

# Labour Market Structure in Malaysia: Pre- and Post-Market Gender Comparison

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## Abstract

Gender inequality in Malaysian labour market can be observed through labour force participation, unemployment, occupational distribution, top management employment involving decision making, and average monthly salary. Such an inequality generally works to the disadvantage of females, notwithstanding their outperformance of educational attainment over their males' counterparts. Case study in the ICT services subsector points to the importance of imparting employability skills among females to have its bearing on wage determination. As such, future research is expected to analyse gender wage decomposition taking into considerations of different types of labour market discrimination, occupational preferences, and gender differences in employability skills.

**Keywords:** Human Capital; Employability Skills; Occupational Preferences; Discrimination

## Introduction

Gender inequalities in the labour market have been explicitly evidenced all around the world. Such inequalities can take place in different dimensions, namely labour force participation, employment by economic sectors, occupational distribution, involvement in organisational decision making, and the like. In fact, gender inequalities can also be traced back to pre-market gender differences in educational attainment. Such inequalities might have a bearing on gender wage differential – an issue that has widely been studied in the realm of labour economics and educational psychology.

Gender inequalities in the abovementioned dimensions have also been long embedded in Malaysian labour market. Labour force participation rate among males has been higher than that of the females, while unemployment rate among females is above that of the males. Despite being generally male-dominance, Malaysian labour market has in the recent decade witnessed increasing labour force participation from the females, thus narrowing the labour force participation gap and unemployment gap between males and females. This phenomenon has much been credited to the timely governmental initiative to empower women through human resource development. As such, educational attainment among females has increased

over the year and, indeed, outperformed that of the males, especially at the tertiary level of education.

However, female workers might not entirely benefit from their educational attainment. If it is generally recognised that higher educational attainment is translated into higher achievement in the labour market, evidence from Malaysia does not seem to support this hypothesis. While employers seem to be prioritising hiring females with tertiary level of education, the unemployment rate among tertiary-educated females is surprisingly higher than the males. Besides that, females seem to be less represented in the high-prestige and high-salary managerial occupations that involve corporate decision making. Such an ironic observation between what is expected of the females and what really is the case in the reality has cast fear as to whether the gender inequality observed in Malaysian labour market is attributed to non-educational related factors. It is this issue of gender inequality that might have resulted in gender wage differentials, as can be observed in the present study that the female's average monthly salary is lower than that of the male's in all major economic sectors.

The issue of gender inequality in Malaysian labour market has definitely rendered the need for a study on the causes of gender wage differentials using the widely-known wage decomposition approaches (Oaxaca, 1973; Oaxaca & Ransom, 1994; Gill, 1994). Before embarking on this study, it is important to take a descriptive approach to examining the current labour market to have an overview of the extent of gender inequality in Malaysia. By so doing, can an appropriate decomposition method be adopted for further analysis. For example, if occupational preference is deemed to be explanatory of gender wage differentials, the decomposition method proposed by Gill (1994) is more appropriate than that proposed by Oaxaca and Ransom (1994). This study therefore explores some numerical evidences of gender comparison of labour market structure in Malaysia. Subsequently, regression analysis is performed to compare the wage determinants between males and females, taking as case study the fast-growing information, communications and technology (ICT) services subsector in Malaysia.

### **Gender Inequalities in Labour Market: A Cross-country Comparison**

Despite much effort has been devoted since the past three decades around the world in eliminating gender inequalities that primarily work to the disadvantage of women, the issue still remains debatable in many countries from different dimensions of life, particularly labour market discrimination. Gender inequality rooted from gender discrimination is prevalently evidenced in developing countries in recent decades, making it an issue that is not only the top agenda in developed countries. Since women's wage work is important for economic growth and the well-being of families, if labour market discrimination limits women's participation in paid economic activities like those in non-agricultural sectors, their productivity and wages will be lowered. It is therefore of utmost importance to study the issue in developing countries to find out the causes of such an inequality, thus devising appropriate policies to end any form of gender discrimination. Table 1 shows some evidences of cross-country gender inequalities that require much legislative attention.

Table 1: Women in development: cross-country comparison

Countries	Women in Wage Employment in Non-agricultural Sector (% of non-agricultural wage employment 2009)	Unpaid Family Workers	
		Male (% of male employment 2010)	Female (% of female employment 2010)
<b>Malaysia</b>	<b>39</b>	<b>2.6</b>	<b>8.1</b>
Thailand	46	13.6	28.5
Singapore	45	0.3	1.0
Japan	42	1.1	6.9
Finland	52	0.6	0.5
Sweden	50	0.3	0.2
United States	48	0.1	0.1
United Kingdom	47	0.2	0.4

Source: Extracted from World Development Indicators 2012

As shown in Table 1, Malaysia has the lowest proportion of female wage employees in the non-agricultural sector compared to other developed and developing countries. In Malaysia, females' employment in non-agricultural sector comprised of only 39 percent out of the total non-agricultural wage employment in year 2009. In this respect, Malaysia was lagged behind of her neighbouring countries like Thailand (46%) and Singapore (45%), and other developed countries like Japan (42%), Finland (52%), Sweden (50%), United States (48%) and United Kingdom (47%). Despite the fact that Malaysia has recorded substantially lower proportions of unpaid family workers by gender in 2010 (2.6% and 8.1% for male and female as a percentage of their employment, respectively) as opposed to that of Thailand, the proportions were still higher than that of the developed countries. Moreover, its magnitude of difference by gender was still larger than that of the developed countries, indicating an inequality in the gender composition of unpaid family workers in 2010.

These statistics show a greater extent of gender disparities in Malaysian labour market than it is observed in other economies, despite the typical less representation of female labour force across the countries. Such an observation will easily direct one's attention to what is contended by Gary Becker as the explanation for gender inequalities – Theory of Discrimination. However, such an explanation of gender inequalities in labour market shall be taken as a grain of salt since human capital (Becker, 1985) and occupational preference (Gill 1994; Solberg 2004) are still considered as part and parcel in accounting for labour force distribution by gender.

## Educational Attainment Among Malaysians: Gender Comparison

As suggested by human capital theory, education is one of the important aspects of investment in human capital that enables a worker to remain competitive in the labour market. As such, through the government's effort in encouraging human capital investment, educational attainment among Malaysians has been improved over the years. In fact, what is worth noting is that the educational attainment among females outperforms that among the males in general.

