

# Session III

The 26<sup>th</sup> Pacific Economic Community Seminar

Examining the Mid- and Long-Term Structural Unemployment in Asia-Pacific

# The Labour Market and Economic Growth in Malaysia

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## Introduction

Malaysia has transformed its economy from an agricultural be to one that is based on manufacturing and the services sectors. Corresponding to the change in the structure of the economy, there have been changes in the labour market (Inagami, 1998 and Kuruvilla, 1998). Quite naturally, the demand for labour in Malaysia at a time when the agriculture sector was predominant is different from the nature of labour that is demanded now. While labour-intensive production methods were appropriate in the years after Malaysia's independence, such methods of production are no longer desirable or optimal.

The changing nature of the economies in the region adds a further source of pressure on the supply of labour. Malaysia used to be a favoured destination for foreign direct investment (FDI) because of its labour endowments: labour was cheap, abundant and pliant. These characteristics encouraged foreign investors to base their factories in Malaysia. In present times, labour of this nature is more cheaply available in Vietnam, China and Indonesia. Malaysia cannot count on cheap labour costs as a source of its comparative advantage.

Malaysia is caught in the middle-income trap and wants to come out of it, and to reach high-income status. Towards this end, it has to change the character of its labour force. The labour force that can drive Malaysia to a higher level of development will have to be knowledge-based, creative and skilled. It is these features that the workforce has to develop, and thus reach developed country status. However, the labour force has certain constraints. Most importantly, it does not have an adequate supply of skilled labour.

The present paper will attempt to describe the challenges that Malaysia faces, with respect to its labour market, in attempting to transform its economy. The next section will describe the development path that the government has charted for the country. This will be followed by an analysis of the macroeconomic indicators of the Malaysian economy. The third section will examine the patterns of



employment. The fourth section discusses Malaysia's responses to labour shortages, highlighting the specific shortage in knowledge-based workers. The fifth section analyses how recent policy seeks to address labour market reform. Finally, some concluding remarks are made.

## Malaysia's Development Strategy

The National Economic Action Council (NEAC), in formulating the New Economic Model (NEM) (National Economic Advisory Council, 2010), has identified some of the issues that affect Malaysia's growth. The lack of private investment was seen as a constraint; and another impeding factor was the inadequate focus on innovation and creativity in Malaysian industries. It is felt that, by and large, production in Malaysia employs low-skilled labour, the value-added is low, and there is little productivity growth. The NEM notes that the ratio of highly skilled to low-skilled labour is relatively low in Malaysia (25% to 75%) as opposed to Singapore which has more or less an equal proportion of both categories of workers (49% highly skilled labour: 51% low-skilled labour). It is also noted that while Malaysia has had an annual labour productivity growth of 2.9 per cent in the post-crisis years (1998-2007), China has had a much faster rate of productivity growth (9.2 per cent). India, too, has had a labour productivity rate (4.4 per cent) that exceeds Malaysia's.

The NEM is meant to address the inadequacies in the economy. A set of strategic reform initiatives (SRIs) has been proposed to overcome the constraints in the labour market. The eight SRIs that have been suggested in the NEM are meant to:

- Encourage private sector-led growth
- Promote quality workforce and decrease the dependency on foreign labour
- Create a competitive domestic environment
- Strengthen the public sector
- Introduce a transparent and market-friendly affirmative action
- Build a knowledge-based economy and infrastructure
- Enhance the sources of growth
- Ensure the sustainability of growth

Several of the above-mentioned initiatives are interlinked with the labour market. A quality workforce is in many respects pivotal to this programme because it will enable Malaysia to make the

transition to an economy that concentrates of the upper end of the value chain. This will be the base for a knowledge-based economy and that will be the foundation for a competitive domestic environment, technologically speaking.

Malaysia's main objective is to achieve high income status, and the measure of this goal is for per capital income to reach RM38,845 by 2015. In order that this target be achieved, it is necessary to have an annual growth rate of six per cent. The movement out of the middle-income trap is possible with the greater participation of the private sector. The Tenth Malaysia Plan (10MP) (Malaysia, 2010) recognises that growth can only be achieved at a sustained pace by creating a private sector-led growth. It is also accepted that the path ahead demands a knowledge-intensive approach that is powered by productivity and innovation, rather than by labour-intensive methods of production.

The 10MP has identified ten ideas that it sees as holding the potential to push the country's development. These ideas are the following:

- Internally driven, externally aware
- Leveraging on diversity internationally
- Transforming to high-income through specialization
- Unleashing productivity-led growth and innovation
- Nurturing, attracting and retaining top talent
- Ensuring quality of opportunities and safeguarding the vulnerable
- Concentrated growth, inclusive development
- Supporting effective and smart partnerships
- Valuing environment endowments
- Government as a competitive corporation

From the perspective of the labour market, some of the above-mentioned issues are of consequence. Most significantly, it is clear that the 10MP seeks to drive the economy by developing greater productivity and innovation. This puts pressure on the supply side of labour, which has to be skilled and technically competent. The notion of attracting top talent and specializing in specific areas are elements that characterise the nature of an economy that envisions itself as being knowledge-based and moving up the value chain. Labour shortages can very well act as a constraint to realising the goals of the 10MP since the areas that have been identified require skilled labour.



The 10MP has identified areas for targeted action that are referred to as the 12 national key economic areas (NKEAs). The NKEAs that have been identified are as follows:

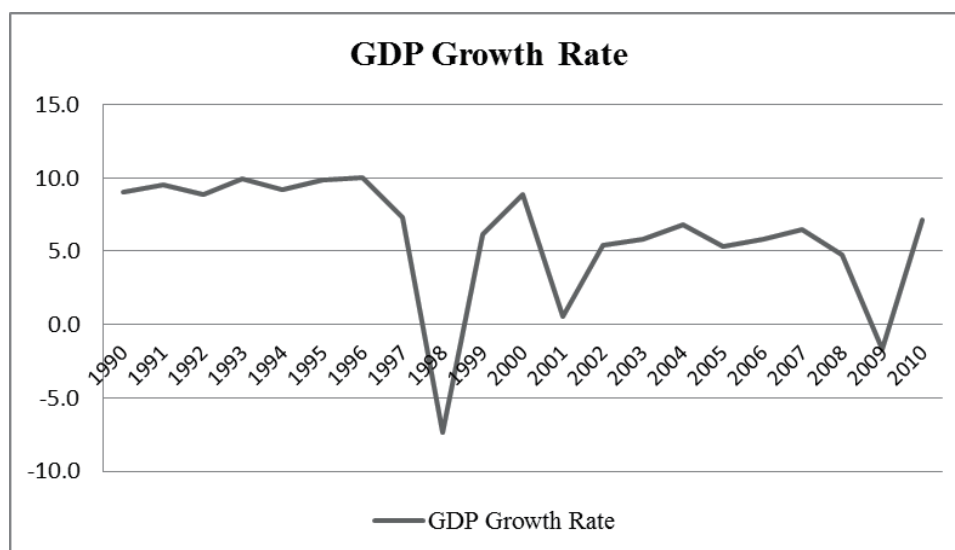
1. Oil and gas
2. Palm oil and related-products
3. Financial services
4. Wholesale and retail
5. Tourism
6. Information and communications technology
7. Education
8. Electrical and electronic
9. Business services
10. Private healthcare
11. Agriculture
12. Greater Kuala Lumpur

Without any exception, all the areas that have been selected require skilled labour for their development. Some areas such as financial services, ICT and the electrical and electronics (E&E) industry are inherently technology-based and require skilled labour. Other areas such as agriculture and distributive trade have changed in nature. It cannot, for instance, be expected that Malaysia will have a comparative advantage if it pursued traditional methods of agricultural cultivation. Both agriculture and distributive trade as drivers of the economy have to be more knowledge-based, and, thus, would require skilled labour. The intense global competition also requires that areas such as E&E shift from lower-end assembly operations to more value-added research and design operations. The same can be said for the other NKEAs that are poised to transform Malaysia into a more competitive economy that has a comparative advantage over other economies in the region.

## Macroeconomic Background

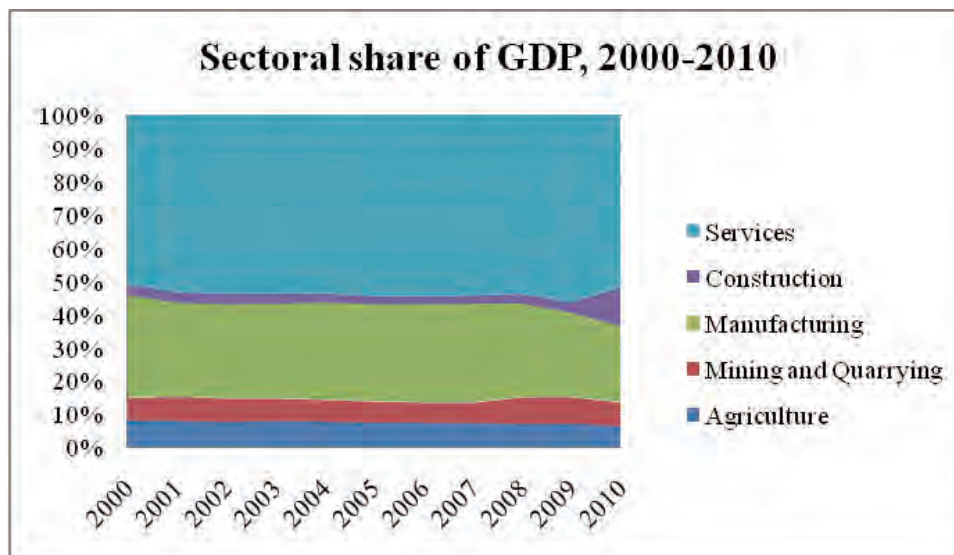
Malaysia has managed to maintain high growth rates over the last two decades. In the decade after 1990, Malaysia's annual growth rate was close to ten per cent; and it is only in 1998, following the Asian financial and economic crisis, that growth rates dropped. In fact, Malaysia recovered rapidly from the effects of the crisis, and the economy rebounded. In 1999, the growth rate was six per cent, and it rose to 8.9 per cent the following year. It was in the years stretching 2002 to 2008, the Malaysian growth rate was more sedate, averaging about six per cent.

The dips in growth rates that have been experienced in Malaysia mirror fluctuations in the global economy. Nonetheless, it is evident that Malaysia has been resilient, and has adjusted well to economic disruptions that have emerged from other regions. The high growth rates have generated high demand for labour. However, the demand for labour has not been uniform, but has reflected the contribution of the different sectors. Although Malaysia was a predominantly agricultural economy soon after its independence in 1957, and remained so for the next 20 years, this changed with Malaysia's judicious use of industrial policy. From the late 1970s, and particularly from the 1980s, there was a shift to the industrial sector.



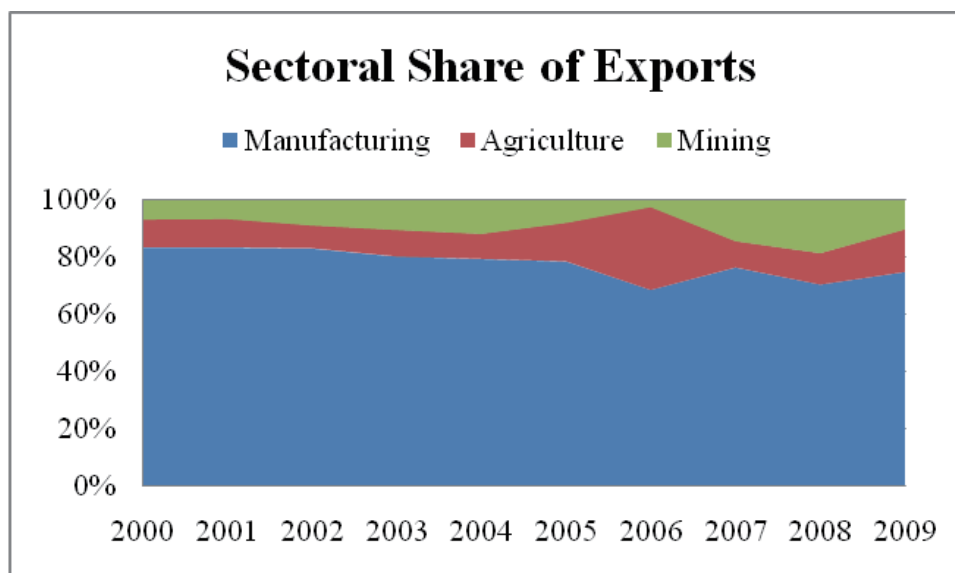
Source: World Bank Statistics

Presently, the services sector contributes most to gross domestic product (GDP). The services sector contributes close to 57 per cent of GDP. This is followed in importance by the manufacturing sector, which accounts for about 30 per cent of GDP. The agriculture sector, which used to drive the growth of the economy, now accounts for about eight per cent of GDP. Agriculture is followed in importance by mining and quarrying (six per cent). The construction sector is largely domestically driven, in terms of the demand for its output, and has a sectoral share of about three per cent. The relative importance of the different sectors in contributing to the total GDP has implications on the characteristics of the labour market, as we shall see later. But the relative importance of the economic sectors has some relationship with the export structure of the economy.



The manufacturing sector contributed as much as 82 per cent to total exports in the period spanning 2000 to 2003. However, since 2004, the manufacturing sector dropped in its contribution to exports from Malaysia. In 2009, this sector contributed 70 per cent of total exports. Exports from the agriculture sector have remained at about nine per cent in recent years. These exports are mostly due to palm oil. In relative terms, from about 2004, the exports from the manufacturing sector have been declining. The decline of manufacturing-oriented exports has been compensated for by increases in exports from the agriculture and mining sectors.





Source: International Trade and Industry Report, various years

A different perspective on the structure of the economy can be obtained by examining sectoral contribution to growth. The input-output tables provide a decomposition of the sources of growth and show how the various sectors rank in terms of importance. In 1991, it was found that services contributed most to domestic demand, followed by heavy industry. The services sector also was most important for the generation of intermediate demand, followed by heavy industry. Value-added was, again, generated to a large extent by the services sector. However, the heavy industry mattered most for exports and imports, pointing to the fact that while the services sector contributed much to domestic and intermediate demand, it was the heavy industry sector which was significant for exports and imports. The light industry followed in importance for its input into exports and imports as sources of growth.

The structure of the economy has not changed very much in 2005 in so far as the services sector enters significantly into domestic and intermediate demand as sources of growth. As far as value-added is concerned, the services sector is most significant. But in terms of exports and imports, there is a shift to the heavy industry sector. The services sector comes next in terms of its contribution to exports and imports. The services sector is most important for its contribution to value-added, and this is followed by the heavy industry sector.



