

SHOULD WE BLAME THE GRADUATES FOR THEIR UNEMPLOYMENT? A HAPPINESS APPROACH*

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Abstract

This paper estimates change of happiness of Malaysian graduates who are in the stage of transition from university to labour market and tests the voluntary unemployment hypothesis using a happiness approach. It is found that a substantial deterioration in the graduate's happiness occurs during the transition. The change in happiness of unemployed graduates are not differ significantly from graduates who are self-employed, part-time or full-time employed with employment that does not commensurate with qualification. Thus, we could not reject the voluntary unemployment hypothesis and the graduates could be partially blamed for their unemployment.

Keywords: voluntary unemployment, graduate unemployment, change in happiness, psychological impact of unemployment

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I. Introduction

In Malaysia, graduate unemployment has been a persistent phenomenon and at the top of the Malaysian government agenda since 1997 (Lim 2008; Morshidi, et al, 2012). There are

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extensive studies of graduate unemployment and the major causes of graduate unemployment have been identified as poor communication skills in English, lack of generic skills, and mismatch between types of degree obtained and industry's need (Lim and Normizan, 2004; Lim 2008, 2010a; Morshidi et al., 2008, 2012; Isarji, Ainol, Mohamad Sahari and Tunku Badariah, 2011). Based on these identified causes of graduate unemployment, policies and programs have been designed to help the graduates to improve their employability. For instance, the Finishing School programs (to improve communication and generic skills) and double majors (to reduce mismatch).

Nevertheless, there is one potential cause of graduate unemployment which is largely ignored. The graduates may choose to be unemployed and accept a job offer if and only if it satisfy their expectations, i.e., occurs of voluntary graduate unemployment. In Malaysia, it is reported that among the top five reasons of graduate unemployment as ranked by employers are: "asking for unrealistic salary/benefit" and "choosy about the job and company" ("Job Seekers who", 2007; "Job seekers too", 2012; The National Graduate Employability Blue Print, 2012). It is reported that in British, a voluntarily unemployed graduate (who choose to be unemployed to search for her ideal job) has sued the government for forcing her into a job placement under a government scheme for long-term unemployed person (Dolan, 2012).

For graduates who choose to be unemployed, the government interventions are not needed and merely a waste of limited resources. In this context, the limited resources of government should be focused on the involuntary unemployment. The questions that follow are: How to determine the voluntary and involuntary graduate unemployment? Is the Malaysian graduate unemployment voluntary?

Whether a graduate's unemployment is voluntary or not, can be tested using a happiness approach (i.e., based on the happiness of various labour market outcomes). Clark and Oswald (1994), for instance, argued that if unemployment is voluntary, one should find the unemployed individual to be no less happy than the employed, *ceteris paribus*. Dockery (2005), in this context, coined the idea of the voluntary unemployment hypothesis and suggested that the ordinal comparison of happiness in this regard should be based on the quality of jobs involved in employment.

Graduates might not be able to choose to be employed with high quality jobs because of demand constraints. On the other hand, graduates should be able to choose either being voluntarily unemployed (in order to seek a high quality job) or being employed with a lower quality job (jobs at the margin such as a part-time job which is available with less demand constraints). Hence, to an extent, the voluntary unemployment hypothesis can be empirically tested by comparing the happiness between unemployed graduates and graduates who are employed with less quality jobs, as suggested by Dockery (2005). In the present paper, for recent graduates, good quality jobs could refer to full-time employment commensurate with their qualification. In contrast, low quality jobs could refer to part-time employment and full-time employment not commensurate with qualifications.

Such a test has significant policy implications. For example, if graduate unemployment is voluntary (the graduates themselves choose to remain unemployed and feel happier than or equally happy for being employed), then this graduate unemployment is not a serious social problem. In that case, the government's efforts to enhance employability of unemployed graduates through costly re-training programmes are inappropriate. It is therefore imperative to test the voluntary unemployment hypothesis in the case of graduate unemployment in Malaysia

to provide a greater insight to policy makers.