Table 2: Enrolment in government and government-assisted educational institutions by level of education, 2007 – 2010

Level of Education	2007	2008	2009	2010
<i>Primary</i>				
Male	1,628,388	1,621,693	1,522,698	1,492,014
Female	1,539,387	1,532,397	1,436,394	1,407,214
Total	3,167,775	3,154,090	2,959,092	2,899,228
<b>% Female (over total)</b>	<b>48.6</b>	<b>48.6</b>	<b>48.5</b>	<b>48.5</b>
<i>Secondary (Lower &amp; Upper)</i>				
Male	1,074,879	1,106,747	1,117,456	1,124,349
Female	1,065,416	1,098,748	1,111,882	1,117,986
Total	2,140,295	2,205,495	2,229,338	2,242,335
<b>% Female (over total)</b>	<b>49.8</b>	<b>49.8</b>	<b>49.9</b>	<b>49.9</b>
<i>Post Secondary (Form Six &amp; Matriculation)</i>				
Male	46,115	43,733	43,122	36,419
Female	86,180	84,772	80,371	66,142
Total	132,295	128,505	123,493	102,561
<b>% Female (over total)</b>	<b>65.1</b>	<b>66.0</b>	<b>65.1</b>	<b>64.5</b>
<i>College*</i>				
Male	78,863	81,267	83,963	84,765
Female	77,888	80,281	82,920	79,489
Total	156,751	161,548	166,883	164,254
<b>% Female (over total)</b>	<b>49.7</b>	<b>49.7</b>	<b>49.7</b>	<b>48.4</b>
<i>University</i>				
Male	126,836	143,338	174,332	184,457
Female	204,189	226,687	263,088	278,323
Total	331,025	370,025	437,420	462,780
<b>% Female (over total)</b>	<b>61.7</b>	<b>61.3</b>	<b>60.1</b>	<b>60.1</b>

Notes: \* Polytechnic, Institute of Teachers Education, Community College and Tunku Abdul Rahman College

Source: Ministry of Education and Ministry of Higher Education, Malaysia.

Referring to Table 2, it is observed that the enrolment rates of the primary and lower and upper secondary levels in government and government-assisted educational institutions between males and females have almost been similar from 2007 to 2010. However, the percentages of females enrolling at Form Six and Matriculation level have been higher (more than 60%) than those of the males, despite the percentages are almost equal once again at the College level. This implies that Form Six and Matriculation are more appealing to females while the males would most probably advance their educational path through College after graduating from secondary educational level. Nevertheless, it is interesting to note that females' enrolment at the University level outweighs that of the males once again, indicating that the females have stronger intention to further their studies at the tertiary level upon their graduation at the Form Six and Matriculation level. Meanwhile, there has been tendency for males to discontinue from investing in human capital after their graduation at the College level.

Table 3: Enrolment in public and private higher education institutions, 2007 – 2010

Level of Degree	2007		2008		2009		2010	
	Public	Private	Public	Private	Public	Private	Public	Private
<i>Bachelors</i>								
Male	94,337	66,439	101,715	70,736	102,119	104,423	103,483	105,984
Female	153,544	74,620	168,441	80,855	169,893	108,413	171,207	114,315
Total	247,881	141,059	270,156	151,591	272,012	212,836	274,690	220,299
% Female (over total)	<b>61.9</b>	<b>52.9</b>	<b>62.3</b>	<b>53.3</b>	<b>62.5</b>	<b>50.9</b>	<b>62.3</b>	<b>51.9</b>
<i>Masters</i>								
Male	14,321	2,578	17,063	4,398	20,575	7,222	21,620	8,281
Female	16,062	1,794	19,031	4,142	24,305	5,250	28,056	5,757
Total	30,383	4,372	36,094	8,540	44,880	12,472	49,676	14,038
% Female (over total)	<b>52.9</b>	<b>41.0</b>	<b>52.7</b>	<b>48.5</b>	<b>54.2</b>	<b>42.1</b>	<b>56.5</b>	<b>41.0</b>
<i>PhD</i>								
Male	6,293	617	7,526	799	8,892	1,237	10,416	2,537
Female	3,874	349	4,717	532	5,777	575	7,302	1,267
Total	10,167	966	12,243	1,331	14,669	1,812	17,718	3,804
% Female (over total)	<b>38.1</b>	<b>36.1</b>	<b>38.5</b>	<b>40.0</b>	<b>39.4</b>	<b>31.7</b>	<b>41.2</b>	<b>33.3</b>

Source: Ministry of Higher Education

When tertiary level of education is further analysed by university degree of studies, it is noted that females constitute larger percentage of enrolling for Bachelors' degree than do the males, both for public and private higher education institutions, between 2007 and 2010 (Table 3). On the contrary, males are generally more compelled to pursuing for postgraduate studies, as seen by their increased percentage of enrolment (5% to 10%) for Masters' degree compared to their enrolment for Bachelors' degree, both for public and private higher education institutions. Males' intention to pursue postgraduate studies is even more prevalent for PhD as their enrolment rate constitutes more than 60 percent of the total. In a nutshell, females have less preference towards pursuing postgraduate studies, albeit their higher composition in the enrolment for Bachelors' degree.

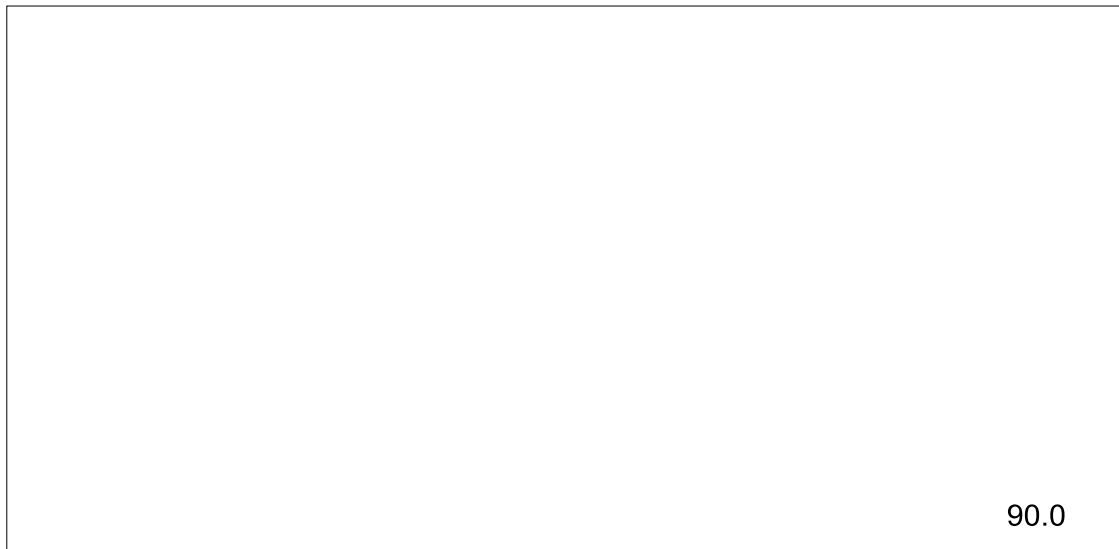
Statistics on educational attainment among Malaysians point to an important fact, that female's educational attainment has generally outperformed that of the male. While pre-market human capital investment is a prerequisite to secure a promising job, the bar will be set even higher as we are moving into the highly competitive knowledge-based economy. Given females' educational out-performance over the males, it is expected that this fact will be translated into higher job opportunity for females. Moreover, should Mincerian wage equation be applicable in Malaysian labour market, such an educational out-performance should also reflect better remuneration for females. However, numerical evidence of gender comparison on labour market involvement, employment by educational attainment, and average monthly salary presented in the following sections do not seem to render support to this hypothesis, to certain extent.

### **Labour Market Involvement among Malaysians: Gender Comparison**

A time-series comparison of the labour force participation rate in Malaysia between 1982 and 2010 better reflects the trend of changes in labour market involvement between male and female. This is the period within which Malaysia launched two important industrialisation strategies, namely the second wave of Import Substitution Industrialisation (ISI) that focused primarily on promoting heavy industries (1980 – 1985), and the second wave of Export-Oriented Industrialisation (EOI) that was complemented by a liberal ownership and pro-capital policy towards multinational corporations in the quest for attracting foreign direct investment (FDI) inflows (1986 – present).