## Sources of Growth

Sector	Domestic Demand	Intermediate Demand	Value-Added	Exports	Imports	Export Ratio	Import Ratio
<b>1991</b>							
Agriculture	5.3	11.63	12.1	5.62	1.64	1.17	0.94
Mining	1.09	5.48	9.52	9.33	1.17	1.95	0.67
Light Industry	7.76	15.47	8.02	20.51	12.82	4.28	7.33
Heavy Industry	15.86	28.01	15.85	52.65	59.56	10.99	34.06
Services	69.98	39.4	54.51	11.89	24.81	2.48	14.19
Total	100	100	100	100	100	100	100
<b>2000</b>							
Agriculture	4.95	7.6	6.71	1.29	1.12	0.39	1.43
Mining	1.66	5.13	10.38	6.36	1.64	1.9	2.09
Light Industry	9.01	15.04	7.68	11.11	7.68	3.32	9.78
Heavy Industry	12.2	29.17	23.41	69.6	71.15	20.82	90.62
Services	72.19	43.05	51.83	11.64	18.41	3.48	23.45
Total	100	100	100	100	100	100	100
<b>2005</b>							
Agriculture	1.86	5.55	6.52	1.57	1.18	1.02	1.33
Mining	1.54	4.9	13.17	8.07	1.19	5.23	1.35
Light Industry	7.32	7.69	5.61	10.1	6.2	6.54	7.01
Heavy Industry	16.1	32.28	20.63	63.38	65.98	41.05	74.61
Services	73.18	49.59	54.07	16.87	25.45	10.93	28.77
Total	100	100	100	100	100	100	100

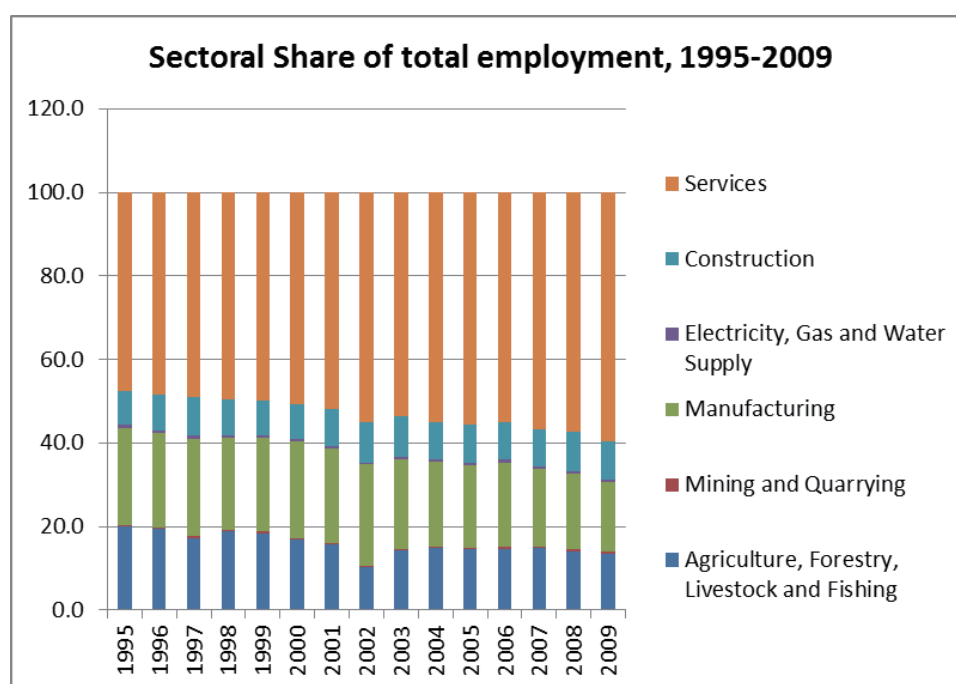
Source: Input-Output Table, various years, DOS Malaysia

As the evidence indicates, the services sector is an important component of GDP, but it is not a substantial contributor to exports from Malaysia. Clearly, services are largely meant for domestic consumption rather than for exports. While the manufacturing sector has been declining in its performance, it still remains a significant contributor to GDP and also to the export structure of the economy. But there is evidence that the services sector is increasingly becoming a component that enters into exports as a source of growth. As for agriculture, it has been declining over the long term, in terms of its contribution to GDP, but its share as a component of total exports is not negligible since it amounts to about nine per cent of exports.

Having examined the structure of the economy, judged by the contribution of the various sectors to GDP and as sources of growth, it is necessary to discuss the employment structure of the economy. This will throw clearer light on the structure of employment and it will also help evaluate the incidence of employment patterns on the different sectors. By examining the pattern of employment in the different sectors, the issue that we turn to in the next section, it will be possible to discuss the relationship between employment and its contribution to the economy.

## PATTERNS OF EMPLOYMENT

In 1995, the services sector accounted for about 47.7 per cent of total employment and the manufacturing sector contributed to 23.3 per cent. In the same year, employment in agriculture contributed to 20 per cent of employment. As these figures indicate, the services sector was the most important source of employment in the economy, followed by the manufacturing and agriculture sectors. It should be noted that agriculture at that point was a source of employment that could not be ignored.



Source: DOS, Malaysia

## Employment in the Manufacturing Sector (1996-2005), Malaysia

Industry	1996		2000		2005		1996-2005
	('000 persons)	Share (%)	('000 persons)	Share (%)	('000 persons)	Share (%)	Average Annual Growth (%)
<b>Total</b>	2203.9	100	2565.8	100	3132.1	100	4.4
<b>Non-resource Based</b>	1227.6	55.7	1317.6	51.4	1628.3	52.0	3.7
Electric and electronics products	626.6	28.4	645.3	25.2	840.8	26.8	3.8
Basic metals and metals products	177.3	8.0	193.8	7.6	282.8	9.0	5.8
Textiles and textile products	208.7	9.5	215.8	8.4	214.8	6.9	0.8
Machinery and equipment	130.5	5.9	161.4	6.3	162.6	5.2	2.9
Transport equipment	84.5	3.8	101.3	3.9	127.4	4.1	5.2
<b>Resource-based</b>	922.8	41.9	1186.6	46.2	1423.7	45.4	5.4
Wood products, including furniture	236.3	10.7	352.7	13.7	373.8	11.9	5.7
Chemicals, fertilisers, plastics and petroleum products	184.6	8.4	238.1	9.3	327	10.4	7
Food processing, beverages and tobacco	196.7	8.9	237.7	9.3	298.9	9.5	5.2
Rubber processing and products	124	5.6	132	5.1	171.5	5.5	4.1
Paper and paper products, printing and publishing	95.9	4.4	121.6	4.7	137.7	4.4	4.6
Non-metallic mineral products	85.3	3.9	104.5	4.1	114.9	3.7	3.8
Others	53.5	2.4	61.6	2.4	80	2.6	5

Source: Industrial Master Plan (IMP3)

However, the profile of employment has been changing over time. The sectoral demand for labour has been shifting, with the agriculture sector witnessing a sharp decline in being a source of employment. The shift in the employment pattern, as the chart shows, has been strongly in favour of the services sector, and this is particularly pronounced in more recent years. Agriculture as a source of demand for labour has decreased to 13.5 per cent. The services sector, however, has recorded an increase in employment in 2009 that is 11.8 per cent higher than it was in 1995. The construction sector accounts for a slightly higher percentage of employment for the same reference years, increasing marginally by about one per cent since 1995. Thus, while the services sector has assumed more importance, this has been at the cost of employment in agriculture and manufacturing. Employment in mining has remained fairly constant over the years.

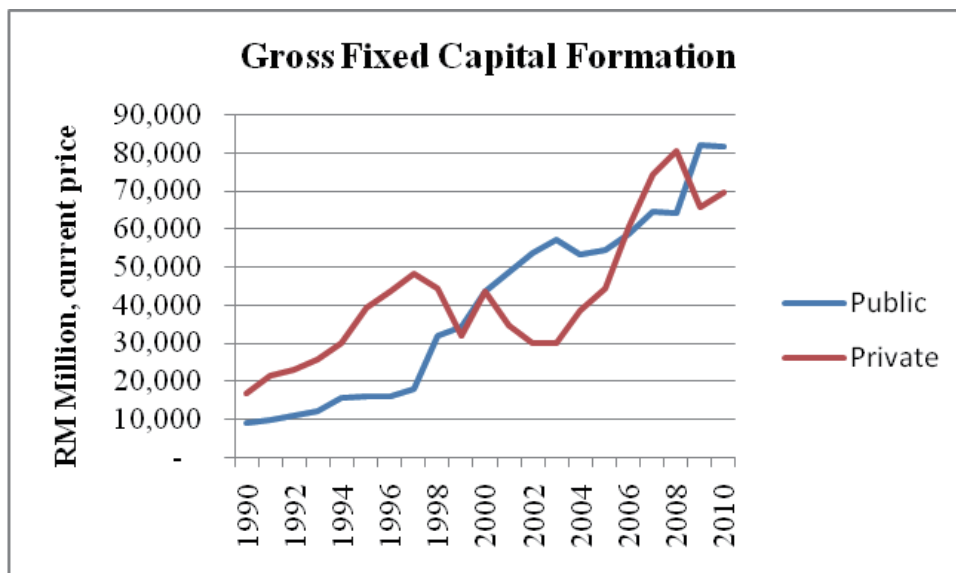
It is not surprising that employment in agriculture has been declining, since government policy has not been targeted to the agriculture sector. In fact, it is only palm oil that has been a major export commodity. And palm oil plantations have faced severe labour shortages. The fact that manufacturing is not as attractive a source of employment as it used to be is cause for concern for several reasons. First, Malaysia is an export-oriented economy, and this sector may, reasonably, be expected to be a labour absorbing sector. Second, the manufacturing sector as a driver of GDP is shrinking. This by itself is not a cause for concern because as countries develop there is a tendency for their services' sectors to grow. But in the case of Malaysia, which depends on export-led growth, rather than domestically driven growth, it is a phenomenon that has special importance. Nevertheless, the reduction in employment that originates from the manufacturing sector is an indication that the sector is becoming less labour intensive.

The pattern of employment within the manufacturing sector does not show any major shifts in recent years. The non-resource based component continues to dominate over resource-based activities in generating employment. But the composition of employment due to the earlier has declined, albeit slightly. The electronics and electrical (E&E) sector is significant for the employment it creates, in that it accounted for 55 per cent of employment in manufacturing in 1996, declining somewhat to 52 per cent in 2005. There has been an increase in employment within the chemicals sub-sector. Within the resourced-based component, wood products and furniture are most important, and they have employed 11.9 per cent of labour, moving up from 10.7 per cent in 1996. Employment in textiles, which used to be important activity in the resource-based manufacturing component of manufacturing, has declined, and that is line with the nature of the industry which is labour-intensive. Malaysia does not have the comparative

advantage that Bangladesh or China have since Malaysia no longer possess the characteristic of a low-wage economy, and so it is not a thriving industry.

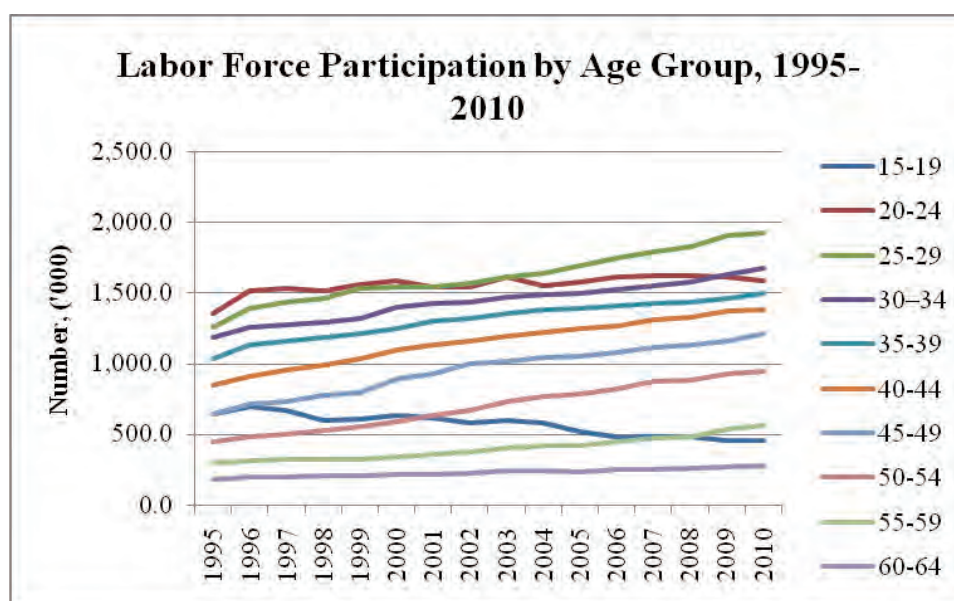
## LABOUR SHORTAGE RESPONSES

Given the low rate of employment and the labour shortage that has resulted, various strategies have been employed to cope with the excess demand for labour (Ducanes and Abella, 2008). As Malaysia has become more industrialised, as can be expected, the use of capital has increased. This has taken place at a rapid pace. The investment in capital can be decomposed into the capital formation by the public and private sectors. In the early 1990s, the contribution to gross fixed capital formation (GFCF) by the private sector far outstripped that of the public sector. This trend continued till the mid-1990s, after which the private sector's investment in gross fixed capital formation declined. It was not till 2002 that the private sector played a more active role in increasing GFCF. In more recent times the private sector's participation in GFCF has, once again, declined. However, the public sector's participation has consistently been on the uptrend.



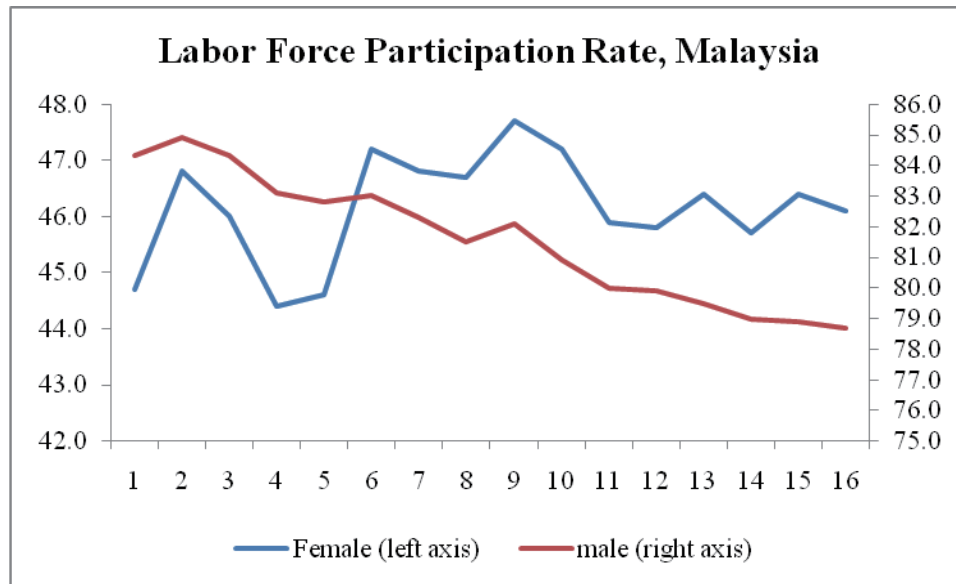
Source: Economic Report, various years

It is clear that in Malaysia there is increasing labour force participation among almost all age groups. The only exception to this is with those in the 15-19 age group, where the decline in participation is noticeable. With those in the 20-24 year age group, the rate of increase in participation is not encouraging either. Otherwise, there is an uptrend among all other age groups, and this applies for those from 20 to 59. Even the 60-64 age group demonstrates a mild increase in participation.