Of course, involuntarily unemployed graduates are a serious social problem in a developing economy. Unemployment, especially long-term unemployment, causes a harmful effect on graduates not only in terms of financial loss of earnings, but also there are psychological impacts, such as adversely affecting life happiness. Astonishingly, this psychological impact of unemployment is largely ignored in studies on Malaysian graduate unemployment and the voluntary unemployment hypothesis has so far never been tested. Morshidi *et al.* (2004) and Lim (2010b) appear to be the few studies in Malaysia to evaluate the psychological impact of unemployment among fresh graduates. Morshidi *et al.* (2004) and Lim (2010b) found that there is a negative psychological impact of unemployment. However, the voluntary unemployment of graduate is yet to be tested.

After disaggregating the employed into 'work and would like the current job as a career' (good quality jobs) and 'work and would not like the current job as a career' (lesser quality jobs), using a sample of young Australians, Dockery (2003) found that those working in a good quality job are significantly happier than those in low quality jobs. Likewise, Theodossiou (1998) analysed a British sample and observed that compared to those in high pay employment, the unemployed were significantly less happy. However, comparing unemployed to those employed with low pay (or those not in the labour force), there were no significant differences in their happiness. Thus, employment status is clearly a significant determinant on one's happiness.

Other determinants of happiness as suggested by literature are unemployment duration (Clark and Oswald, 1994; Lucas, Clark, Georgellis and Diener, 2004), self-expectation on unemployment duration (Cummins and Nistico, 2002; Graham and Fitzpatrick, 2002) and socio-demographic characteristics such as ethnic groups (Cheah and Tang, 2013). So, for modelling purposes, the literature has clearly suggested that the potential determinants of a graduate's change in happiness are employment status at disaggregate level, unemployment duration, self-expectation on unemployment duration and other socio-demographic characteristics.

In short, happiness could be used as a test on the voluntary unemployment of graduate. Using a happiness approach, this paper aims to test the voluntary unemployment hypothesis for Malaysian graduates during their transition from university to labour market.

II. *Data and Methodology*

1. **Data**

This paper uses data obtained from two surveys soliciting 240 respondents. The first survey's data collection was implemented between July 2005 and March 2006, using self-administered questionnaires. The targeted population was the final year students of Universiti Utara Malaysia (UUM, a public university in Malaysia), and Universiti Tunku Abdul Rahman (UTAR, a private university in Malaysia). The first survey successfully collected a total of 430 useable responses (304 from UUM and 126 from UTAR). This represents a response rate of 14.41% (UUM: 11.83%; UTAR: 30.36%). The second survey was implemented between November 2006 and February 2007, targeting the 430 graduates who had responded during the first survey, using mailed questionnaire. A total of 240 questionnaires was successfully

obtained. This represents a responses rate of 55.81%.

The details of sampling design, sample representativeness and data collection are as presented in Appendix 2. In summary, the data collection for this study faced several difficulties. In particular, the unavailability of a population frame (due to administrative bureaucracy did not reveal the required information on the grounds of its being confidential) and the low willingness of students to participate (due to the personal information which needed to be solicited for follow-up survey) were the two major obstacles in this data collection. During the first survey, to improve the participation rate, a self-administrated questionnaire approach was used and the respondents were approached with the best efforts. These efforts were worthwhile and have warranted the collected data as an acceptable level of data adequacy and representativeness.

Sampling bias might occur in second survey such that respondents who are unemployed (or unhappy) may more likely to choose not participate in the second survey.¹ As a consequence, unemployed graduates will be under-represented in the sample. According to the Graduate Tracer Study on 2006 (for fresh graduates), the percentage of unemployed graduate is 30.7% (Hartini, 2013). In the present sample, the percentage of unemployed graduate is 25% (see Table 2). Thus, the unemployed graduates are under-represented by around five percentage points.

2. Methodology

In the vein of Benthamite utilitarianism, Blanchflower and Oswald (2004) suggest that self-reported happiness is related to an underlying utility function through a continuous non-differentiable function so that self-reported happiness will rise in steps as underlying utility increases (a step function representing the ordinal measurement of self-reported happiness). The self-reported happiness function of graduates is specified as:

$$H_{it} = h(u(X_{it})) + e_{it} \quad (1)$$

t = time of survey (1, 2) i = observations (1, 2, ..., 240)

where

$u(\cdot)$ = utility function (unobservable)

H_{it} = self-reported happiness (observable)

$h(\cdot)$ = continuous function of reported happiness linking $u(\cdot)$ to H_{it}

X_{it} = independent variables

e_{it} = error term.