Looking at Figure 1, it is noticed that the male's labour force participation rate (LFPR) was almost double of the female's LFPR between 1982 and 2010. However, there has been a decreasing trend of the male's LFPR since 1997, mainly due to the East Asian financial crisis, as opposed to the relatively stable trend of LFPR among the females. As a result of that, the gender gap in LFPR has been narrowing since then.

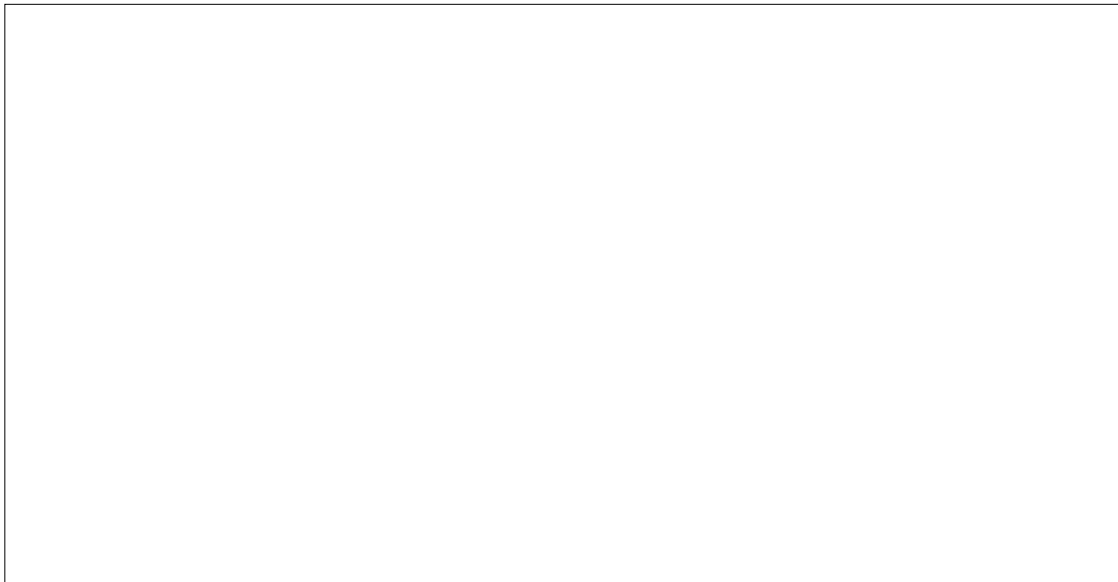
Figure 1: Labour force participation rate (LFPR) by gender, 1982 – 2010



Source: Department of Statistics, Malaysia

Besides that, it is observed from Figure 2 that the unemployment rate showed an increasing trend within the period of the second wave of ISI, and reached its peak in 1986, both for males and females. This was primarily the consequence of the world economic recession taking place in 1985, which retarded the newly-launched heavy industries and declined the commodity prices in Malaysia back then. The recession hurt female's employment more than it did to male, widening the unemployment gap until 1988 when the unemployment rate for both started to plunge sharply, thanks to the second wave of EOI that successfully attracted substantial amount of FDI inflows and created sufficient job opportunity to Malaysians. Since then, the unemployment gap between male and female has been declining and even almost converged for certain years (e.g. 1996, 1999, 2000, 2003 and 2006). Despite a rise in the female's unemployment rate as opposed to a fall in the male's unemployment rate during the East Asian financial crisis in 1997 and a rise in unemployment for both during the 2008 and 2009 sub-prime lending crisis, overall the female's employment opportunity has been almost comparable to that of the male.

Figure 2: Unemployment rate by gender, 1982 – 2010



Source: Department of Statistics, Malaysia

The convergence of the LFPR and unemployment rate between male and female evidenced within the period of the second wave of EOI could be largely due to the government's initiative to empower women through investing in human resource development. However, the effectiveness of such an initiative might be compromised when labour market involvement between genders is further analysed by educational attainment, as shown in the following section.

### **Employment and Unemployment by Educational Attainment: Gender Comparison**

Referring to Table 4, when employment is analysed within similar level of education, it is observed that the number of males being employed are consistently higher than the number of females being employed. This is the characteristic of male-dominance in Malaysian labour market. However, when employment is analysed across educational attainment within each gender group, it is noticed that the proportion of tertiary-educated females being hired is larger than that of the tertiary-educated males.

This scenario indicates that, quantity-wise, female workers have been less represented in Malaysian labour market although they make up the largest proportion of enrolment at the tertiary level of education (as shown in Table 2 previously). Such a less representation among the females in the job market is not likely due to their less achievement in human capital. Perhaps, this could be due to hiring discrimination or female's preference towards quitting from the labour market to perform household responsibility. Nevertheless, quality-wise, when employers consider hiring females, they would prioritise tertiary-educated females, resulting to



a larger proportion of tertiary-educated females being hired, among others, as compared to that of the tertiary-educated males, among others. This could be due to the fact that employers might have changed their mindset towards female’s capability that is reflected through their educational attainment that serves as market signalling.

Table 4: Number of employed persons by educational attainment and sex, 2007 – 2010 (‘000)

Educational Attainment	2007		2008		2009		2010	
	Male	Female	Male	Female	Male	Female	Male	Female
Total	6,747.1 (100)	3,791.0 (100)	6,851.1 (100)	3,808.5 (100)	6,955.7 (100)	3,941.6 (100)	7,112.1 (100)	4,017.3 (100)
No formal education	216.8 (3.21)	208.0 (5.49)	261.4 (3.82)	213.3 (5.60)	234.9 (3.38)	191.0 (4.85)	228.2 (3.21)	173.7 (4.32)
Primary	1,402.2 (20.78)	662.7 (17.48)	1,378.6 (20.12)	599.9 (15.75)	1,317.6 (18.94)	604.6 (15.34)	1,292.9 (18.18)	568.2 (14.14)
Secondary	3,970.2 (58.84)	1,947.2 (51.36)	3,989.8 (58.24)	1,966.3 (51.63)	4,024.6 (57.86)	1,976.5 (50.14)	4,148.1 (58.32)	2,030.7 (50.55)
Tertiary	1,152.5 (17.08)	969.4 (25.57)	1,221.3 (17.83)	1,029.0 (27.02)	1,378.6 (19.82)	1,169.4 (29.67)	1,442.9 (20.29)	1,244.6 (30.98)

Notes: Educational attainment totals include “unknown” category.

Percentages are in parentheses.

Source: Department of Statistics, Malaysia

On the contrary, analysing within each gender group, the proportions of primary- and secondary-educated males being employed are higher than that of the females. This is especially more prevalent for secondary-educated males, which indicates that majority of the employed persons in Malaysian labour market obtains only secondary level of education, and employers have a stronger preference towards hiring the males than the females. Meanwhile, given the larger proportion of tertiary-educated females being employed compared to the males, it implies that females should prove their employability through tertiary level of education in order to compete with the males for employment. This is precisely the case when one refers to the fact of higher enrolment rate of females at the tertiary level of education. However, when unemployment is analysed by educational attainment too, an ironic phenomenon is observed.