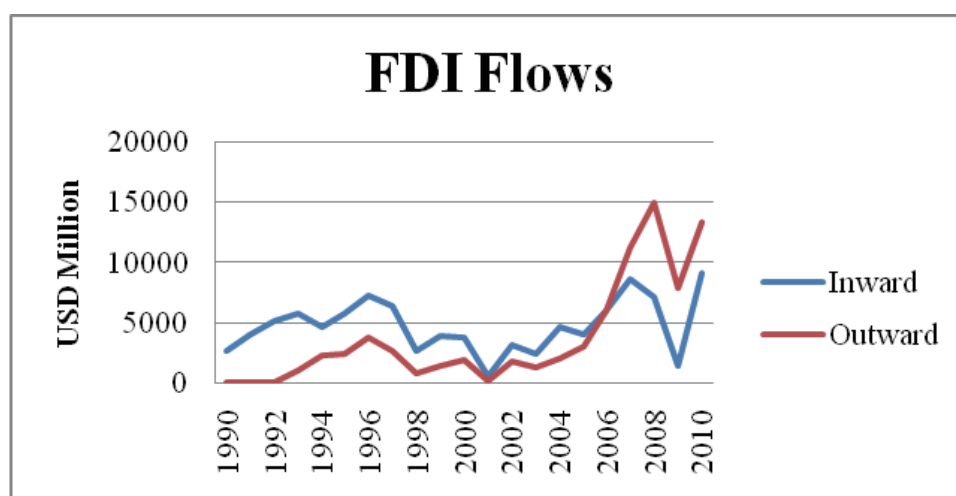
Source: DOS, Malaysia

However, the gender details regarding participation in the workforce are interesting. Quite unexpectedly, male participation in the labour force has been steadily declining since the early 1990s. In 1996, almost 85 per cent of the labour force was made up of males, but in 2010 it came down to as low as 79 per cent. This is not the case with female participation, which has been above male participation since 1999. It is certainly encouraging to note that there is more female participation in the labour force. It is indicative of the changing social norms in Malaysia; but from an economic point of view, it indicates how the level of employment has been extended by including women into the workforce.



## DEVELOPMENT CHALLENGES AND THE LABOUR CONSTRAINT

Considering Malaysia's dependence on FDI to drive growth, it is certainly necessary to examine trends relating to FDI flows. Inward FDI flows declined considerably after the 1997 financial and economic crisis, and it was not until 2002 that the figures improved. FDI is important to the economy because it contributes to the growth of capital in the economy. It is also crucial because of the demand for labour that it generates. In this regard, it is a matter of concern that outward FDI flows exceed that of inward flows, and this pattern is on the increase. With increasing outward investment flows, not only will the economy be deprived of opportunities that give rise to labour creation, but capital formation will also be stifled.



Source: UNCTAD FDI Statistics



A serious constraint to the development of skilled labour in Malaysia arises from the lack of an adequate allocation of resources for research and development (R&D) (see Fleming and Soborg, 2010). Malaysia's investment in R&D is not encouraging when compared with other countries in the region. Malaysia's GERD is a mere 0.6 per cent, and it has remained stagnant in the last few years. By comparison, Singapore has a GERD that exceeds two per cent. India, which has a lower per capita GDP, has a higher GERD. If Malaysia seeks to reach the ranks of the developed economies, it must be more willing to invest in R&D. The progression to a knowledge-based economy will be restricted until Malaysia is able to engage in R&D.

### Research and development expenditure (% of GDP) of the selected countries

	1996	1998	2000	2002	2004	2006
United States	2.5	2.6	2.7	2.7	2.6	2.7
Australia	1.6	1.5	1.5	1.7	1.8	2.1
China	0.6	0.7	0.9	1.1	1.2	1.4
Hong Kong SAR	N.A.	0.4	0.5	0.6	0.7	0.8
India	0.6	0.7	0.8	0.7	0.8	0.8
Japan	2.8	3.0	3.0	3.2	3.2	3.4
Malaysia	0.2	0.4	0.5	0.7	0.6	0.6
Singapore	1.4	1.8	1.9	2.2	2.2	2.3
Korea, Rep.	2.4	2.3	2.3	2.4	2.7	3.0
Thailand	0.1	N.A.	0.3	0.2	0.3	0.2

Source: World Bank Statistics

The number of researchers in R&D is very low in Malaysia as compared to Singapore. Singapore has a pool of researchers that out-stretches its population. In fact, Singapore's number of researchers as a proportion of its population is greater than Japan's, Korea's, and definitely that of the United States. While the US had about 4,663 researchers per million people, Japan had 5,568 researchers and Korea had 4,186 researchers per million people.

## Number of researchers in R&D (per million people) of the selected countries

	1996	1998	2000	2002	2004	2006
United States	N.A.	N.A.	4480.9	4566.0	4647.8	4663.3
Australia	3332.1	3356.3	3442.8	3723.3	4028.8	4224.3
China	448.0	389.6	548.6	630.3	710.5	926.6
Hong Kong	N.A.	1047.4	1159.2	1570.3	2130.8	2650.0
Japan	4908.6	5169.6	5110.8	5087.0	5316.2	5568.3
Malaysia	89.7	153.8	276.0	295.1	503.3	371.5
Singapore	2535.0	2976.8	4139.2	4397.5	5087.0	5736.0
Korea, Rep.	2209.3	2022.5	2334.1	3022.8	3298.1	4186.9

Source: World Bank Statistics

The low number of researchers in Malaysia is aggravated by the low number of technicians in R&D. Technicians in R&D are required to possess sound technical knowledge and experience in engineering, physical and life sciences (technicians). It is expected that R&D technicians will participated in R&D, but under the supervision of researchers. This class of knowledge workers are expected to support the researchers, and a low figure points to the fact that the researchers will not be sufficiently assisted by the requisite technicians.

## Number of Technicians in R&D (per million people) of the selected countries

	1996	1998	2000	2002	2004	2006
Hong Kong	N.A.	217.8	206.1	226.1	424.0	459.3
Japan	667.1	687.5	623.1	527.5	573.9	579.6
Malaysia	31.0	43.5	39.6	56.9	63.5	43.8
Singapore	314.8	352.4	338.4	384.8	484.8	549.2
Korea, Rep.	635.5	534.2	456.7	499.0	585.4	586.9

Source: World Bank Statistics

Publication in scientific and technical journals can be taken as summary indicator that captures output in science and technology knowledge-creation. The US has the highest achievement for the publication of scientific and technical journal articles. Of the countries that have been selected for comparison, in recent years China has performed creditably. China has improved tremendously well on its achievement in this indicator, as compared with its performance in the early 1990s. Japan's publication record is currently not as high as China's, and, indeed, it has not increased as substantially as China has. Malaysia's achievement is low, and it is poor in comparison to that shown by Singapore and Thailand.

Malaysia's low record of publications in scientific and technology journals is consistent with its performance in other related indicators. Since expenditure in R&D is low, and combined with the lack of research expertise as well as poor support from research technicians, outcomes such as publication in scientific and technological journals will necessarily be poor. Another concomitant outcome of research expertise and R&D capacity and expenditure is the number of trademark applications. Although, Malaysia performance on journal publication is no impressive, it has achieved satisfactory outcomes on trademark applications. Malaysia has done well as compared to Singapore and Korea on this criterion. Trademark applications offer the possibility of research that has commercial value. In that respect, the level of trademark applications is an indication of the preparedness of residents to produce research that has commercial value in the market. While journal publications do not necessarily have value in the market, trademark applications are specifically meant to be commercially viable. There is a positive aspect to this because Malaysia's poor performance in journal publication is somewhat mitigated by its encouraging record in trademark applications. However, although Malaysia has shown good progress in trademark applications, China's is simply astounding.

## Scientific and technical journal articles

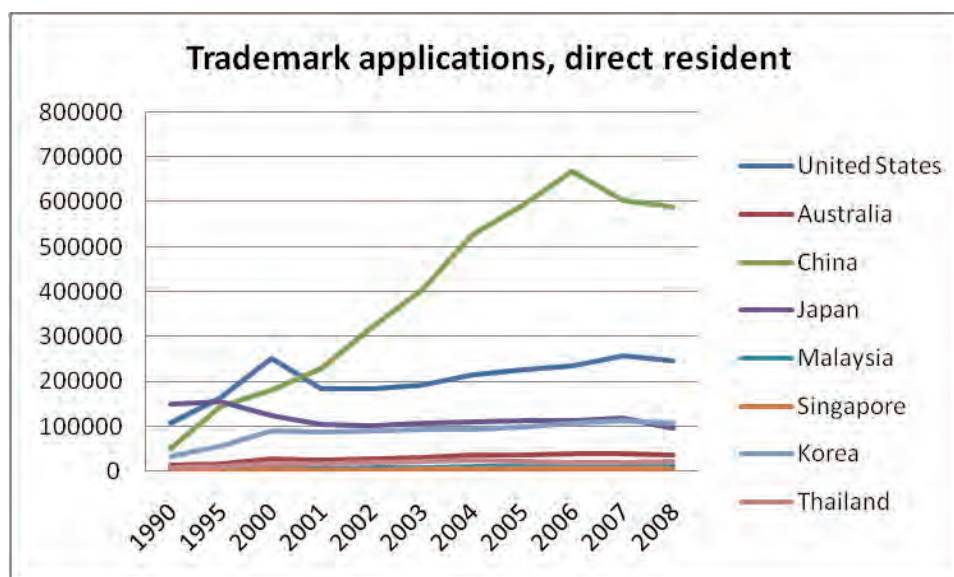
	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007
United States	191559	193336.9	192743	190592.6	190496.1	196431.6	202084.3	205516.3	209237.2	209694.7
Australia	10664	13125.4	14588.6	14483.7	14255.2	14933.6	15587.9	15971.9	17214.9	17830.6
China	6285	9061.4	18478.7	21134.1	23269.1	28767.9	34845.6	41603.6	49574.6	56805.8
India	9200	9370.1	10276.4	10800.5	11664.7	12461.2	13368.7	14635.3	16741.3	18193.7
Japan	38570	47067.9	57100.9	56081.7	56346.5	57228.2	56535.4	55501.9	54455.8	52895.7
Malaysia	233	365.8	459.6	472.4	494.5	479.3	586.1	614.6	724.1	808.1
Singapore	572	1141.4	2361	2434.3	2631.9	2939.4	3384.3	3611.2	3838	3792.3
Korea	771	1035	1170	1361	1759	2184	2931	3803.2	4770.9	5802.2
Thailand	282	339.6	663.3	726.9	834	1018.6	1130.5	1248.9	1568	1727.7

**\*\*Note:** Scientific and technical journal articles refer to the number of scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences

## Trademark applications, direct resident

	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008
United States	106693	163787	251220	181713	181693	191902	213495	224269	233311	256429	246220
Australia	12826	14575	27301	24970	26710	30618	37112	38550	40538	40001	38381
China	50853	144610	181717	229775	321034	405620	527591	593382	669276	604952	590525
Japan	151935	156790	124361	104655	100645	106957	110270	114015	111754	118130	95658
Malaysia	3614	6861	6303	6525	7661	8327	10406	10479	11209	12289	12562
Singapore	N.A.	N.A.	5187	3281	3343	4254	4839	5067	4852	5383	4197
Korea	33564	55218	90596	86408	90014	92368	91935	99435	105544	112157	107487
Thailand	7024	9711	15495	16712	21518	23335	26414	24275	21171	20140	21950

**\*\*Note:** Trademark applications filed are applications to register a trademark with a national or regional Intellectual Property (IP) office. A trademark is a distinctive sign which identifies certain goods or services as those produced or provided by a specific person or enterprise. A trademark provides protection to the owner of the mark by ensuring the exclusive right to use it to identify goods or services, or to authorize another to use it in return for payment. The period of protection varies, but a trademark can be renewed indefinitely beyond the time limit on payment of additional fees. Direct resident trademark applications are those filed by domestic applicants directly at a given national IP office.



**\*\*Note:** Patent applications are worldwide patent applications filed through the Patent Cooperation Treaty procedure or with a national patent office for exclusive rights for an invention--a product or process that provides a new way of doing something or offers a new technical solution to a problem. A patent provides protection for the invention to the owner of the patent for a limited period, generally 20 years.

## ECONOMIC TRANSFORMATION AND LABOUR MARKET REFORM

The goals of the NEM are ambitious. It includes a target of creating 1.4 million jobs mostly in the services sector and achieving full employment by 2015. The unemployment rate that is implied by this target is set at 3.1 per cent. Noting that the present rate of unemployment is low, it is expected that a more severe shortage of labour will result if this goal is achieved. Fundamental to the NEM is the transformation of the economy through the creation of a labour force that is skilled and knowledge-based. Although not quite measurable, the anticipated workforce is expected to be creative and innovative, empowered with greater job mobility and more highly skilled. It is expected that these goals will have a positive impact particularly on those from the bottom 40 per cent of households.

There are three key areas that the 10MP seeks to improve: a) to make the labour market more flexible, b) upgrade the skills and capabilities of Malaysia's workforce, and c) enhance the country's ability to attract and retain top talents. Within this scheme of things, unskilled migrant labour has little role to



play. And the 10MP wants Malaysia's dependence on foreign unskilled labour to be reduced. However, it is accepted that for the sectors where labour shortages persist, such as the construction and plantation industries, foreign labour will be permitted, based on needs. In an effort to encourage the move towards a highly-skilled workforce or for employers to hire skilled foreign labour, a new multi-tiered levy system will be implemented for employers of unskilled workers. The new levy system is aimed at controlling the entry of unskilled foreign labour as the levies will be borne by the employers and not the employees.

The 10MP directs its attention on labour market reform in two ways. First, it attempts to reduce the issue of the overall labour shortage that the economy faces. Second, the plan document recognises the importance of addressing the specific question of labour shortages that are associated with developing a skilled workforce. An allocation of RM80 million (about US\$26 million) has been made for a Relief Fund for Loss of Employment. This allocation is spread over the years spanning 2010 to 2012, and it is meant to provide assistance to workers retrenched without compensation. On one hand this fund functions as a social safety net, but beyond that it also ensures that workers do not get demotivated and fall out of the active search for employment, as can happen when workers have difficulty getting employed within a short period of time. Another measure that is directly targeted at relieving labour shortages is through Part-Time Work Regulations under the Employment Act 1955. This amendment is to be introduced so as to introduce housewives, retirees and disabled persons into the workforce. Further, the government wants to increase female participation in the labour force, increasing it from 46% in 2010 to 55% in 2015.