Blanchflower and Oswald (2004) suggest that this unobserved utility function, $u(X_{it})$, can be treated as a latent variable and the observed outcome of this latent variable, is the self-reported happiness, H_{it} . In the present paper, self-reported happiness (overall life happiness) was measured at first ($t-1$) and second survey (t).

Intuitively, the overall life happiness (of a graduate) might consist of three major

¹ Thanks to the anonymous referee who has pointed out this potential sampling bias.

components. First, university life happiness. Since they are recent graduates, university life happiness is a major component of their overall life happiness. Second, there will be a time-invariant component of life happiness that consists of measurement errors on self-reported happiness. For example, graduates who tend to over-report their happiness at time $t-1$ (first survey) will also likely to over-report at time t , or, it may simply be a reflection of the graduate's innate happiness levels. Finally, there will be a time-varying component of life happiness. This component of life happiness fluctuates with life events such as unemployment (which is the focus of the present study).

Thus, to evaluate the impact of unemployment on fluctuations of a graduate's overall life happiness, the first and second components need to be 'filtered out'. For example, a graduate's high overall life happiness might just be due to a high level of university life happiness (or measurement error – this graduate tended to over-report his happiness). In such a case, the impact of unemployment on this graduate's overall life happiness is confounded with these time-invariant components (of happiness).

Fortunately, the use of change in happiness eliminates these two components. Mathematically, we can write:

$$H_{it} = uni_i + o_fixed_i + other_{it} \quad (2)$$

Equation (2) states that at time t , a graduate's overall life happiness consists of university life happiness (uni), other time-invariant components of happiness (o_fixed), and the remainder are time-varying components ($other$). At time $t-1$, equation (2) is expressed as:

$$H_{it-1} = uni_i + o_fixed_i + other_{it-1} \quad (3)$$

Then, change in happiness, which is defined as $H_t - H_{t-1}$, is expressed as:

$$\begin{aligned} H_{it} - H_{it-1} &= (uni_i - uni_i) + (o_fixed_i - o_fixed_i) + (other_{it} - other_{it-1}) \\ \Rightarrow H_t - H_{t-1} &= other_{it} - other_{it-1} \\ \Rightarrow \Delta H_{it} &= \Delta other_{it} \end{aligned} \quad (4)$$

From equation (4), it is clear that university life happiness and other time-invariant components are removed from the change in happiness. This is the statistical advantage of using change in happiness.

Following the Headey and Wooden (2004) estimation method of their study on happiness, the present study also uses the ordinary least square estimation (multiple regression model) pertaining to the change in happiness:

$$Y_i = \beta' X_i + u_i \quad (5)$$

where

Y_i = Change in happiness

X_i = vector of independent variables (first and second survey)

u_i = error term.

The model will be estimated with the robust variance estimates (Huber/White/sandwich estimator of variance).

3. Independent Variables

The independent variables are pre-determined (measured at first survey), except employment status and unemployment duration (measured at second survey). Employment status could well be endogenous with happiness (as suggested by the hypothesis of selection and exposure in happiness literature). This problem is less likely with change in happiness as the dependent variable. Thus, another statistical advantage of using change in happiness – it reduces the seriousness of the endogeneity problem.

III. *Analysis and Results I: Descriptive Statistics*

1. Overall Life Happiness

The data in Table 1 relate to the findings of the two surveys pertaining to the overall life happiness of respondents. The table reveals that in the first survey, most of the graduates (66.36%) are happy with their overall life. It is only less than 8% who reported themselves to be unhappy. However, in the transition from university to labour market, the percentage of unhappy graduates increase substantially to 21.49% (second survey). The percentage of happy graduates also reduces substantially, from 66.36% to 55.61%. Similarly, those reported as neither happy nor unhappy also drop from 26.64% to 22.90%. Thus, the transition from university to labour market has a substantial impact on the graduate's happiness.

TABLE 1. OVERALL LIFE HAPPINESS

7-point ordinal overall life happiness	First survey (%)	Second survey (%)
1 (very unhappy)	0.47	6.54
2	0.93	4.67
3	5.61	10.28
4	26.64	22.90
5	35.75	23.83
6	23.13	24.30
7 (very happy)	7.48	7.48

2. Change in Happiness

Figure 1 shows the percentage distribution of this change in happiness. The majority of the graduates (69.86%) experienced changes in their happiness during their transition from university to labour market. Around 30% of the graduates reported positive change in happiness whereas over 40% reported negative change. The remaining graduates (29.67%) reported no change in happiness.