Table 5: Percentage distribution of unemployed persons by educational attainment and sex, 2007 – 2010

Educational Attainment	2007		2008		2009		2010	
	Male	Female	Male	Female	Male	Female	Male	Female
Total	100	100	100	100	100	100	100	100
No formal education	2.4	2.0	3.7	4.2	3.0	3.3	3.3	4.4

Primary	12.3	9.2	11.6	8.5	13.7	8.0	12.0	6.8
Secondary	66.3	54.0	64.7	55.0	63.9	55.2	64.3	53.4
Tertiary	19.0	34.8	20.1	32.3	19.4	33.5	20.3	35.4

Source: Department of Statistics, Malaysia

Table 5 reveals the fact that majority of the unemployed persons are secondary-educated. There is as much proportion of the unemployed secondary-educated workers as they are for the employed, probably because of the disemployment effect resulted from increasing labour supply among workers with this educational attainment. Overall, it can be observed that secondary-educated males are more vulnerable to unemployment than are the secondary-educated females.

However, reverse pattern is observed for unemployment among the tertiary-educated workers. Overall, within gender group, the proportion of unemployed tertiary-educated females is larger than that of the males. In fact, there is an increasing trend of that proportion among females from year to year. A question arises: Why are tertiary-educated females more vulnerable to unemployment than are the tertiary-educated males? If it is true that employers who desire to recruit female workers would prioritise hiring the tertiary-educated females rather than the tertiary-educated males, then females should have their employment well secured. It casts doubt as to whether such a priority at the point of hiring has been detracted from them at the workplace. Had it been the case, it may raise concern over the possible explanation for such scenario, for instance, within-occupational and across-occupational discrimination, and incompetent non-educational-related characteristics like soft skills or employability skills. These reasons may work to the disadvantage of females in terms of employment opportunity, and thus monetary return, which is not readily explainable by higher level of educational attainment.

As such, a study on the sources of gender wage differentials is necessary, taking into account gender differences in occupational attainment and gender differences in employability skills. As the statistics on employability skills by gender are not available at the aggregate level in Malaysia, one will only be able to examine the differences by conducting empirical research at the individual level. Unlike employability skills, the statistics on gender differences in occupational attainment are readily available at the aggregate level in Malaysia. Therefore, the following sections scrutinises this aspect at the aggregate level, which in many ways works to the disadvantage of females.

### **Occupational Distribution by Gender**

Gender inequality in the occupational distribution in Malaysia is evidenced in every occupational category as classified according to Malaysian Standard Classification of Occupations (MASCO) 1998. Male dominance is generally observed in all categories in recent years (i.e. 2009 and 2010), except for clerical workers occupation. Besides that, females are also

observed working as service workers and shop and market sales workers. These observations are explanatory as clerical jobs and service and sales jobs are more feminine and time-flexible compared to others. These job characteristics cater for female's child-rearing role and household responsibility performance. As such, among all the females employed, the percentages of them holding these two occupational categories in 2010 are 19.7 percent and 20.1 percent, respectively (Table 6).

Table 6: Number of employed persons by occupation and sex, 2009 – 2010

Occupation <sup>1</sup>	2009				2010			
	Total '000	Male %	Female %	Female (% of total female employed)	Total '000	Male %	Female %	Female (% of total female employed)
<i>Manager</i>	822.9	76.9	23.1	4.8	837.6	75.0	25.0	5.2
<i>Prof</i>	684.6	52.5	47.5	8.3	706.4	52.5	47.5	8.3
<i>Tech</i>	1,560.0	60.4	39.6	15.7	1,644.0	60.5	39.5	16.1
<i>Clerical</i>	1,086.6	30.1	69.9	19.3	1,132.8	30.0	70.0	19.7
<i>Service</i>	1,869.1	55.7	44.3	21.0	1,874.5	56.8	43.2	20.1
<i>Agri</i>	1,255.7	74.4	25.6	8.2	1,259.9	75.7	24.3	7.6
<i>Craft</i>	1,132.9	86.6	13.4	3.9	1,167.8	85.9	14.1	4.1
<i>Operate</i>	1,242.6	75.6	24.4	7.7	1,312.3	74.7	25.3	8.3
<i>Element</i> <sup>2</sup>	1,242.9	64.5	35.5	11.2	1,194.2	64.9	35.1	10.4

Notes: <sup>1</sup> Occupation classified according to MASCO (Malaysian Standard Classification of Occupations) 1998

*Manager* – Legislators, senior officials & managers; *Prof* – Professionals; *Tech* – Technicians & associate professionals; *Clerical* – Clerical workers; *Service* – Service workers and shop and market sales workers; *Agri* – Skilled agricultural & fishery workers; *Craft* – Craft and related trade workers; *Operate* – Plant & machine-operators and assemblers; *Element* – Elementary occupations

<sup>2</sup> Elementary occupations perform simple and routine tasks, which mainly require the use of handheld tools and in some cases considerable physical effort. Most occupations in this major group require skills at the first level.

Source: Department of Statistics, Malaysia

It is worth-noting that gender composition of professional jobs shows comparable distribution of males and females in this category. There are as many female professionals as there are male professionals. Professional category is generally known as high-prestige and high-salary occupation that requires higher level of human capital investment, such as education and training. As observed in Table 2 and Table 3 previously, it is explicit to note that females' employment as professionals might have been contributed by their higher educational attainment. As such, if gender wage gap in Malaysia were small, it could be partially the result

of government’s efforts in empowering women by enhancing their level of human capital investment that enable them to climb up the job ladder.

Despite the fact that there has been increasing number of females holding professionals occupation, they only made up about one quarter of the total number of legislators, senior officials and managers, as shown in Table 6. These are the occupations where important decisions that influence the working of an organisation are made. However, male-dominance is still evidenced in this top management and decision-making occupational category, casting fear that females are less influential than males in an organisation albeit their educational attainment. The next section elaborates this phenomenon in greater details.

### Gender Composition of Top Management Occupations Involving Corporate Decision Making

In Malaysia, male employees still constitute the largest proportion of workers holding top management positions involving corporate decision making. As shown in Table 7, almost 90 percent of the members of board of directors in government-linked companies (GLC) were males between 2009 and 2011, and there is a fear of sign of increase in this composition in future. In 2011, there were 30 GLCs involved in Transformation Programme of GLC, where important corporate decisions were made and strategic actions were taken. Also, the percentage of males at the top management in public sector was around 70 percent between 2009 and 2011. If we examine the educational achievement of females in Table 2 and Table 3, it is ironically noticed that females are as competent, if not superior, as the males in terms of educational qualification. Technically, what is required of the males to generate constructive decisions which have a bearing on the growth of companies is indeed readily possessed by the females. However, male-dominance in the board of directors and top management positions are still evident in the public sector, casting doubt if the human capital investment among females works to their advantage in the labour market.