The government realizes that only 28 per cent of the workforce in Malaysia is highly-skilled, and a large segment of the workforce has low levels of educational attainment. Consequently, the 10MP has put forth various instruments to upgrade the skill levels of the existing labour force. The following are some of the incentives that will be offered:

- RM500 million (US\$133 mil.) to provide loans to workers and school leavers for training and skills upgrading
- RM50 million (US\$14 million) as matching grants for training and skills upgrading of small and medium enterprise employees
- RM50 million (US\$14 million) to fund apprenticeships involving more than 8,000 students
- RM50 million (US\$14 million) to co-sponsor employees to obtain industrial PhDs
- RM350 million (US\$117) allocated to offer partial financial assistance for PhDs in local universities.



There are three components to the labour market strategies suggested by the 10MP. They include: a) increasing the participation of individuals in the labour force, b) improving the skills of the existing workforce, and c) increasing the talent pool of the labour force. The last mentioned of these strategies involves the following measures:

- Setting up the Talent Corporation to source global talent, not excluding Malaysians currently living overseas
- Simplify the hiring of foreign talent
- Permitting spouses of individuals hired as foreign talent to engage in employment
- Open visas for highly skilled foreign professionals.

It is definitely useful to bring in foreign talent into the local labour market to ease the labour constraints on skilled labour. However, this policy measure faces certain limitations. First, this is a short-term measure because it does little to address the need for policies to develop endogenous sources of labour. Second, it is doubtful if Malaysia can offer incentives and opportunities that are comparable to countries such as Singapore to attract skilled foreign labour. Third, this proposal assumes that ventures requiring skilled foreign talent abound. Also, this proposal assumes that Malaysians will establish concerns on the assumption that they will be able to attract the skilled foreign talent they need. This requirement is better suited to those firms that are already in operation and require special expertise to advance their transformation or growth. Finally, it is interesting to note that the government has approved this policy ahead of any definite picture on the skills needs of the various sectors. The National Talent Blueprint 2011 is expected to identify the talent needs of priority economic sectors, but has yet to be published.

## CONCLUDING REMARKS

Malaysia's primary concern is on achieving a high level of income and reaching developed country status. The NEM describes this as a three-pronged approach, which includes achieving: a) high income, b) sustainability and c) inclusiveness. Malaysia needs to re-invent itself in order to move out of the middle-income trap. There are two crucial components to this process and they involve technological upgrading and labour market reforms. Labour market reforms are seen as a crucial to the restructuring of the





economy. The central issue arises from the fact that Malaysia cannot rely on the advantage that is used to enjoy by virtue of having an abundant supply of cheap and relatively well-educated labour. Consequently, it will have to carve a different niche for itself.

Malaysia's growth has been high in the past, but in order for Malaysia to maintain its competitiveness it will have to move up the value chain and emphasize knowledge-based production rather than labour-intensive production methods. Some sectors of the economy are dependent on foreign migrant labour, and the nature of the industry is such that it may be difficult to switch to capital-intensive production. The construction industry and the plantations are examples of such sectors.

However, Malaysia has been shifting from an agriculture base to the manufacturing and services sectors. In fact, the services sector will be the engine of growth in the years to come. Corresponding to the shift in the structure of the economy, there has to be a concomitant shift in the nature of the labour that is employed. There is evidence that the quality of labour that is being supplied is not highly skilled and knowledge-based. This is a crucial factor that could constrain the development of the economy. On the basis of several indicators it appears that Malaysia has to do more to improve the quality of its labour force. For this to be possible it is essential that there be more expenditure on R&D and that these aspects of education be emphasized as part of the university education.

The recently launched 10MP indicates that the government is aware of the labour shortage in knowledge-based and skilled categories. A thorough change in the supply of labour can come about by reforming the educational system so as to place more stress on creativity and innovation from the school level. The inflow of foreign skilled labour should also be encouraged to a greater extent than that practiced at present. The government recognizes that the labour participation rate has to be increased, and that issue appears to be adequately recognized.

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# Experience of Fighting against Structural Unemployment in Chinese Taipei \*

Ke-Jeng Lan\*\*

## I. Introduction

Higher unemployment rate has prevailed in many countries after the financial crisis of 2008. For example, updated in September 13, 2011, the unemployment rate was 8.4% of OECD members, 9.3% in the United States, 9.5% in Greece, 11.8% in Ireland and 18.0% in Spain ([www.oecd.library.org](http://www.oecd.library.org)). Moreover, labor force with lower education or skill suffer higher unemployment rate, youth suffer twice or more unemployment rate of the society, less developed regions have higher unemployment rate and unemployment duration becomes longer. Unemployment may be ascribed not only to cyclical, but also to structural features which include expanded globalization, fast technological change, severe employment protection legislation and drastic lean management (Mitani, 2010).

Facing with the threat of high unemployment rate, the objective of industrial development has been evolved from pursuing for high growth to pursuing for high employment. Policies of boosting aggregate demand, such as increase of government expenditure or pump up more money supply, are usually adopted. However, such policies may not be sufficient as Okun's law<sup>1</sup> reveal and when there are problems of structural unemployment. Some other policies, such as enhancing unemployment assistance, providing more intensive trainings (Scholz, Bonnet and Ehmke, 2010), creating short-term public works (Berg and Salerno, 2008), offering wage subsidy, job-search assistance and micro enterprise development (Dar and Tzannatos, 1999, Kluve, 2007), increasing re-employment benefit, offering employment adjustment

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1 Okun's law refers to the change of GDP will be larger than the change of employment (OECD, 2010:36), due to labor is a quasi-fixed cost and can be varied more relatively to fixed capital in the short-run (Liu and Spector, 2005) and employers usually adjust stocks rather than labor in the beginning period of recovery (Hamermesh, 1993:343). Specifically, the recovery periods of the United States in 1991, 2001 and 2009 did not accompany with growth of employment as in the 1980s such that perception of "jobless growth" prevailed (Willems and van Wijnbergen, 2010).

subsidy, providing subsidy of trainings to training provider and trainees and facilitate job-seeking activities (Mitani, 2010) have been adopted by various economies. Though active labor market policies (ALMPs) have been adopted widely, some negative effects, such as deadweight loss, creaming off effect, substitution effect, crowding-in effect, displacement effect and lock-in effect<sup>2</sup> need to be avoided.

In Chinese Taipei, the unemployment rate hit a peak of 6.13% in August 2009 and was 4.28% in October 2011, while it had been usually less than 2% before 1995. Older worker (45-64 years old) encountered an unemployment rate of 3.90% in 2009 in contrast with less than 1% in general before 1995. Youth (15-24 years old) had shown a much higher unemployment rate than other age groups and hit a peak of 14.49% in 2009 and was 11.73% in May 2011. And average unemployment duration increased to 27.37 weeks in June 2011 while it generally had been less 20 weeks before 1995. How Chinese Taipei response to cyclical and structural unemployment? Can any particular policy be learned and amelioration be considered? This article intends to analyze the case of Chinese Taipei. Firstly features of unemployment and employment are explored in section II. Next policies adopted are discussed in section III. Then evaluation of strategies adopted is offered in section IV. And conclusion and some suggestions are provided in the last section.

The main findings are the following: In Chinese Taipei, groups of female, older workers, youth, educated with high school or vocational, disabled, aborigines, new entrants, long-term unemployed and new immigrants may relatively more vulnerable to higher unemployment rate, lower LFPR, longer duration of unemployment or unstable employment. The policies adopted in Chinese Taipei to fight against structural unemployment include wage subsidy, training subsidy, creation of public works, assistance to self-employment and intensive employment counseling. Various strategies and programs provide complementary functions to target groups. Yet competition among programs and some deadweight loss, displacement effect and creaming-off have been observed.

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2 Deadweight loss refers to the employment result will be the same without subsidy, so the subsidy program will be a waste of resources. Creaming off effect refers to employers will hire more capable unemployed when they can decide whom to be recruited, hence vulnerable unemployed may still be unemployed. Substitution effect refers to specific program for targeted unemployed group (such as older workers), employment of other groups (such as youth) may be substituted. Crowding-in effect refers to some nonlabor force will become labor force such that unemployment will increase as well. Displacement effect refers to the organizations (enterprises) that obtain subsidy will be more competitive and catch market share from the organizations (enterprises) that cannot participate into subsidy programs. Lock-in effect refers to unemployed have less incentive to search jobs by themselves and stick to programs subsidized by government. (Dar and Tzannatos, 1999, Pierre, 1999)

## II. Structural Unemployment and Employment in Chinese Taipei

This section analyzes characteristics of unemployment, labor force participation and employment to depict features of structural unemployment and employment in Chinese Taipei.

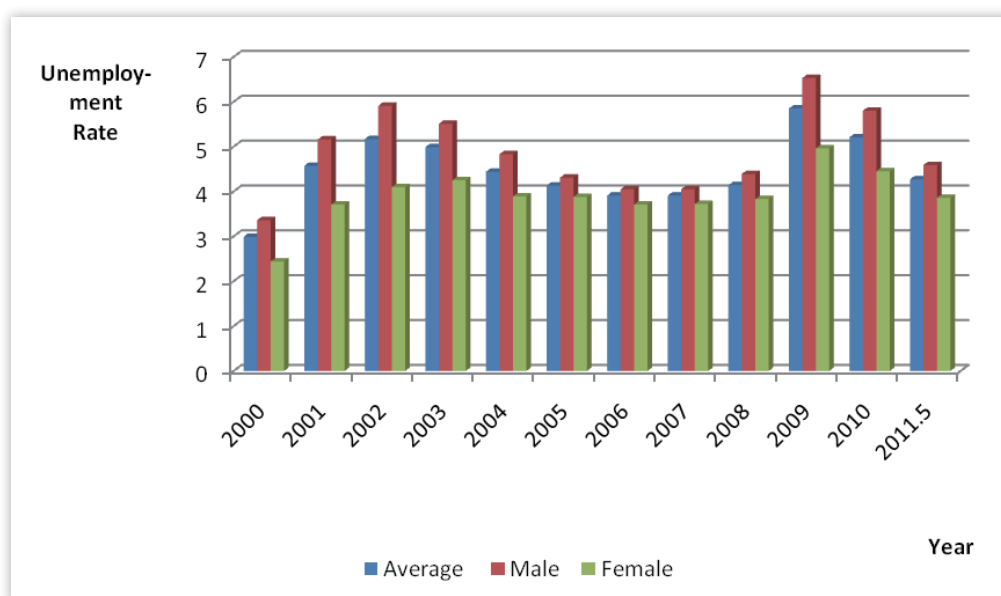
### 2.1 Characteristics of Structural Unemployment

Some characteristics of unemployment by gender, age groups, level of education and others (disabled, aborigines, new-entrants or not and long-term unemployed) are explored here.

#### a. By Gender

The unemployment rate was only 2.99% in 2000, increased to 4.57% in 2001, reached a peak of 5.17% in 2002, declined since then down to 3.71% in 2007, reversed to increase to 4.14% in 2008, 5.85% in 2009, declined to 5.21% in 2010 and 4.27% in May 2011. Male persistently showed a higher unemployment rate than female (such phenomenon can be traced back to 1996) and the gap<sup>3</sup> usually enlarged in recession. (see Figure 1)

**Figure 1 Unemployment Rate by Gender**

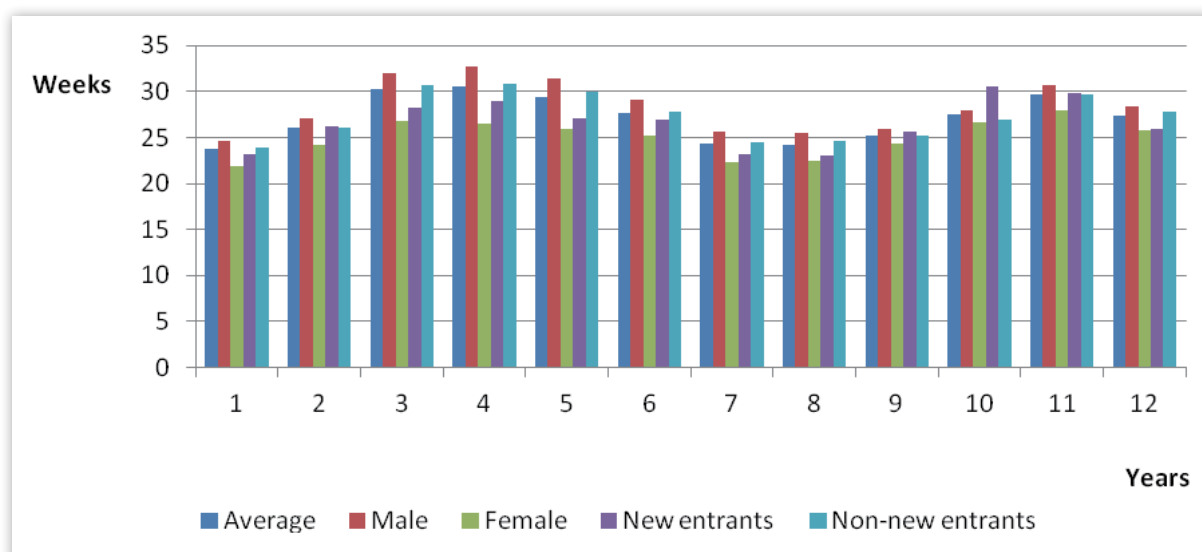


Source: [www.dgbas.gov](http://www.dgbas.gov).

<sup>3</sup> For example, the gap between male and female unemployment rate was 1.57% (=6.53%-4.96%) in 2009 and the gap was 1.81% (=5.91%-4.10%) in 2002, which were the largest two gaps in the past decade.

With respect to average unemployment weeks,<sup>4</sup> male consistently showed longer unemployment weeks than female, the gap shrank before the financial crisis and enlarged after the crisis.<sup>5</sup> (see Figure 2)

**Figure 2 Average Unemployment Weeks by Gender and New-entrants Or Not**



Source: [www.dgbas.gov](http://www.dgbas.gov).