3. Employment Status and Change in Happiness

Table 2 shows that a quarter of the graduates are unemployed (25%). The remaining

FIGURE 1. PERCENTAGE DISTRIBUTION OF CHANGE IN HAPPINESS



graduates are in full-time employment commensurate with qualification (FT1, 40.63%); in full-time employment not commensurate with qualification (FT2, 28.13%); self-employed and part-time employed (SPT, 6.25%).

With respect to the mean value of change in happiness, Table 2 illustrates that unemployed graduates have the highest average negative value (-1.11) whereas employed graduates with FT1 have the lowest negative value (-0.04).

TABLE 2. EMPLOYMENT STATUS AND CHANGE IN HAPPINESS

Employment status	Change in happiness (mean)	%
Unemployed	-1.11	25.00
Full-time employment commensurate with qualification (FT1)	-0.04	40.63
Full-time employment not commensurate with qualification (FT2)	-0.51	28.13
Self-employment/ Part-time employment (SPT)	-0.69	6.25

Note: There is no graduates who are economically inactive (out of labour force) in the sample. The economically inactive graduates in UUM and UTAR is reported to be 3.7% and 3.5% (UTAR) respectively (Graduate Tracer Study Report 2011, 2012).

Thus, descriptive statistics show that there is a substantial deterioration in graduates' life happiness during their transition from university to labour market. The degree of this deterioration varies across different employment status which implies that the graduate unemployment is not voluntary because the unemployed graduates experience the highest drop in happiness.

4. Sample Characteristics

The respondents' characteristics in the estimation sample for this study are given in Table 3. It shows that the majority of respondents are female (72.32%) with a mean age of 23 years. In terms of health condition, the respondents reported a mean of 4.34 (in 7-point ordinal scale of 0 'poor' to 6 'excellent'). The degree of UUM Information Technology (12.56%) has the highest proportion in the sample whereas UUM Communication has the lowest (4.48%). The other sample characteristics are as presented in Table 3.

TABLE 3. RESPONDENTS' CHARACTERISTICS AND CHANGE IN HAPPINESS

Continuous/discrete variables	Sample mean
Age	23.37
Self-reported health condition	4.34
Family working member / family size	0.45
Academic attainment	3.05
Self-expected unemployment duration	2.49
Self-perceived marketability of degree studied	4.63
Unemployment duration (days)	70.81
Financial difficulties	2.95
University life happiness	4.85
Categorical variables	%
Female	72.32
Male	27.68
Malay	34.53
Non-Malay	65.47
<u>Types of degree:</u>	
UUM Economics	8.52
UUM Public/Development Mgt	4.93
UUM Business Admin	10.76
UUM Accounting	7.62
UUM IT	12.56
UUM Other degrees	7.62
UUM Human Resources/Social Work	5.83
UUM International Business/Issues Mgt	5.38
UUM Finance	6.73
UUM Communication	4.48
UTAR Business Admin	7.62
UTAR Accounting	5.38
UTAR IT/Computer Sciences	8.07
UTAR Other degrees	4.48

Note: Definitions of variables presented in Appendix 1.

IV. Analysis and Results II: Regression Analysis

Table 5 presents the estimated multiple regression model using Ordinary Least Square (OLS) method. The results of goodness of fit tests of this estimated model are reported in Table 4.

TABLE 4. GOODNESS OF FIT TESTS

	P-value
1. Overall fit test ($R^2=0.2376$)	0.0001
2. Shapiro-Wilk W test for normality of residual	0.1291
3. Restriction tests (all insignificant variables)	0.2583
4. Augmented regression test for endogeneity:	
a. Employment status	0.7470
b. Log on unemployment duration	0.5510

From Table 4, it is found that the overall fit of the estimated model is significant, with p-value of almost zero. The estimated R^2 is 0.2376.² This implies that the estimated model can explain 23.76% of variation in change of happiness. The other test results (Shapiro-Wilk W test on normality assumption, restriction test of all insignificant variables and augmented regression test for endogeneity) also suggest that the estimated model has a high degree of goodness of fit.