Table 7: Percentage of members of board of directors in government-linked companies and top management in public sector by sex, 2009 – 2011

	2009		2010		2011	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
Members of Board of Directors	87	13	87	13	91.2*	8.8*
Top Management	69.5	30.5	67.7	32.3	68.5	31.5

Notes: \* 30 GLC involved in Transformation Programme of GLC

Source: Ministry of Finance and Public Service Department

In fact, the phenomenon of females being less represented in the senior management of a company is generally observable around the world. As shown in Table 8, while the average percentages of females in the senior management of the business in Malaysia were generally

lower than that of other ASEAN countries like Philippines and Thailand, they were comparable to other Asian countries like Mainland China and Taiwan, and Western countries like Poland and Mexico. This statistic shows that gender inequality in the labour market and less-paid-off human capital investment among females is not only a concern within Malaysia, rather, it is an issue of international concern which deserves thorough investigation for proper corrective actions taken.

Table 8: Average percentage of women in the senior management of the business for top 10 countries, 2004 – 2011 (%)

Country	2004	2007	2009	2011
Philippines	39	50	47	35
Russia	42	34	42	36
Thailand	n.a.	39	38	45
Poland	36	23	32	31
Mainland China	n.a.	32	31	34
<b>Malaysia</b>	<b>n.a.</b>	<b>23</b>	<b>31</b>	<b>31</b>
Taiwan	31	29	31	30
Mexico	27	20	31	n.a.
Armenia	22	22	29	n.a.
Brazil	n.a.	42	29	n.a.

Source: Grant Thornton International Business Report 2011

### **Gender Differences in Average Monthly Salary by Economic Sectors**

Pre-market and post-market gender inequality observed in Malaysia has a bearing on the way males and females are rewarded in the labour market. Gender wage differentials are generally observed in all major economic sectors in Malaysia, namely the manufacturing, agricultural and services sectors. Male workers are still generally observed to be at an advantaged position to earn more than their female counterparts, despite such wage superiority gained by the males is mitigated in some occupational categories. Specifically, gender wage differentials are serious concerns for the high-salary and high-prestige managerial, professional and executive positions in the manufacturing sector; while it is the concern for the low-skilled and less educated general workers positions in the agricultural sector. Meanwhile, gender wage gap is larger in the health, private education and social works services subsectors. However, smaller gap is observed in the information and communications services subsector, probably due to comparable human capital investment between males and females as this subsector requires high proficiency in professional knowledge. Despite females' earnings are improved over the years, males still generally earn more than females, casting doubt if the tremendous growth in the information and communications services subsector had rendered wage advantageous to both males and females. The following section discusses the gender wage differentials observed in the three major economic sectors in Malaysia, using the latest possible data from the Department of Statistics.

## Gender Wage Differentials in the Manufacturing Sector

When average monthly salary is compared by gender in the manufacturing sector, it is observed that male workers generally earned more than their female counterparts in every occupational category between 2007 and 2010 (Refer to Table 9). However, such a wage advantage enjoyed by males had been diminishing over the year, with the male-to-female salary ratio for full-time workers being dropped from 1.43 in 2007 to 1.29 in 2010. This implies that percentage growth of monthly salary among female workers had been higher than that of the males, especially for technical, supervisory, and general workers positions.

Table 9: Average monthly salary in Malaysian manufacturing sector by gender and occupational category, 2007 – 2010 (in Ringgit Malaysia (RM))

	2007			2008			2009			2010		
	Ma	Fe	Ma/Fe	Ma	Fe	Ma/Fe	Ma	Fe	Ma/Fe	Ma	Fe	Ma/Fe
F	2,051	1,432	1.43	2,167	1,551	1.40	2,179	1,618	1.35	2234	1727	1.29
M	7,080	5,026	1.41	7,496	5,196	1.44	7,531	5,409	1.39	8057	5679	1.42
T	2,837	2,469	1.15	3,022	2,728	1.11	2,985	2,781	1.07	3118	2887	1.08
C	2,098	1,671	1.26	2,241	1,799	1.25	2,172	1,781	1.22	2469	1930	1.28
G	1,240	1,017	1.22	1,296	1,074	1.21	1,323	1,119	1.18	1391	1184	1.17

Note: F = Full-time employees, M = Managerial, professional and executive, T = Technical and supervisory, C = Clerical and related occupations, G = General workers; Ma = Male, Fe = Female, Ma/Fe = Average monthly salary ratio of male to female workers.

Source: Department of Statistics, Malaysia; Author's calculations.

Although females' salary had generally been improved within the manufacturing sector, the improvement was still outweighed by their male counterparts in the high-salary and high-prestige managerial, professional and executive positions. Such an observation might cast fear that workers who are equally educated and trained might be treated differently in the manufacturing sector due to the gender group to which they belong, especially when they move up the job ladder. Rahmah and Zulridah (2005) explain that such gender wage differentials in the Malaysian manufacturing sector are substantially due to discrimination.

## Gender Wage Differentials in the Agricultural Sector

Meanwhile, the issue of gender wage differentials in the agricultural sector is relatively less severe compared to the manufacturing sector, despite the fact that the males are still generally at the advantaged position in getting higher salary than the females. In fact, the year of 2008 witnessed an outperformance of earnings among the females as compared to the males, especially in the fisheries subsector where the male-to-female salary ratio for all occupational

categories were below one (Refer to Table 10). It seems that the global economic crisis striking in 2008 did not hurt much on the females working in the agricultural sector.

Table 10: Average monthly salary in Malaysian agricultural sector by gender and occupational category, 2005, 2008 and 2010 (in MYR)

	2005			2008			2010		
	Ma	Fe	Ma/Fe	Ma	Fe	Ma/Fe	Ma	Fe	Ma/Fe
<i>Livestock</i>									
F	1,018	994	1.02	1,173	1,093	1.07	1,407	1,348	1.04
M	4,402	3,314	1.33	4,762	3,314	1.44	5,476	4,609	1.19
T	1,963	1,886	1.04	1,939	1,624	1.19	2,324	2,212	1.05
C	1,400	1,296	1.08	1,305	1,322	0.99	1,863	1,450	1.29
G	773	730	1.06	888	827	1.07	1,026	888	1.16
<i>Fisheries</i>									
F	978	919	1.06	1,132	1,327	0.85	1,302	1,299	1.00
M	2302	2155	1.07	3,596	4,028	0.89	3,906	2,968	1.32
T	1924	2073	0.93	1,988	2,527	0.79	2,168	2,807	0.77
C	708	977	0.72	1,114	1,193	0.93	1,323	1,287	1.03
G	789	578	1.36	907	1,028	0.88	1,073	816	1.32
<i>Crops</i>									
F	761	574	1.32	875	631	1.39	1,022	780	1.31
M	3878	3595	1.08	4,725	3,914	1.21	4,986	4,592	1.09
T	1375	1384	0.99	1,538	1,408	1.09	1,653	1,556	1.06
C	1247	1008	1.24	1,373	1,266	1.08	1,668	1,299	1.28
G	601	448	1.34	712	511	1.39	831	632	1.31

Note: F = Full-time employees, M = Managerial, professional and executive, T = Technical and supervisory, C = Clerical and related occupations, G = General workers; Ma = Male, Fe = Female, Ma/Fe = Average monthly salary ratio of male to female workers.

Source: Department of Statistics, Malaysia; Author's calculations.