Though female unemployment rate is lower than male but female labor force participation rate (LFPR) is still lag far behind male. For example, over the past decades, the LFPR stabled around 58%,<sup>6</sup> but the LFPR of female had been increasing while the LFPR of male had been declining. The LFPR of male was 69.42% in 2000, 67.09% in 2008, 66.40% in 2009, 66.51% in 2010 and 66.56% in May 2011. And the LFPR of female was 46.02% in 2000, 49.67% in 2008, 49.62% in 2009, 49.89% in 2010 and 49.67% in May 2011. (see Figure 3) Such increasing trend can be ascribed to various female employment promotion policies adopted from time to time. Moreover, the declined LFPR in 2009 is consistent with

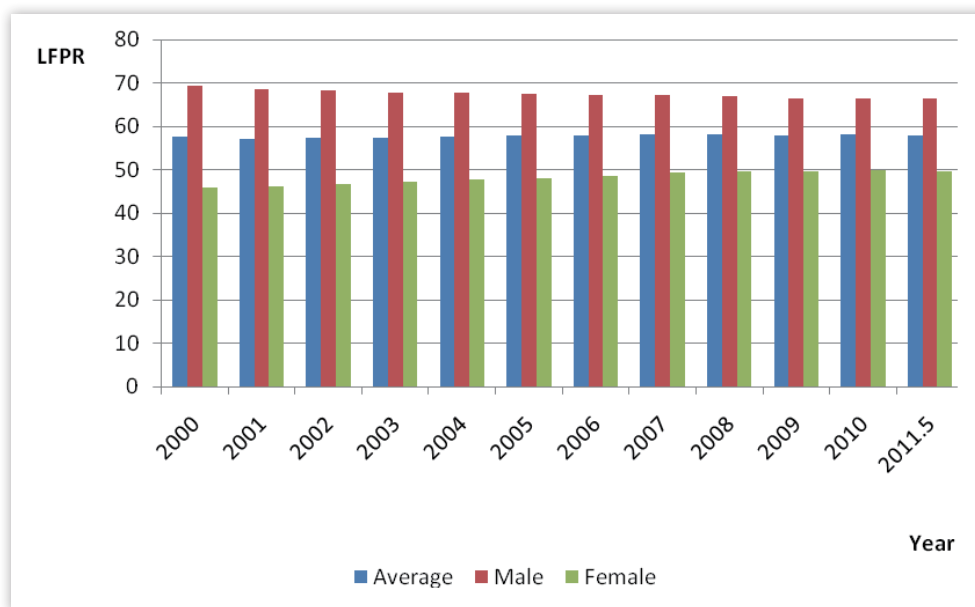
<sup>4</sup> The average unemployment weeks were 23.70 in 2000, hit a record high of 30.54 in 2003, decreased to 25.25 in 2008, increased to 27.49 in 2009, hit a peak of 29.68 in 2010 and declined to 28.38 in June 2011.

<sup>5</sup> For example, 24.58 weeks for male and 21.86 weeks for female in 2000, 25.90 weeks for male and 24.27 weeks for female in 2008, and 28.40 weeks for male and 25.81 weeks for female in June 2011.

<sup>6</sup> The LFPR in Chinese Taipei was 57.68% in 2000, increased to 58.28% in 2008, declined to 57.90% in 2009, increased to 58.07% in 2010 and decreased to 57.97% in May 2011.

the discouraged worker effect<sup>7</sup> (particularly to male<sup>8</sup>) while the increased LFPR in 2010 (though relatively minor) is consistent with the added-worker effect<sup>9</sup> (particularly to female<sup>10</sup>) and potential influence of employment promotion schemes<sup>11</sup>.

**Figure 3 LFPR and by Gender**



Source: [www.dgbas.gov](http://www.dgbas.gov).

#### b. By Age Group

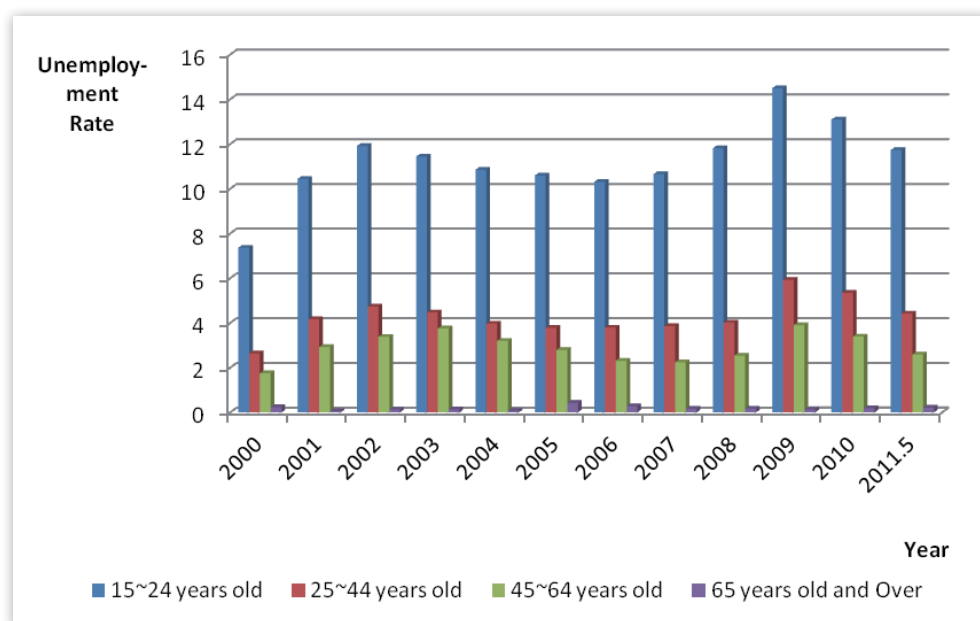
Concerning age groups, 15-24 years old constantly showed the worst unemployment rate<sup>12</sup>, due to their unclear career development plan and lower educational investment. The group of 65 years old and over persistently revealed lowest unemployment rate<sup>13</sup> because most of them had retired with pension. The group of 25-44 years old usually had a higher unemployment rate than the group of 45-64 years

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- 7 Discouraged worker effect refers to the phenomenon that some unemployed may be discouraged in recession and go out of the labor force.
- 8 The male LFPR decreased from 67.09% in 2008 to 66.40% in 2009 while the female LFPR only decreased from 49.67% in 2008 to 49.62% in 2009.
- 9 Added-worker effect refers to the phenomenon that some unemployed's family members may try to search for a job to earn supplementary income for the family.
- 10 The female LFPR increased from 49.62% in 2009 to 49.89% in 2010 while the male LFPR just increased from 66.40% in 2009 to 66.51% in 2010.
- 11 Employment promotion schemes adopted by government may attract nonlabor force to become labor force in order to apply for employment opportunities of employment promotion schemes, particularly short-term public works.
- 12 For example, the unemployment rate of 15-24 years old was 7.36% in 2000, 11.81% in 2008, 14.49% in 2009, 13.09% in 2010 and 11.73% in May 2011.
- 13 For example, the unemployment rate of 65 years old and over was 0.24% in 2000, 0.17% in 2008, 0.13% in 2009, 0.19% in 2010 and 0.21% in May 2011.



old<sup>14</sup> and had their peaks of unemployment rate in 2002 (4.73%) and 2009 (5.93%)<sup>15</sup>. (see Figure 4)  
These information revealed that the unemployment rate of 15-24 years old requires special attention and all age groups of 15-24, 25-44 and 45-64 (except 65 years old and over) suffered due to the financial crisis but the group of 25-44 years old suffered the most.

**Figure 4 Unemployment Rate by Age Group**



Source: [www.dgbas.gov](http://www.dgbas.gov).

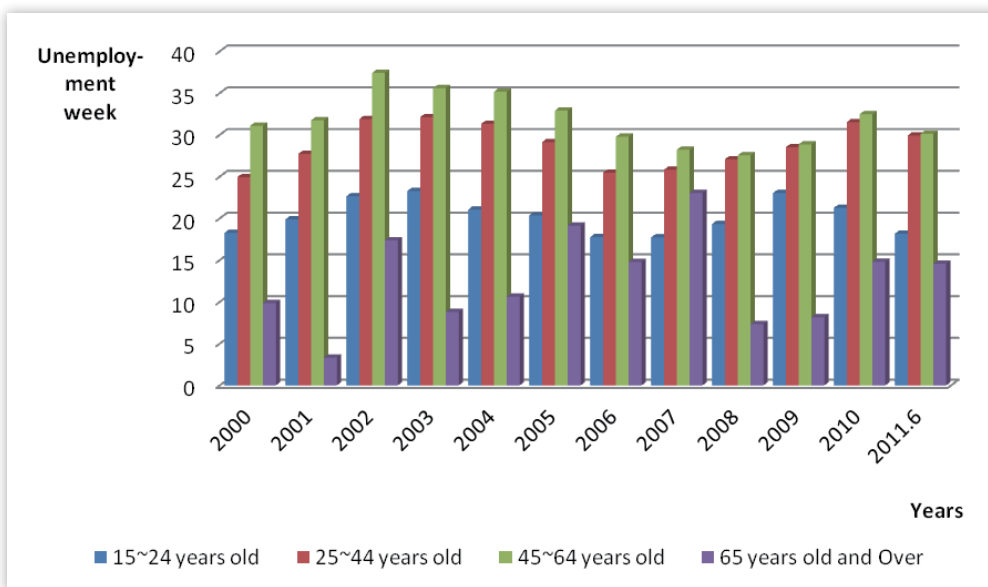
Concerning average unemployment weeks, unemployed 45-64 years old persistently had the longest unemployment weeks, which increased to a peak in 2002, declined up to 2008, then increased again through 2010 and declined in June 2011. Yet unemployed 25-44 years old increased their unemployment weeks significantly<sup>16</sup>. (see Figure 5) These imply that Chinese Taipei can no longer limit its policy to older workers' employment promotion, a wider scope is required.

<sup>14</sup> For example, the unemployment rate of 45-64 years old was 2.64% in 2000, 4.02% in 2008, 5.93% in 2009, 5.35% in 2010 and 4.42% in May 2011.

<sup>15</sup> The group of 45-64 years old had their peaks of unemployment rate in 2003 (3.76%) and 2009 (3.90%), both are lower than the figures of 25-44 years old.

<sup>16</sup> For example, unemployed 45-64 years old had 31.09 weeks in 2000, increased to a peak of 37.41 weeks in 2002, declined to 27.55 weeks in 2008, then increased again to 32.46 weeks in 2010 and declined to 30.12 weeks in June 2011. While unemployed 25-44 years old had 24.94 weeks in 2000, reached a peak of 32.12 weeks in 2003, declined to 27.07 weeks in 2008, increased to 31.52 weeks in 2010 and declined to 29.93 weeks in June 2011.

**Figure 5 Average Weeks of Unemployment by Age Group**



Source: [www.dgbas.gov](http://www.dgbas.gov).

Over the past decade, all three age groups (25-44, 45-64, 65 and over) of more than 25 years old had a trend of increasing LFPR<sup>17</sup> except the age group of 15-24 years old who revealed a declining LFPR<sup>18</sup>. Yet in 2009, the LFPR of 45-64 and 65 years old and over declined<sup>19</sup> while the LFPR of 25-44 years old kept increasing<sup>20</sup>. (see Figure 6) These imply that possible discouraged worker effect in the financial crisis reflected mostly on the age groups of youth (15-24 years old) and older work force (45 years old or more).

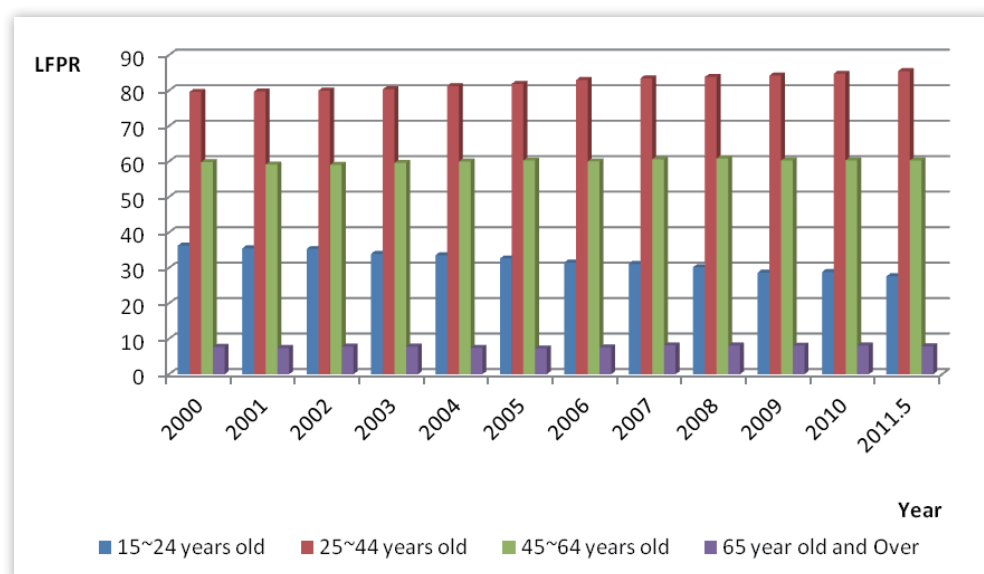
<sup>17</sup> The LFPR was 79.6% in 2000 and 85.47% in May 2011 for 25-44 years old, 59.8% in 2000 and 60.30% in May 2011 for 45-64 years old, 7.71% in 2000 and 7.88% in May 2011 for 65 years old and over.

<sup>18</sup> The LFPR was 36.28% in 2000 and 27.59% in May 2011 for 15-24 years old.

<sup>19</sup> The LFPR was 60.83% in 2008 and 60.25% in 2009 for 45-64 years old, and 8.10% in 2008 and 8.05% in 2009 for 65 years old and over.

<sup>20</sup> The LFPR was 83.81% in 2008 and 84.19% in 2009 for 25-44 years old.

Figure 6 LFPR by Age Group



Source: [www.dgbas.gov](http://www.dgbas.gov).

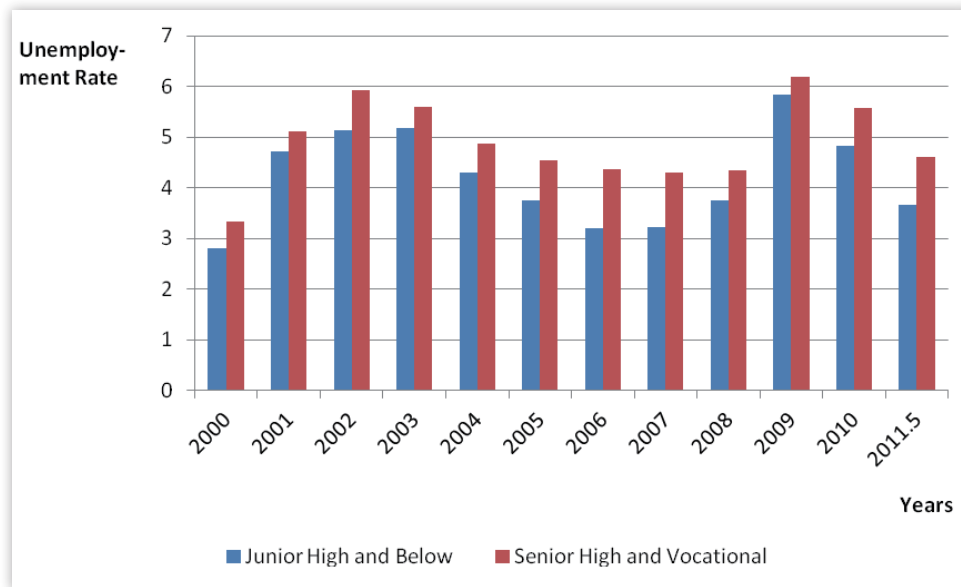
### c. By Level of Education

With respect to educational level, workforce with education of senior-high or vocational had the highest unemployment rate, college and above second, junior high and below the least.<sup>21</sup> Due to the financial crisis, the increment of unemployment rate from 2008 to 2009 was the largest for junior high and below ( $5.84\%/3.76\%=1.55$ ), senior-high or vocational second ( $6.19\%/4.34\%=1.43$ ) and college and above the least ( $5.57\%/4.21\%=1.32$ ). (see Figure 7) However, the unemployment of college and above attracted the most attention because their unemployment implied a bigger loss for the society and they are supposed to be benefited from globalization. In particular, the corresponding unemployment rates of college or above graduates for the age of 15-24 years old over the period of 2003-2008 were 9.49%, 10.67%, 10.68%, 10.47%, 10.96% and 12.54% while that of college or above graduates over the age of 25-29 were 5.66%, 5.47%, 5.57%, 5.95%, 5.98% and 6.42% ([www.dgbas.gov](http://www.dgbas.gov)). Furthermore, there have been too many Ph.D.,<sup>22</sup> especially in social sciences, because supply has outpassed demand.

