporary decline in the competitiveness of a nation

could become permanent, if falling market share resulted in lower rates of investment in new technology, lower rates of training and infrastructure spending etc.

7. It needs to be borne in mind that definitions of urban areas vary across countries. For example, a city in one country may encompass a rather large hinderland that in another country would be classified as rural. Also, countries differ in the population numbers within a town that would classify it as "urban."
8. Although this is an empirical reality, it may in part be explained by the "urban bias" of development plans that neglect the rural sector, including rural towns both large and small (Lipton XXXX).
9. In 1990, 56% of the Indonesian total employment is in agriculture. This means that, between 1990 - 1996, share of agricultural employment declined by almost 2% annually.
10. Ministry of Agriculture and Forestry, cited in Chung & Choi (1998).
11. Kakwani & Pothong (1999), cited in World Bank (1999b).
12. For Asia, we are using the term NIEs broadly to refer both to the "mature Tigers" of Singapore, Korea, Hong Kong and Chinese Taipei, and the "Tiger cubs" of Malaysia and Thailand. By the "less developed economies," in the context of Asia we are referring to China, the Philippines, Indonesia and Vietnam. We are using the term "liberalising industrial economies," to refer to Australia, Canada, Japan, & New Zealand.
13. An important caveat is that a high TCI score does not necessarily imply that a country will be economically dynamic, in terms of rapid growth of output and exports. The Soviet Union for example had a very high TCI (as currently does Russia), due to the central role of advanced engineering and capital goods in a modern military-industrial complex and the considerable resources devoted by the state to its development.
14. Even in a country such as Japan, which has relied very extensively on firm-based and on-the-job vocational training, there has always been an important role for the state (central government and prefectural officials) in the establishment of industry-agreed skill standards and the examination of individuals through skills testing. Skills testing by external state officials plays an important part in firms' assessment of the quality of their own training and that received by their employees from private providers. Formal skill assessment is also increasingly being used in wage setting in Japan (Curtain 1994).
15. As noted earlier the direction of causation in development economics is usually circular. Mason (1993) quantifies the effect of reducing fertility on household savings, which in turn permits higher levels of investment in education.
16. cf Wood (1998).

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