However, when analysing by occupational categories, Table 10 reveals that the issue of gender wage differentials in agricultural sector is more of a concern for the low-salary and low-prestige general workers positions, as opposed to the high-salary and high-prestige managerial positions in the manufacturing sector. In fact, there had been increasing trend in the salary ratio within the livestock subsector between 2005 and 2010. The salary ratios were especially higher for general workers positions in the fisheries and crops subsectors. As most of the general workers are low skilled and less educated, the observed gender wage differentials might draw our attention to the extent to which the explained and unexplained factors of the wage gap have impacted this vulnerable group of workers in the agricultural sector. If the scenario involves hiring discrimination and crowding of females into this low-salary occupation, the explanatory power of the unexplained factors is not to be taken lightly.



## Gender Wage Differentials in the Services Sector

When gender wage differentials are analysed by services subsectors, it is observed that the males' average monthly salary is generally higher than that of the females' in all subsectors, with the exception for administrative and supportive services which are usually female-dominated. Gender wage gap in the health services, social works and private education are among the largest, producing the salary ratio of 1.63, 1.40 and 1.35, respectively, in 2010 (Refer to Table 11). As argued by Rahmah (2011), more than 70 percent of the gender wage gap observed in the education, health and ICT services subsectors is due to unexplained factor, which could be attributed to labour market discrimination. However, as Rahmah's study focuses on a combination of these three selected subsectors, the argument for the role of unexplained factor in accounting for gender wage gap may not be applicable to each subsector *per se*.

Table 11: Average monthly salary in Malaysian services sector by gender and subsectors, 2010 (in RM)

<b>Services Subsectors</b>	<b>Ma</b>	<b>Fe</b>	<b>Ma/Fe</b>
Accommodation	1,590	1,344	1.18
Food & Beverages	969	831	1.17
Information & Communications	4,131	3,951	1.05
Private Education	3,088	2,289	1.35
Health	3225	1985	1.63
Social Works	1,302	931	1.40
Administrative & Supportive Services	1,417	1,525	0.93
Transportation & Storage	2,792	2,503	1.12
Real Estate Activities	2,759	2,275	1.21
Professionals, Scientific & Technical	2,815	2,178	1.29
Financial Services	--	--	--

Note: Ma = Male, Fe = Female, Ma/Fe = Average monthly salary ratio of male to female workers.

Source: Department of Statistics, Malaysia; Author's calculations.

In fact, gender wage gap in the information and communications subsector is the smallest among all the subsectors. On average, males' average monthly salary is only about 5 percent higher than that of the females'. This could be due to the fact that males and females are equally educated and trained in order to hold any positions within the ICT subsector since the job nature in this subsector requires high level of professional knowledge, which can be gained through human capital investment – regardless of their gender groups. If that is the case, the gender wage gap observed in this subsector might not be largely due to the explained factor, which is rooted from gender differences in productivity-related characteristics. Perhaps, the explained factor may even work to reduce the gender wage gap in the ICT subsector. If the



argument for the role of unexplained factor is applicable in this subsector, to what extent it accounts for the gender wage gap? If the unexplained factor represents discriminatory treatment practised in the labour market, what are the sources of discrimination that could explain the gender wage gap? To answer these questions, more sensitive measure of gender wage decomposition is required, which is something beyond the scope of studies in Rahmah (2011).

Table 11 above shows the latest possible average monthly salary by gender in the services subsector compiled by the Department of Statistics for the reference year of 2010. As Malaysian economy had just recovered in 2010 from the global economic crisis that took place in 2008 and 2009, a historical analysis of the trend of gender wage differentials in the services subsector before the crisis is of particular concern. This is relevant owing to the fact that economic condition before the crisis might bring wage advantage to certain gender groups within the subsectors. Since ICT services subsector contributes substantially to the economic performance in the overall services sector, an analysis of the gender wage differentials in this subsector is thus necessary to examine if its tremendous growth had generated positive externality in terms of wage advantage within the subsector.

As categorised by the Department of Statistics, the ICT services subsector in Malaysia can be grouped into computer services and telecommunication services. Overall, based on the detailed data available from the Department of Statistics between 2001 and 2006, the male-to-female average monthly salary ratio in these subsectors for all occupational categories fluctuated within a range between 1.0 and 1.4 (Wye & Rahmah, 2010). This indicates male superiority in terms of monetary remuneration in the labour market, albeit an improvement observed for females over the years before the economic crisis struck in 2008 and 2009. A query has been provoked as to whether the tremendous growth observed in recent years in the services sector had really benefited workers of both genders.

### **Services Sector as Engine of Growth and Employment Creation**

When performance of services sector is analysed by its subsectors, it is found that all subsectors have recorded lower growth rate in 2008 compared to 2007 except for communication, government services and other services (Table 12). The growth rate for all subsectors fluctuated since 2008 and it is forecasted to rise in 2012 with the exception for real estate and business services, wholesale and retail trade, and government services. In fact, communication subsector is forecasted to grow continuously towards 2012 with the rate of growth being the highest (7.9%) among all subsectors that are expected to grow between 2011 and 2012. The engine of growth in communication subsector lies with the telecommunications industry through higher usage of cellular and broadband services.

Table 12: Services sector performance, 2007 – 2012: Malaysia

Services Sector	Changes (%)					
	2007	2008	2009	2010	2011 <sup>1</sup>	2012 <sup>2</sup>
<b>Intermediate Services</b>						
Transport and storage	10.0	6.1	-2.8	6.9	5.1	6.7
Communication	7.0	7.3	6.0	8.5	7.9	7.9
Finance and insurance	11.1	7.7	5.1	6.4	6.3	6.8
Real estate and business services	18.2	1.5	2.4	7.8	6.8	5.7
<b>Final Services</b>						
Utilities (electricity, water and gas)	3.9	2.1	0.4	8.2	3.1	4.8
Wholesale and retail trade	12.5	9.8	1.2	8.0	7.4	6.9
Accommodation and restaurant	10.8	7.3	2.8	5.0	6.0	6.9
Other services	5.0	5.2	4.4	4.0	4.4	5.7
<b>Government Services</b>	4.5	11.1	2.0	5.8	7.6	5.6
<b>Total<sup>3</sup></b>	<b>9.7</b>	<b>7.2</b>	<b>2.6</b>	<b>6.8</b>	<b>6.4</b>	<b>6.5</b>

Note: <sup>1</sup> Estimate <sup>2</sup> Forecast <sup>3</sup> Total may not add up due to rounding

Source: Extracted from Economic Report, Malaysia, various years.

A question arises as to whether the tremendous growth in the services sector also sets a platform for achieving robust growth in the labour market with respect to promoting gender equality in labour market outcomes. To the extent where this end is met, an investigation into the services sector is thus in immediate need to uncover the causes of any possible gender wage differentials.

In addition, when examining the employment by different economic sectors in Malaysia between 2007 and 2011, one may notice that the services sector itself has already contributed half of the total employment across all sectors in Malaysia within that period. This is followed by the manufacturing sector that contributed only less than one-third of the total. Moreover, the employment growth in services sector also outweighed that in manufacturing sector, with an average growth rate of 2.48 percent and 1.92 percent within the period, respectively. Evidence from Table 13 points to the fact that the services sector has a bearing on creating employment in Malaysian labour market, despite the explicit discriminatory treatment found in selected services subsectors by Rahmah (2011).