21 For example, in 2008, the unemployment rate of senior-high or vocational was 4.34%, college and above was 4.21% and junior high and below was 3.76%. The corresponding figures were 4.31%, 4.00% and 3.22% in 2007 and 4.61%, 4.30% and 3.67% in May 2011.

22 According to the statistics of students provided by the Department of Education, over the past decade, students pursuing for bachelor degrees has increased by 50% (from 680,000 to 1,020,000), students pursuing for master degrees has increased by 112.6% (from 87,000 to 185,000) and students pursuing for Ph.D. has increased by 112.5% (from 16,000 to 34,000). Yet no specific unemployment figures have been collected officially for Ph.D. only.

**Figure 7 Unemployment Rate by Level of Education**

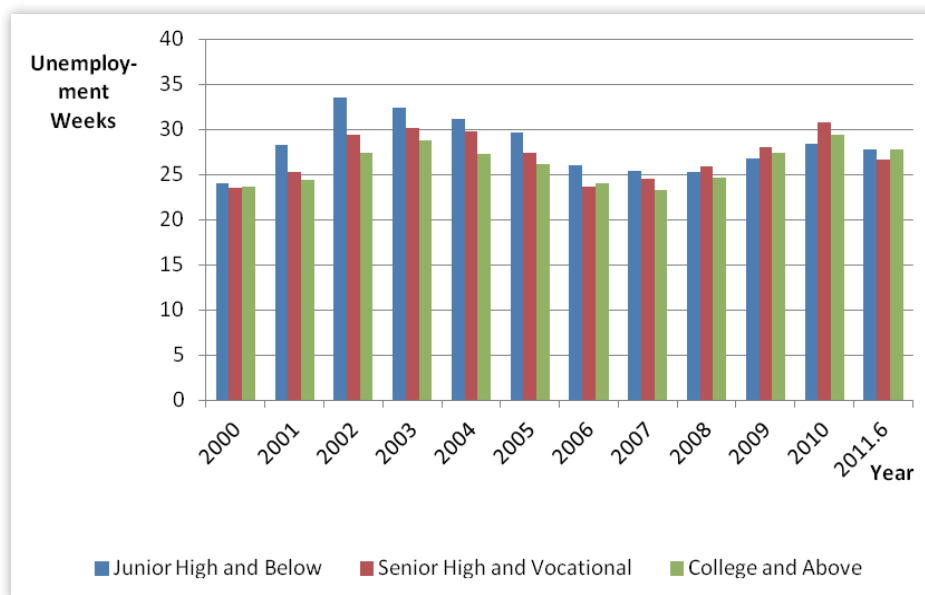


Source: [www.dgbas.gov](http://www.dgbas.gov).

As for average unemployment weeks, unemployed with junior-high school or below education revealed the longest unemployment weeks over the period of 2000-2007, unemployed with senior-high school or vocational education possessed the longest unemployment weeks over the period of 2008-2010 and unemployed with college and above education became the longest group in June 2011 (see Figure 8).<sup>23</sup> Although unemployment duration increased significantly across the board (after 2008) due to the financial crisis in 2008, the unemployment of college and above has attracted particular attention because the labor force of college and above are expected to get employment advantages under globalization and their unemployment represent a bigger loss for the society due to investment of four more years of higher education.

<sup>23</sup> For example, unemployed with junior-high school or below education had 23.99 weeks in 2000, 25.39 weeks in 2007, 25.22 weeks in 2008, 28.39 weeks in 2010 and 27.74 weeks in June 2011. Unemployed with senior-high school or vocational education had 23.51 weeks in 2000, 25.90 weeks in 2008, 30.78 weeks in 2010 and 26.67 weeks in June 2011. Unemployed with college and above education had 23.60 weeks in 2000, 24.68 weeks in 2008, 29.37 weeks in 2010 and 27.77 weeks in June 2011.

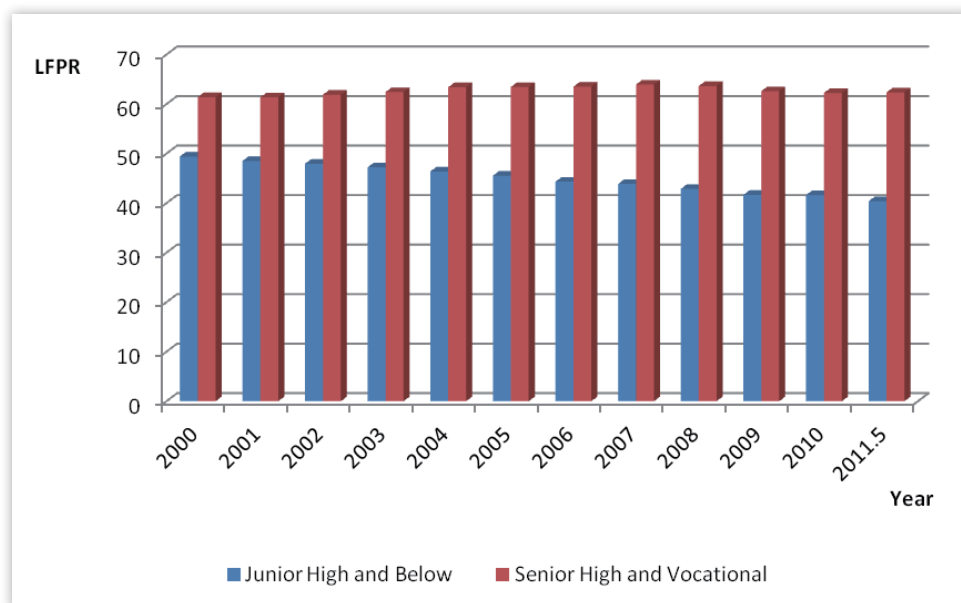
**Figure 8 Average Weeks of Unemployment by Level of Education**



Source: [www.dgbas.gov](http://www.dgbas.gov).

As for the LFPR, the group of junior-high and below education has revealed a declining LFPR even before the financial crisis (40.39% in May 2011). The group of senior-high or vocational education had an increasing LFPR trend up to 2007 (63.95%), declined over the period of 2008-2010 (probably due to the financial crisis) and increased to 62.36% in May 2011. And the group of college and above had a bottom LFPR of 65.43% in 2003 and increased thereafter even during the financial crisis (68.84% in May 2011). (see Figure 9) These imply that the group of senior-high or vocational education might have been discouraged during the financial crisis.

**Figure 9 LFPR by Level of Education**



Source: [www.dgbas.gov](http://www.dgbas.gov).

#### d. Other Characteristics

Disabled, aborigines, new-entrants and long-term unemployed are discussed here. Disabled usually encounter much higher unemployment. For example, their unemployment rate was 20.93% in 2000, 16.70% in 2007 and 17.30% in 2009 ([www.cla.gov](http://www.cla.gov)). Their employment was 187,602 persons in 2006, decreased to 134,432 persons in 2007 and increased to 163,112 persons in 2009 ([www.cla.gov](http://www.cla.gov)). The disabled seem not suffered much during the financial crisis in terms of employment,<sup>24</sup> probably because particular employment promotion programs for disabled has been offered from time to time and a significant proportion of disabled might shift between labor force and nonlabor force.

Concerning aborigines, their unemployment rate was 4.62% in December 2007 and increased to 7.92% in December 2008 and 7.31% in December 2009 ([www.apc.gov](http://www.apc.gov)). Their employment was 207,493 persons in the end of 2005, decreased to 198,950 persons in September 2009 and increased to 203,412 persons in the end of 2009 ([www.apc.gov](http://www.apc.gov)). The aborigines did suffer in terms of employment<sup>25</sup> during the financial crisis, but quickly rebounded in the last quarter of 2009 because specific employment programs had been offered.

<sup>24</sup> The disabled usually earn less because their jobs are mostly in the low-end.

<sup>25</sup> Many aborigines hold unstable jobs and change jobs often.

New-entrants usually had shorter unemployment weeks than nonnew-entrants, but the financial crisis reversed the situation over the period of 2008-2010.<sup>26</sup> (see Figure 2) The number of long-term unemployed (unemployed for more than 53 weeks) was 58,000 in 2008, jumped to 99,000 in 2009 and 111,000 in 2010 (www.dgbas.gov). The proportion of long-term unemployed out of total unemployment had a similar pattern, which was 13.94% in 2008, jumped to 15.64% in 2009 and 19.58% in 2010. The significant increment of long-term unemployed in 2009-2010 had urged responsive policy. However, such significant increment cannot be ascribed to the financial crisis because it did not decrease with the general unemployment rate. In fact, many long-term unemployed actually shift between states of unemployment and nonlabor force. Various influencing factors (particular health and family issues) causing long-term unemployment are difficult to be overcome. And long-term unemployed have been regarded as vulnerable group by law (the Employment Services Act) since April 2009 which may have encouraged higher figure in order to utilize assisting resources from government.

## 2.2 Characteristics of Employment

Employment by sector, average monthly earning, nonstandard workers and immigrants are discussed here.

### a. Employment by Sector

In Chinese Taipei, the tertiary (service) sector provides around 59 % of employment, the secondary (industry) sector provides around 36% of employment while the primary (agriculture and forestry) sector provides around 5% of employment. (see Figure 10) During the financial crisis, the secondary sector suffered the most, so the employment proportion in the secondary sector decreased from 36.84 % in 2008 to 35.84% in 2009, while the employment proportion in the tertiary sector (from 58.02 % in 2008 to 58.87% in 2009) and the primary sector (from 5.14% in 2008 to 5.28% in 2009) expanded. When the economy recovered in 2010, the proportions reversed.<sup>27</sup>

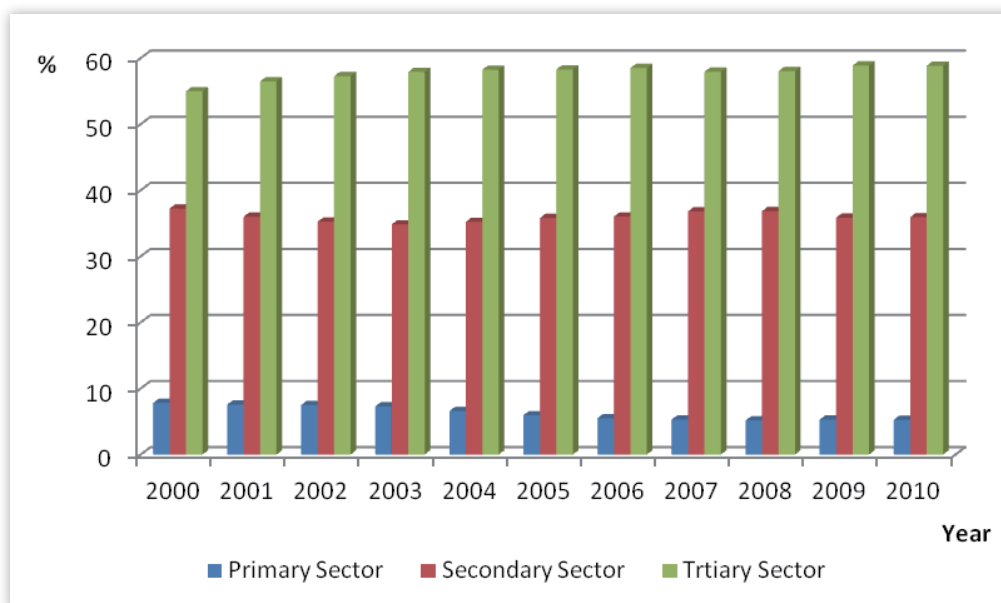
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26 For example, 23.16 weeks for new-entrants and 23.83 weeks for nonnew-entrants in 2000, 22.97 weeks for new-entrants and 24.57 weeks for nonnew-entrants in 2007 and 25.86 weeks for new-entrants and 27.74 weeks for nonnew-entrants in June 2011. In contrast, 25.62 weeks for new-entrants and 25.16 weeks for nonnew-entrants in 2008, 30.55 weeks for new-entrants and 26.91 weeks for nonnew-entrants in 2009 and 29.84 weeks for new-entrants and 29.61 weeks for nonnew-entrants in 2010).

27 In 2010, the secondary sector increased to 35.92%, while the tertiary sector decreased to 58.84% and the primary sector decreased to 5.24%.



Figure 10 Employment Propotion by Sector



Source: [www.dgbas.gov](http://www.dgbas.gov).

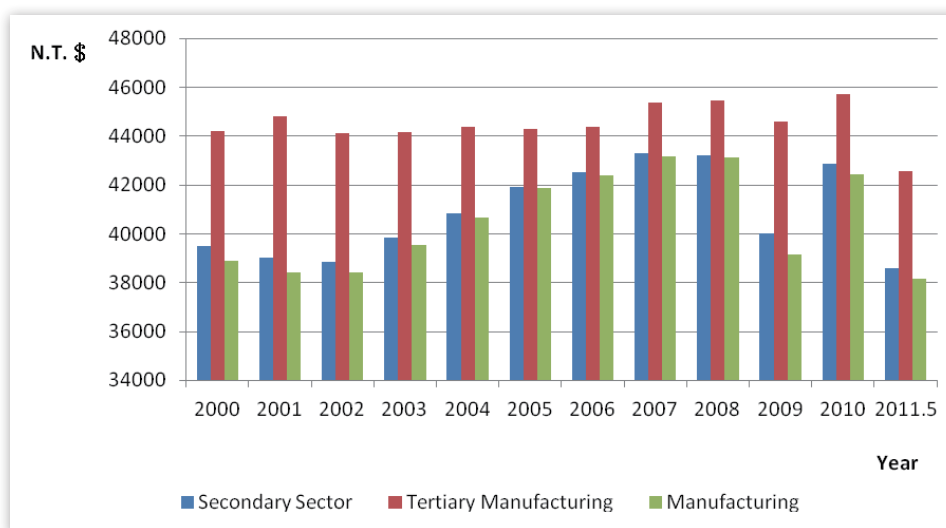
#### b. Average Monthly Earning

The average monthly earning of employees with respect to the manufacturing, secondary or tertiary sectors had an increased trend up to 2007 (before the financial crisis).<sup>28</sup> Due to the financial crisis, all three figures plummeted in 2009, rebounded in 2010 and declined again in May 2011. In which, the manufacturing suffered the most<sup>29</sup>, so their workers were suitable target for policy assistance. (see Figure 11)

<sup>28</sup> The average monthly wage of 15-24 years old educated with college or above declined from NT\$25,421 per month in May 1996 to 19,477 in May 2009 (declined by 23.38%) ([www.dgbas.org](http://www.dgbas.org)).

<sup>29</sup> Employees' earnings in the manufacturing declined from NT\$43,105 in 2008 to NT\$39,152 in 2009, employees' earnings in the secondary sector declined from NT\$43,233 in 2008 to NT\$40,032 in 2009, employees' earnings in the tertiary sector declined from NT\$45,450 in 2008 to NT\$44,583 in 2009.

**Figure 11 Average Monthly Earning of Employees**



Source: [www.dgbas.gov](http://www.dgbas.gov).

#### c. Number of Nonstandard Workers

According to Okun's law, the adjustment of employment usually will lag behind the adjustment of production. Such lag behavior will be more significant when the prospect of recovery is unclear. Starting from the latter half of 2009, the GDP of Chinese Taipei has revealed recovery. However, the political disturbance of North Africa outburst from the end of 2010 through 2011, the earthquake of March 11, 2011 damaged Japanese economy significantly, and high sovereignty debts in some countries of EU (Greece is a salient example currently) and the U.S. have been worried since 2009. In fact, a perception of second recession prevails in September 2011 globally. In order to preserve a better position during uncertain recovery, employers usually will hire less, and hire nonstandard workers once they need to hire.

Nonstandard works include part-time, temporary and dispatched works in Chinese Taipei. With respect to hiring options, the labor laws and regulation in Chinese Taipei actually protect less on nonstandard workers relatively to regular workers. For example, contracted dispatched workers are not fully protected by the Labor Standards Act. Employers may not provide compulsory social insurances to nonstandard workers to save premium costs while official monitoring and detection of violation are difficult. Hence nonstandard works are unstable and usually offer lower compensation and benefits.

The number of nonstandard workers increased rapidly, from 650,000 (6.2% of total employment) in 2008 to 687,000 (6.7% of total employment) in 2009 and 723,000 (6.9% of total employment) in 2010. (see Figure 12) Moreover, the Control Yuan had estimated that more than one million are in unstable

employment with less than NT\$20,000 compensation per month (September 27, 2011 BCC News) with possible reasons of low wage, low-end jobs, insufficient work hours or transient job. Nonstandard workers or workers in unstable employment should be paid more attention in assistance because they may encounter more obstacles (for example, poor health, poor quality of education, binding of family matters, poor mobile employability) in finding a standard job and may be contributed to potential working poor.

**Figure 12 Number of Nonstandard Workers**



Note: Since part-time workers may also be temporary or dispatched workers, so the addition is larger than total.

Source: [www.dgbas.gov](http://www.dgbas.gov).

#### d. Immigrants

Chinese Taipei has started officially to hire (low-skilled and contracted) foreign workers as supplementary labor force since 1989. Foreign workers are in full employment because they would be sent back to their mother countries once they were laidoff. The number of foreign workers have increased rapidly and surpassed 400,000 in June 2011. In recession periods, the number of foreign workers hired in Chinese Taipei usually declined<sup>30</sup>, but they quickly rebounded in recovery<sup>31</sup>. In the periods of reducing foreign workers, the reduction always happened in the secondary sector (mostly in the manufacturing)

<sup>30</sup> For example, the number of foreign workers decreased from 326,515 in 2000 to 300,150 in 2003 and decreased from 365,060 in 2008 to 351,016 in 2009 (while the figure of 341,484 in June 2009 was the lowest in the financial crisis).

<sup>31</sup> For example, the number of foreign workers increased in 2004-2008 (365,060 in 2008) and in 2010-June 2011 (403,492 in June 2011).

rather than in the social welfare sphere<sup>32</sup>. (see Figure 13) There are many factors influencing the hiring of foreign workers, but hiring foreign workers may have evolved from supplementary to substitutive roles which can be ascribed to a reason contributing to low-skilled natives's high unemployment.

**Figure 13 Number of Foreign Workers by Industry**



Source: [www.dgbas.gov](http://www.dgbas.gov).

Additionally, there were 444,216 new (permanent) immigrants through marriage by the end of 2010 in Chinese Taipei. Most of them intend to work from the inception. Yet immigrants usually encounter more obstacles (particularly in language and culture) in job-searching and have a higher unemployment rate<sup>33</sup> than natives'. And they usually work in low-end jobs (with low compensation) once they were employed. Moreover, Chinese Taipei is suffering a brain drain of 20,000-30,000 skilled workers per year. Such brain drain may reduce potential low-skilled employment opportunities. Put together, immigrants may have promoted low-skilled natives' unemployment.

<sup>32</sup> For example, the number of foreign workers increased in 2004-2008 (365,060 in 2008) and in 2010-June 2011 (403,492 in June 2011).

<sup>33</sup> Foreign workers in the social welfare sphere refer to those perform as nursing care workers in family and institution and homemaid in family.



### III. Strategies Adopted Fighting against Structural Unemployment in Chinese Taipei

Strategies of wage subsidy, trainings, creation of short-term public works, assistance to self-employment and intensive employment counseling are discussed here.

#### 3.1 Wage Subsidy

##### a. Wage Subsidy to Employers for Hiring Unemployed

Most wage subsidy programs adopted by Chinese Taipei provide subsidy to employers and expect employers will hire unemployed with a suitable wage. For example, a wage subsidy regulation (Employment Promotion Subsidy) to promote hiring unemployed has been specified according to the Employment Insurance Act, in which employers who hire specified unemployed, including consecutively unemployed for more than three months, consecutively unemployed for more than 30 days of vulnerable groups<sup>34</sup>, and female reentrants after more than two years out of the labor market due to family reasons, for at least three months may apply for a wage subsidy up to NT\$12,000 (NT\$8,000, NT\$10,000 or NT\$12,000 for hiring different target groups) per head per month for 12 months. Suppose the work hours were less than the specified level, the subsidy would be up to NT\$65 (NT\$45, NT\$55 or NT\$65 for hiring different target groups) per hour.

In responsive to recession due to the financial crisis in the latter half of 2008, the Getting to Work Immediately Program (GWIP) implemented from October 2008 to December 2009. It offered wage subsidy to employers which hired native workers who were consecutively unemployed for at least three months or involuntarily unemployed (for those employees covered by the Employment Insurance Act).<sup>35</sup> The subsidy was NT\$10,000 per person per month<sup>36</sup> up to 6 months. Each enterprise could apply for

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34 Vulnerable groups include sole breadwinners, older workers, disabled, aborigines, members who were in the labor force in a low-income family, ex-prisoner, victims of domestic violence, youths (age 29 or under) and new immigrants (who have not received citizenship).

35 The target groups were relaxed later (Nov.11, 2008) to cover unemployed workers (with evidence) who did not participate the Employment Insurance yet had their Labor Insurance through trade unions, fishermen unions or farmers unions. And the group were extended further (May 2009) to cover new entrants and victims of natural disasters who were unemployed.

36 Wage subsidy increased to NT\$12,000 per head per month, and an additional employment training allowance of NT\$5,000 per head per month was offered in April 2009.

subsidized personnel up to 30% of its workers (up to 3 persons for units with 10 or less workers) who were insured under the Labor Insurance. Up to August 2009, 1,696 persons were subsidized for six months and 88% of them continued their positions (Shin, 2009). The final number subsidized through the GWIP was around 70,000 persons by the end of 2009.

Additionally, in order to assist youth's employment of the college educated and above, the College Graduates Practical Training Program (CGPTP) was initiated by the Department of Education in April 2009 to assist employment for one year. Though the CGPTP is designed and named as "training subsidy", it is usually regarded as wage subsidy by employers. The CGPTP provided a monthly subsidy of NT\$22,000 for wages<sup>37</sup> and up to NT\$4,190 for social insurance to enterprises which hired unemployed college graduates who graduated within the period of 2006-2008. The maximum length of the subsidy was one year. To prevent concentration of hiring, each enterprise was limited to hire 30% of its workers and up to 350 persons. For enterprises with workers less than 10, a maximum 2 workers might be hired. The CGPTP was extended for half year in 2010 because the unemployment rate was still over 5%. But the subsidy reduced to NT\$10,000 per head for six months in maximum.

When the GWIP expired in December 2009, the Council of Labor Affairs offered a wage subsidy program (Employment Sailing Program), especially applied to older workers, long-term unemployed, disabled, victims of domestic violence, and aborigines. In it, employers hiring the mentioned unemployed could receive a subsidy of NT\$17,280 (the minimum wage level at the time) for the first three months and a subsidy of NT\$10,000 for the nine months thereafter. But the employers had to continuously hire these workers after the subsidy expired. The subsidy quota of each employer was 30% of employees or 100 persons.

In December 2009, the Council of Labor Affairs also announced a wage subsidy program (Hiring Disabled's Plus Counseling Subsidy Program) particularly to assist enterprises which hire disabled. In it, enterprises which hired disabled might apply for a wage subsidy up to NT\$12,000 for 12 months (regular program is NT\$10,000 up to 12 months). For enterprises which hired more than three disabled might apply additionally for a coach counseling subsidy up to NT\$6,000 per head per month.

Furthermore, the Industrial Renovation Act of May 2010 empowers the government to decide at its discretion to offer a wage subsidy to small and medium enterprises in hiring unemployed. The subsidy

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37 Employers were free to provide a higher wage, but most provided the same wage such that the subsidy became a 100% subsidy.



amount was NT\$10,000 up to six months and another six months for hiring older workers. Such effort makes the essence of GWIP into law and intends to lower the unemployment rate. And an employment stabilization scheme of wage subsidy in case of furlough has been offered through the Employment Insurance Act in May 2009. It requires strictly high unemployment conditions and has not actually implemented yet.

#### b. Wage Subsidy to Employees

From time to time, some unemployed have complained that their employers rather than themselves (employees) benefit from their re-employment, which sounds unfair. Starting from August 2011, Chinese Taipei has offered a wage subsidy to employees program. Such program intends to promote unemployed to get re-employment as a full time worker (more than 35 hours per week) in 3D (dirty, dangerous and difficult) or night-shift jobs, a wage subsidy up to 12 months (NT\$3,000 for the first two months and NT\$5,000 for the following ten months). Qualified unemployed should obtain a referral from the Public Employment Services Institution. Due to its rather short period of implementation, whether it promoted employment better or not is still a pending issue.

## 3.2 Trainings

Variety of trainings have been offered, including tree planting, tourism related, employment services, recycling, nursing, logistic, aboriginal caring, green energy, industrial site reform, chain store management, marketing, trainings of vulnerable groups, ect.. Subsidized trainings can also be provided through continuing educational programs conducted by professional training institutions, trade unions and colleges. Both on-the-job trainings and pre-employment trainings are encouraged. On-the-job trainings are designed to enhance employed's employability, increase their work compensation and prevent unemployment. Pre-employment trainings are designed to enhance unemployed's employability and promote their employment right after the completion of trainings.

Training subsidies are reflected in various forms, including subsidy to training providers and subsidy to trainees. Approved on-the-job training classes can apply for subsidy from the Council of Labor Affairs (financed by the Employment Stabilization Fund) with respect to 80% of fee up to 40 persons per class. Each employed trainee is qualified up to NT\$50,000 subsidy quota in three years. Empowered



pre-employment training classes can apply for full expenditure from the government. According to the Employment Insurance Act, qualified unemployment benefit recipients can attend pre-employment trainings without fee and even receive Vocational Training Living Allowance (VTLA, which is equivalent to the amount of Unemployment Benefit) up to six months. This is quite attractive because VTLA performs as an extension of unemployment benefit.

Some special training programs had been offered aiming to assist enterprises affected by furlough due to the financial crisis in 2008 and prevent more layoffs. For example, the Short-term Employment Skill Promotion Program (STESPP) was provided from December 2008 to December 2009 to subsidize the enterprise training expenditure up to 70% in order to promote inside-enterprise training during a slack time and to enhance their competitiveness afterwards. The Skill-Plus Program (SPP) was provided from February to October 2009 to subsidize training expenditure fully<sup>38</sup> to enterprises that were under a furlough and subsidize to workers<sup>39</sup> who joined the training at least 24 hours per month in order to promote inside-enterprise training during a slack time. The STESPP benefits more to older workers whose severance probability had been reduced (Council of Labor Affairs, 2010a), while the SPP benefits more to young workers whose severance probability had been reduced (Council of Labor Affairs, 2010b). In 2010, a program similar to the SPP was adopted to carrying on inside-enterprise training promotion.

As a result, there were 235,890 persons participating various trainings in 2009 and 416,835 (original objective was 234,120) persons in 2010, and expected 235,670 and 237,870 persons in 2011 and 2012 respectively (Council of Economic Planning and Development, 2011).

### 3.3 Creation of Short-term Public Works

Short-term public works are created across all departments covering various kinds of assistant positions during recession periods. In fact, there were 57,223 persons participating such works in 2010 (Council of Economic Planning and Development, 2011). Since such strategy had been adopted from time to time, the number hired by the public sector in Chinese Taipei surpassed one million over the period of 1992-1997 and 2009-May 2011. The figures revealed bottoms in 2002 (946,000, which shared 10.01% of total employment) and 2007 (932,000, which shared 9.05% of total employment), peaks in 1993

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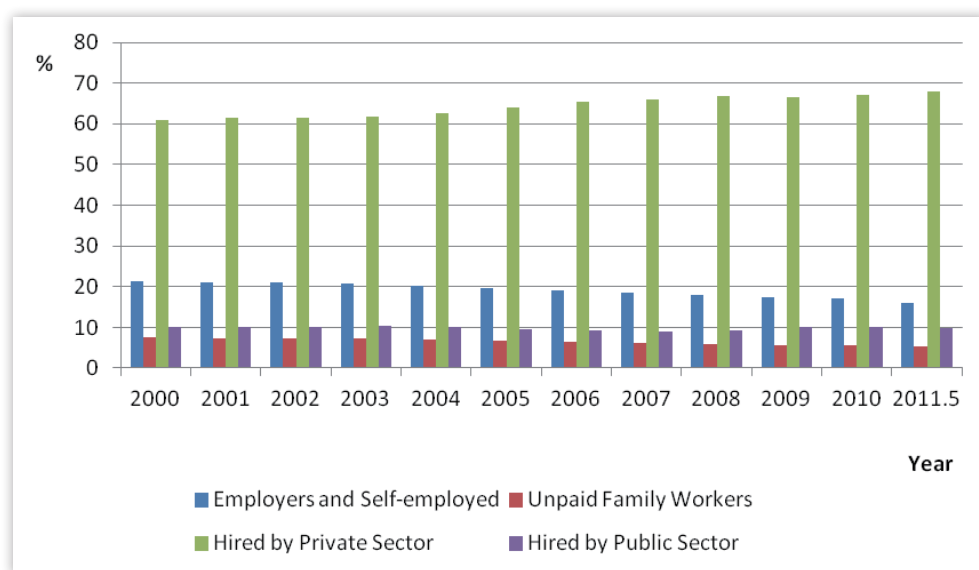
38 The subsidy was up to NT\$950,000 for small and medium enterprises and NT\$1.9 million for large enterprises.