Table 13: Employment by sector, 2007 – 2011: Malaysia

Sector <sup>a</sup>	Change (%)					Share (%)				
	2007	2008	2009	2010	2011 <sup>1</sup>	2007	2008	2009	2010	2011 <sup>1</sup>
A	-0.1	0.1	0.0	0.0	-0.1	12.2	12.0	12.0	11.6	11.4
MQ	0.8	-0.2	-0.7	0.0	0.5	0.4	0.4	0.4	0.4	0.3

MN	2.2	1.3	-3.8	5.4	4.5	28.9	28.8	27.6	28.3	28.9
C	0.3	0.1	0.5	0.4	0.4	6.6	6.6	6.6	6.4	6.3
S	3.1	2.3	2.8	2.1	2.1	51.9	52.2	53.5	53.3	53.1
Total	2.2	1.6	0.4	2.6	2.4	100	100	100	100	100

<sup>a</sup> Notes: A – Agriculture, forestry, livestock and fishing; C – Construction; MQ – Mining and quarrying; S – Services; MN – Manufacturing

<sup>1</sup> Estimate

Source: Adapted from Economic Report, Malaysia, various years.

Another question arises here as to whether the discriminatory practice in the services sector will render any unfair treatment to a large proportion of workers hired in this sector in terms of gender occupational distribution, and thus, gender wage differentials. A study in this sector is thus necessary. However, before embarking on the study of gender wage differentials, it is more practical to examine the wage determinants and their comparison by gender in the services sector. By so doing, one would be able to produce more sensitive and meaningful gender wage decomposition analysis by incorporating the statistically significant wage determinants into the decomposition model. In the following section, ICT services subsector will be chosen as the case study given its growth-dominating role in Malaysia.

### Wage Determinants: A Separate Analysis by Gender

The Mincerian wage equation is used in the present study and it is estimated for both male and female. The equation is shown as follows:

$$\ln W_i = \alpha + \sum \beta X_i + \sum \gamma p_i + u_i \tag{1}$$

$W$  is the monthly salary expressed in natural logarithmic form, while  $X$  is a vector of productivity-related characteristics, such as human capital variables, occupational variables, and market variables. The vector  $p$  represents estimated probabilities for  $J - 1$  occupational categories, given  $J$  occupational categories. As usual,  $\alpha$  and  $u$  are the constant and error term, respectively, while  $\beta$  and  $\gamma$  are vectors of coefficients for productivity-related characteristics and estimated probability for occupational categories, respectively. The  $i$  refers to the  $i$ -th observation.

In the present study, the probability for an individual to be observed in a particular occupation,  $p$ , is estimated to replace the commonly-used occupational dummy variable. By so doing, one would be able to solve for biases resulted from self-selection into a particular occupation (Heckman, 1979; Gill, 1994). That means, those who are observed in a particular occupational category are also an endogenously selected sample. As a result of using nonrandomly selected samples in wage determination, the wage equations do not estimate population wage functions which are supposed to be estimated based on random sample (Heckman, 1979). In order to overcome the above biases, Gill (1994) has proposed a procedure of measuring occupational attainment before it is entered into wage equations. Following Gill, and using multinomial logit

model, the present study estimates the probability for an individual to be in a particular occupational category based on a list of exogeneous variables that determine the demand of labour decision by employers and supply of labour decision by individual workers. The full model of the reduced-form multinomial logit model is expressed as follows:

$$p_{ij} = \text{prob}(h_i = oc_j) = \frac{e^{X_i \lambda_j}}{\sum_{k=1}^J e^{X_i \lambda_k}} \quad \text{where } i = 1, \dots, n; j = 1, \dots, J \quad (2)$$

Each of the  $J$  occupations is represented by separate functions of the  $X$ s, i.e.  $X_i \lambda_j$ , to allow for different impact of characteristics on different occupations. In Equation (2),  $i$  refers to the  $i$ -th observation,  $n$  is the total number of observations,  $\lambda_j$  is the vector of coefficients for exogenous variables  $X_i$  explaining the probability of an individual to be observed in occupation  $j$ , and  $\lambda_k$  is the vector of coefficients corresponding to the  $k$ th occupation. The qualitative dependent variable  $h$  can take on any of the  $J$  possible values  $oc_1, \dots, oc_J$ , each corresponding to a different occupation. Maximum likelihood method is used to estimate the parameters of Equation (2), for both male and female respondents<sup>1</sup>.

The case study was conducted using questionnaire survey on 962 respondents working in Malaysian ICT services subsector between July 2010 and August 2011. Since ICT services subsector requires highly educated and professional personnel who are technically skilful, it renders the rationale of focusing on occupational categories like managerial, professional and technicians.

Besides that, employability skills possession (*EmpSkill*) were empirically proven to be differed by gender and have impacts on wage determination, as observed by Ab. Rahim and Ivan (2007), Rothwell and Arnold (2007), Green (1998), and Dickerson and Green (2002). As such, it is entered into the wage equation. In the present study, the level of competency for a list of 12 skills perceived by each respondent is rated through four constructs using a 4-point Likert scale, namely 'Poor', 'Fair', 'Good', and 'Excellent'. These constructs are then coded into '1' (minimum value) to '4' (maximum value) for each skill, respectively, for use of index computation. Following the Goalpost Method used in calculating the Human Development Index (HDI) that is published in the Human Development Report (HDR), the index of employability skills possession can be normalised and calculated by applying the following formula:

$$\text{Index of Skills Possession (EmpSkill)} = \frac{\text{Actual} - \text{Minimum}}{\text{Maximum} - \text{Minimum}} \quad (3)$$

where *Actual* represents total actual score of response rated by each individual about his or her level of skills competency for all the 12 skills, while *Minimum* and *Maximum* denotes the total

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<sup>1</sup> Results of the multinomial logit models for each occupation by gender will be available upon request.

minimum and total maximum value assigned to the coding of responses for all skills, respectively.

The results of ordinary least squares estimation of wage equation for male and female are shown in Table 14. With the R square of wage equation for both gender being greater than 0.46 and statistically significant F statistic for both equations, goodness-of-fit for the equations is held. Multicollinearity is not a severe problem in both equations with the VIF for all variables being less than 10, with the exception for variables like experience and square of experience, which is reasonable given the nature of how these variables are entered in the models.

Table 14: Results of ordinary least squares estimation of wage equation by gender (White heteroskedasticity-consistent standard errors & covariance)

Variables	Male		Female	
	Coefficients	VIF	Coefficients	VIF
Constant	6.178*** (22.955)	--	5.462 *** (12.599)	--
<b>Human Capital Variables</b>				
<i>Training</i>	-0.00111 (-0.188)	1.991	-0.000155 (-0.0219)	1.487
<i>Experience</i>	0.0739*** (8.181 )	10.927	0.0523 *** (4.521)	14.957
<i>Experience Square</i>	-0.00134 *** (-4.688 )	9.222	-0.00125*** (-4.123)	10.893
<i>EduYear</i>	0.0387* (1.844)	5.488	0.0837*** (3.525)	4.773
<i>EmpSkill</i>	0.104 (0.5897)	1.772	0.481* (1.783)	2.472
<b>Occupational Categories:</b>				
<i>PManager</i>	0.5097* (1.901)	3.713	0.708** (1.957)	2.911
<i>PProf</i>	0.863*** (2.903)	7.325	0.302 (1.169)	4.969
<i>PTechAP</i>	0.342** (2.047)	1.841	0.069 (0.338)	1.847
<b>Market Variables</b>				
Structure of Employment: <i>DFull</i>	0.279** (2.043)	1.115	0.331*** (2.553)	1.065
Area in which current job is located: <i>DKV</i>	0.175*** (4.528)	1.028	0.152*** (3.547)	1.148
R Square	0.475		0.462	
Adjusted R Square	0.465		0.448	
Standard Error of the Estimate	0.463		0.443	
F Statistic for Joint Test of Significance	49.938***		33.211***	
Number of				

Observations	564	398
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Notes:

't' values are in parentheses; VIF = Variance Inflation Factor

\*\*\* Significant at 1% level    \*\* Significant at 5% level    \* Significant at 10% level

Dependent variable: Natural logarithm of the monthly salary at the current job (*lnWage*).