39 The subsidy was NT\$100 per hour, up to 100 hours per month for six months.

(1,028,000, which shared 11.75% of total employment) and 2010 (1,049,000, which shared 10.00% of total employment)<sup>40</sup>.

Concerning other employment figures by class of workers, the number of unpaid family workers had declined consistently, even during the financial crisis.<sup>41</sup> And the number of employers and self-employed had a declining trend until recovery from the financial crisis.<sup>42</sup> Yet the number hired by the private sector revealed an increasing trend with a minor reduction (95,000) in 2009 during the financial crisis.<sup>43</sup> Comparing the figures in 2009 with those in 2008, the net loss of employment was 124,000. The number hired by the private sector reduced by 95,000 (= 6,945,000 - 6,850,000), unpaid family workers reduced by 31,000 (= 619,000 - 588,000) and employers and self-employed reduced by 80,000 (= 1,882,000 - 1,802,000). Only the number hired by the public sector increased by 82,000 (= 10,404,000 - 10,280,000). (see Figure 14)

**Figure 14 Employment by Class of Workers**



Source: [www.dgbas.gov](http://www.dgbas.gov).

40 The number of employees in the public sector increased from the bottom figure of 932,000 persons in 2007 to 958,000 persons in 2008, to 1,049,000 persons in 2010 and to 1,036,000 persons in May 2011.

41 For example, the number of unpaid family workers was 710,000 in 2000, 641,000 in 2007, 619,000 in 2008, 588,000 in 2009, 585,000 in 2010 and 576,000 in May 2011.

42 For example, the number of employers and self-employed was 2,036,000 in 2000, 1,919,000 in 2007, 1,882,000 in 2008, 1,802,000 in 2009, 1,804,000 in 2010 and 1,804,000 in May 2011.

43 For example, the number hired by the private sector was 5,790,000 in 2000, 6,803,000 in 2007, 6,945,000 in 2008, 6,850,000 in 2009, 7,055,000 in 2010 and 7,245,000 in May 2011.

### 3.4 Assistance to Self-employment

Promoting micro enterprises (which hire less than 4 employees) to encourage self-employment has been a strategy adopted by Chinese Taipei because 98% of enterprises in Chinese Taipei are small and medium. So training classes, particularly related to cooking and food stand or retail management, interest subsidy of establishment capital (for establishing micro enterprises, for under 45 years old and for aborigines who intend to establish a business) and consultation services of related management have been provided to unemployed who intend to establish a new business. However, it is risky to start a new business because the survival rate of new business is around 2% over the past years.

### 3.5 Intensive Employment Counseling

Due to higher unemployment rate and extended duration of unemployment, Chinese Taipei amended the Employment Insurance Act to provide dependents' benefits up to one-third of unemployment benefits and extend unemployment benefits duration from six to nine months to older workers and disabled in May 2009. Under such amendments, unemployment benefits per month can be up to 80% of insured wage prior to unemployment. Since some unemployment benefits recipients prefer to be re-employed only after qualified duration period of unemployment benefits has expired, hence Chinese Taipei provides intensive employment counseling to unemployment benefits recipients in selected Public Employment Institutions in order to facilitate active job-searching effort after the economy has recovered from the financial crisis. Specifically, more employment opportunities referrals are conducted, required applications for recruitment posting are doubled (from two to four applications per month), intensive attendance of job-searching training classes are monitored strictly and constant counseling sessions are handled by the same service personnel to trace active job-searching activities.

## IV. Evaluation of Strategies Adopted in Chinese Taipei

Various strategies adopted in Chinese Taipei are evaluated with respect to implication of various strategies and programs, implementation effects, target groups and complementary measures.



## 4.1 Implication of Various Strategies and Programs

In Chinese Taipei, variety of strategies has been adopted and various programs have been offered in each strategy. Such pattern can provide wider coverage and complementary functions to reach target groups who need assistance. Each employment promotion program has its specific objective, qualification and target groups. All employment promotion programs proposed (and to be implemented) by different departments are coordinated by the Council of Economic Planning and Development.

However, some of various programs (e.g., different wage subsidy programs, wage subsidy and work experience kind of training subsidy programs if subsidized to employers) are similar except subsidy amount may be different from the perspective of employers. Under such circumstances, employers will compare and choose the most beneficial (to employers of course) program first, others second. Therefore, competition among similar programs is unavoidable and results in some programs are easier to implement while others are difficult to achieve their initial goals.

Moreover, some related programs are designed and conducted by different departments without efficient integration. For example, management trainings, interest subsidy of loan and consultation with respect to establish a new business spread in different departments without a single window to provide integrated services of information. This will deter passion of potential participants. Furthermore, various programs have been offered consecutively by different names which may create confusion and perception of unstable policy atmosphere. Due to too many programs, impact analysis of each program usually corresponds to size of program expenditure and does not provide complete set of feedback databank for future reference.

Among various strategies, short-term public works creation is an effective way to offer employment opportunities and is welcomed by unemployed persons in general. However, such programs are costly and shall be careful in offering. Perhaps such programs can only be implemented under depression and only when fiscal conditions can sustain this expenditure. Some workers have even become dependent on such programs and loosen their impetus to search employment in the private sector which is detrimental to the development of workforce for the society.

## 4.2 Implementation Effects

Various (wage or training) subsidy programs have provided ample employment opportunities and promoted employment or prevented unemployment. But some negative effects have been observed. For example, deadweight loss, displacement effect and creaming-off appeared. Specifically, 56.1% of participated enterprises in the GWIP claim that they would hire even with subsidy (Shin, 2009). The CGPTP provided ample employment opportunities to vulnerable college graduates under the financial crisis and was welcomed by the society. However, some criticisms have been raised, such as the wage subsidy lowered the market wage, such program displaced labor demand for other kinds of workers (particularly older workers and part-time workers) and laid off originally employed college graduates (Lan and Chous, 2010). Most enterprises prefer to choose new workers by themselves if programs allowed (Council of Labor Affairs, 2010c). Employers usually will ask preferred applicants to register into a specific program and then hire them. Suppose employers do not dominate the choice of workers in recruitment, referral of vulnerable groups generally are difficult.

## 4.3 Target Groups

Effectively providing assistance to vulnerable target groups is the core objective of related programs to fight against structural unemployment. Most programs targeting on specific groups of workforce generally adopt easier criteria, such as gender, age, level of education, disabled or not, aborigines or not or duration of unemployment.

Yet program implementation under such criteria may result in missing the target group as designed from the beginning. For example, the GWIP benefits to relatively smaller proportion of older and lower educated workers.<sup>44</sup> Starting from 1990s, Chinese Taipei has tried to promote female labor force participation and employment. Yet female LFPR does not increase much and male persistently showed a higher unemployment rate than female. In responding to higher unemployment rate, Chinese Taipei has consecutively provided various programs to youth (15-24 years old) and older (45-64 years old) workers to promote their employment over the past decade. But the group of 25-44 years old suffered the most due to the financial crisis.

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44 Out of the GWIP participants, only 11.9% are older workers and 51.6% are educated with high school or below (Shin, 2009).



Moreover, not all of such criteria are vulnerable who need assistance. In practice, persons without Labor Insurance will be defined as unemployed and persons without Labor Insurance for more than one year will be defined as long-term unemployed. However, such unemployed or long-term unemployed persons may actually nonlabor force rather than genuine unemployed.

Furthermore, particular programs to youth or older workers encounter challenge of forbidden age discrimination (as specified in the Employment Services Act). Suppose the screen criteria can be highlighted on indexes of employability, such contradiction can be avoided. Measuring by employability is a more justifiable criterion to discriminate vulnerable or not and can appropriate limited resources to genuine vulnerable groups. Yet evaluation of employability takes longer time than direct screening of age.

Target groups are not limited to characteristics of workforce, characteristics of vulnerable enterprises or industries are also considered. Of course, differential results have been observed. For example, wage subsidy programs are welcomed more by small enterprises (subsidy is relatively more significant) and growing business (which will hire more workers even without subsidy). Inside enterprise training subsidy programs are welcomed more by large enterprises which are more capable to manage trainings. A set of criteria similar to employability with respect to workforce shall be established to screen vulnerable from capable enterprises.

## 4.4 Complementary Measures

Some complementary measures are discussed here. Firstly, training has been highlighted to improve workforce' global competitiveness. Yet workers are relatively difficult to migrate across borders than capital and workers prefer local employment by nature. Whatsoever, enhancing workers' mobile employability through trainings would be a better strategy for sustainable employment.<sup>45</sup>

Secondly, allowing labor market flexibility to some extent may be necessary to promote market mechanism. For example, accommodating labor market flexibility with respect to nonstandard workers have promoted more hiring of nonstandard workers. Currently, some proposals to offer strict protection of nonstandard workers as regular workers are under consideration. Suppose strict protection are

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<sup>45</sup> An example may support the concept of mobile employability: Over the past decade, Chinese Taipei has promoted aboriginal cultural products as an approach to provide employment opportunities for aborigines. However, such idea has quickly suffered from the competition of imported cheaper foreign aboriginal products.



implemented, nonstandard works may be shrank. Better strategies to ameliorate nonstandard workers' conditions are intensive trainings (to enhance mobile employability), improved employment services (to offer continuing employment opportunities), integrated assistance of nonlabor obstacles (such as family matters) and assistance of collective actions.

Thirdly, to substantialize the objectives of intensive employment counseling, active job-searching requirements of unemployment benefits recipients had better be specified in law (the Employment Insurance Act), unemployment benefits can be amended to be regressive, extended unemployment benefits can be substituted by re-employment benefits and more employment service personnel shall be stationed with sufficient trainings. In fact, influencing factors of unemployed's re-employment include the general condition of macro economy (and than employment opportunities), unemployed's re-employment attitude and quality of employment services. To provide quality employment counseling is time consuming. Yet Public Employment Service Institutions are short of personnel and it has been difficult to provide universal quality services. Ocaasionally quarrels arise between unemployed and service personnel because unemployed prefer to get unemployment benefits. Whatsoever, this strategy is effective to increase the cost of receiving unemployment benefits and promote re-employment to some extent.

Fourthly, in assisting vulnerable groups, efforts of different departments shall be integrated by a better network. For example, in response to calls for caring long-term unemployed to ameliorate social inclusion, Chinese Taipei amended the Employment Service Act in April 2009 to add long-term unemployed as a new kind of specific vulnerable group who will receive more intensive assistance from the government. However, it is difficult to assit long-term unemployed because there are various factors contributing to long-term unemployment. Therefore, integration of assistance across department of labor administration, health and social welfare will be required to achieve inspiring results.

Fifthly, immigration policy shall be considered in promoting employment though scholars usually do not treat immigration policy as part of policies to fight against structural unemployment. In fact, too many foreign workers and new immigrants through marriage in Chinese Taipei may be challenges to governmental efforts to achieve objectives of various employment promotion policies. Specifically, comparing to the number of unemployment or loss of employment, one may infer that the number of foreign workers had decreased too few in recession. Additionally, reducing foreign workers in the manufacturing in recession may promote enterprises in the manufacturing to invest overseas to utilize foreign workers overseas while restrict natives to compete with foreign workers in the social welfare





sphere.<sup>46</sup> Such consideration shall not be misread as blaming immigrants. It just urges a better design of immigration policy to result in a win-win situation.

Finally, to enhance educational curriculum program (improve the connection from school to work and from work to school) is also important because better education can alleviate probability of unemployment or unstable employment.

## V. Conclusion and Policy Suggestions

In Chinese Taipei, groups of female, older workers, youth, educated with high school or vocational, disabled, aborigines, new entrants, long-term unemployed and new immigrants are relatively more vulnerable to higher unemployment rate, lower LFPR, longer duration of unemployment or unstable employment. There are various strategies and programs adopted in Chinese Taipei to fight against structural unemployment. Such pattern provides complementary functions to target groups. Yet competition among programs and between similar programs among different departments can be observed. Although various subsidy programs have provided ample employment opportunities to promote employment, some deadweight loss, displacement effect and creaming-off have been observed.

Criteria (such as gender, age, level of education, disabled or not, aborigines or not and duration of unemployment) of target groups applicable to related programs may have appropriated some limited resources to seemingly vulnerable groups. Measuring by employability is a better criterion to discriminate vulnerable groups. Furthermore, some complementary measures, including objective of training, labor market flexibility, unemployment benefits related regulation, integration efforts of different departments and immigration policy need to be considered as well.

Some suggestions are proposed in the following:

### a. Contents of Policy

The objective of employment promotion had better be extended to pursuing mobile employability and then employment security. In addition to active measures, some passive measures may be necessary to prevent workers from becoming poverty and some complementary measures had better be integrated. Various programs of different departments shall be coordinated squarely to alleviate competition among programs. Tax deduction may be considered instead of direct subsidy to save administrative expenses. And all programs shall be analyzed well to be utilized as reference for future revised version of programs.

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<sup>46</sup> An issue related to such phenomenon concerning whether guaranteeing foreign workers' employment in the social welfare sphere is fair to foreign workers or not.

b. Implementation of Programs

Each program, even under well designed, shall monitor carefully in implementation to avoid possible negative effects as much as possible in order to assist targeted groups exactly and well. Possible negative effects include deadweight loss, displacement effect, creaming off and substitution effect. In the future, more effort shall be required to detect similar programs and unify their specifications to have a better integration. Suppose similar programs can be implemented by the same team, the results will be more efficient.

c. Creation of Short-term Public Works

Creation of short-term public works shall be reserved as last resort, say, only offered in depression, of temporary employment and reserved for genuine vulnerable groups. The works provided shall be able to develop into an industry or enhance mobile employability of unemployed rather than simply perform as an extension of unemployment benefits.

d. Target Groups Criteria

To accurately identify target groups generally encounter some difficulties. Yet trying to establish reasonable and feasible employability measures to substitute for prevalent criteria of gender, age, education, disabled or not and aboriginal or not is imminent. The criterion of employability can discriminate genuine vulnerable groups from unemployed. Under current criteria of vulnerable groups, recruitment of programs shall adopt a 50-50 distribution allowing employers to recruit their preferred unemployed 50% of quota at most and leave 50% to be referral by Public Employment Service Institution in order to appropriate resources to genuine vulnerable groups.

e. Complementary Measures

Complementary measures, such as labor market flexibility, unemployment benefits related regulation, immigration policy and quality of educational curriculum program, shall be integrated into strategies as well.



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