Reference group for occupational category, structure of employment, and area in which current job is located, is service, shop, market sales, clerical and elementary occupation, part-time worker, and non-Klang Valley, respectively.

As shown in Table 14, the constant values for male and female separate wage equations are statistically significant, with that of male being larger than that of female. This indicates that the unexplained portions of gender wage differentials are significantly substantial. Larger constant value for males than for female could indicate that the unexplained portions of gender wage differentials might work to the advantage of males rather than to females. Such unexplained portions as within-occupational discrimination and hiring discrimination might be favourable to males in earning higher wages in Malaysian ICT services subsector. A further analysis of the gender wage decomposition is thus necessary for future research to find out the sources of such gender wage gap.

### **Human Capital Variables and Wage Determination**

As expected, all human capital variables have positive significant effects on wage determination for males and females, with the exception for training, which is insignificant. Our results for training are not consistent with previous studies that concluded a positive effect of training on wages (e.g. Bartel, 1995; Dearden, Reed & Reenen, 2006) and on returns to firm's investment (e.g. Almeida & Carneiro, 2009). Perhaps, labour market in Malaysian ICT services subsector is rather competitive where firms never pay for general training as suggested in Becker's theory (Acemoglu & Pischke, 1999). It could also be the case that workers covered by union might receive higher return to training and larger wage growth than workers not being covered by union (Booth, Francesconi & Zoega, 2003). To the extent where ICT services subsector in Malaysia provides general training or not being covered by union, further research is thus necessary. Besides that, the insignificant effect of training on wage could be due to the fact that the wage-determining role of training has been outweighed by other types of human capital like employability skills, education and job experience which appear to be more important.

In fact, human capital is more influential in improving females' wages. Employability skills possession is the most important human capital to female, followed by year of education and job market experience. One unit increase in these variables raises females' wages by about 48.1 percent, 8.4 percent and 5.2 percent, respectively. On the contrary, males' wages are only significantly improved when they have more job market experiences and year of education, in which a unit increase in these factors raises their wages by about 7.4 percent and 3.9 percent, respectively. The wage effect of job experience is larger for males than it is for females, while the reverse is true for year of education. Overall, employability skills possession is the most important human capital for wage determination, especially for females. This finding implies

that females need more human capital investment in terms of soft skills and education to have their wages increased, while males might not solely capitalise on their human capital to have their wages increased. There could be some other unexplained factors that matter.

### **Occupational Categories and Wage Determination**

Analysing occupational categories by gender reveals interesting and insightful implication to the causes of gender wage differentials. Overall, all occupational categories are statistically significant in determining males' wages, showing incremental wage effects when moving up the job ladder. However, females' wages will only be significantly increased (by 70.8%) if they hold managerial position, as compared to sales, clerical, and elementary jobs. This indicates that females will only be well rewarded if they hold high prestige managerial position that requires greater responsibility.

Besides that, being professionals, managers, and technicians significantly raises males' wages by 86.3 percent, 51.0 percent, and 34.2 percent, respectively, compared to sales, clerical, and elementary jobs. However, being professionals and technicians do not exert significant impact on females' wage determination. This suggests that males and females could be treated differently in Malaysian ICT services subsector albeit similarity in their occupational level. Further gender wage decomposition is thus most anticipated in future research to unveil the potential causes for such differences in labour market treatment – whether they are due to within-occupational discrimination, hiring discrimination, occupational preferences or differences in employability skills.

### **Market Variables and Wage Determination**

All market variables are positively and statistically significant to both males and females for wage determination. Working as full-timers and in Klang Valley enables males (females) to obtain 27.9 percent (33.1%) and 17.5 percent (15.2%) wage premium, respectively, compared to working as part-timers and outside of Klang Valley. In fact, engaging in full-time employment is the most crucial market-related wage determinant for both, indicating the importance of job commitment in the ICT services subsector.

### **Concluding Remarks and Implications of Studies**

The description on labour market structure in Malaysia highlights the issue of gender inequality in Malaysia in terms of labour force participation, unemployment, occupational distribution, top management employment involving decision making, and average monthly salary. Such an inequality generally works to the disadvantage of females, notwithstanding their outperformance of educational attainment over their males' counterparts.

Despite the fact that all occupational categories are generally male-dominant, females' involvement in high-prestige and high-salary professional occupation shows an increasing trend over the year, thanks to the government's efforts in empowering women through human



resource development. As such, any gender wage differentials observed might be low due to higher level of educational attainment among females. However, the phenomenon of males' dominance and less representation of females in top management position that involves corporate decision making casts doubt if human capital investment among females works to their advantage in particular, and to the nation's advantage in general. The complication of this phenomenon is further compounded when unemployment rate among the tertiary-educated females is higher than that of the males.

Perhaps, gender inequality in Malaysian labour market, and hence, gender wage differentials, might not be fully explained by educational achievement. Rather, gender differences in labour market discrimination, occupational preference, and employability skills could shed some light in explaining these phenomena. As these factors might have a bearing on wage determination, a study of gender wage differentials in the style of Gill (1994) that takes into considerations of these factors is therefore in pressing need in Malaysian manufacturing, agricultural and services sectors.

Since the constant terms in wage regressions for male and female are large and statistically significant, they indicate substantial unexplained portion of any potential gender wage differentials. As such, future research is expected to incorporate the types of discrimination into studies of gender wage differentials, such as within occupational discrimination, hiring discrimination, employer's discrimination, employee's discrimination and customer's discrimination. This is especially pertinent as males and females could be treated differently albeit similarity in their occupational level.

Findings from the case study on wage determination in Malaysian ICT services subsector imply that females need more human capital investment in terms of employability skills and education to have their wages increased. These kinds of human capital can be obtained from school. Learning institutions in Malaysia play an important role in imparting useful employability skills among students, especially females, which in turn affects the students' future earnings. More specifically, employability skills should be incorporated in the course structure design of every programme of study in not only higher learning institutions, but secondary school as well. These useful skills can be nurtured through coursework assessment that includes group projects and presentations. Teamwork skill, oral communication skills and presentation skills can then be developed through the process of coursework preparation. These are the skills required in the job market, which have bearing on wage determination. Therefore, these skills should be well developed at any level of schooling in Malaysia. It comes to us that pre-market human capital investment has a bearing on post-market structure in Malaysian labour market.

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