TABLE 5. ESTIMATED REGRESSION MODEL

	Coeff.	Robust Std. Error
<u>Employment status:</u> ^{3a}		
Full-time employment commensurate with qualification	0.7184	0.3229**
Full-time employment not commensurate with qualification	0.4547	0.3662
Self-employment/part-time employment	0.0714	0.5091
<u>Types of degree:</u> ^{3b}		
UUM Economics	-0.5874	0.6607
UUM Public/Development Mgt	-0.0373	0.7603
UUM Business Admin	0.3250	0.6348
UUM Accounting	0.6791	0.6163
UUM IT	-0.0526	0.5753
UUM Other degrees	0.2236	0.7038
UUM Human Resources/Social Work	-0.6311	0.8379
UUM International Business/Issues Mgt	-0.4836	0.7243
UUM Finance	-0.4659	0.6618
UUM Communication	-0.0924	0.6557
UTAR Business Admin	0.5052	0.4674
UTAR Accounting	0.9222	0.6114
UTAR Other degrees	0.7709	0.6911
<u>Other variables:</u>		
Log (unemployment duration)	-0.2731	0.1079**
Health condition	-0.2064	0.1313
Self-expected unemployment duration	0.0808	0.0860
Financial difficulties	0.7882	0.4021*
Financial difficulties2	-0.1245	0.0647*
Age	1.6559	1.8345
Age2	-0.0346	0.0386
Male	0.6172	0.2773**
Malay	0.1959	0.3280
Self-perceived marketability of degree studied	-0.2587	0.1204**
Family working member / family size	1.0071	0.6717
Academic attainment	0.1218	0.6079
Constant	-19.9809	21.9557

Notes: 1. ***, **, and * significant at 1%, 5% and 10% levels, respectively.

2. Definitions of variables are presented in Appendix 1.

3. Comparison group of dummy variables of: a. employment status: being unemployed
b. types of degrees: UTAR Bachelor of IT/Computer Sciences.

² From Table 5, it appears that there are few significant variables (by individual t-test). Thus, this low value of R^2 might be on account of the relatively low variation in dependent variable (due to the first differenced).

1. Voluntary Unemployment

The results in Table 5 show that there is evidence of a negative psychological impact of unemployment. Specifically, change in happiness of unemployed graduates is found to be significantly lower than that of those who are employed with full-time employment commensurate with their qualification (FT1).

Quantitatively, the change in happiness of employed graduates with FT1 is 0.7184 units higher than that of unemployed graduates, *ceteris paribus*. This effect is almost equivalent to one point increase in the 7-point ordinal scale of happiness measurement. This finding is in line with the findings of previous studies: being unemployed brings a tremendous drop in one's happiness even in developed countries with generous unemployment insurance benefits (see Blanchflower and Oswald, 2004).

However, there are no significant differences found (in the change in happiness) between unemployed graduates and employed graduates with 'low quality' jobs: full-time employment not commensurate with qualification (FT2); self-employment, and part-time employment (SPT). The implication of this finding is that to improve life happiness, being employed alone is insufficient. It is only getting full-time employment commensurate with qualification (FT1) which will significantly improve graduates' life happiness.

In other word, during the transition from university to labour market, unemployed graduates are experiencing a significant drop in their happiness if they are compared to graduates who employed with FT1 (quality jobs with demand constraints). Compared to graduates who employed with FT2 or SPT (low quality jobs which graduates should able to choose), there is a drop in happiness as well but it is not significant.

Thus, to an extent, the graduate unemployment in Malaysia is indeed voluntary. The graduates do not choose between unemployed and FT1 because being unemployed will lead to lower level of happiness than being FT1. On the other hand, since there is no significant difference in happiness between unemployed and SPT, the graduates could choose to be unemployed, instead of SPT (they are indifferent between these two employment statuses).

Hence, from happiness perspective, to an extent, this finding supports the claim that the Malaysian unemployed graduates are 'choosy' in their job search and opt to be unemployed, instead of to be employed with self-employed, part-time or full-time employment that does not commensurate with qualification. One could conclude that the graduate unemployment in Malaysia is voluntary.

To gain further insight into this voluntary unemployment, as suggested by the anonymous referee, we include the control variables of number of job offer received (as a proxy for a graduate's ability to choose the job) and expected wage (as a determinants of happiness) into the estimated model. It is found that the estimated coefficients of DFT1, DFT2 and DSEPT reduce to 0.6722, 0.4903 and 0.0002 respectively. There are no changes in the sign of the estimated coefficient and significant level except DFT1.

The significant level of DFT1 increases from 5% to 10% (this might due to multicollinearity among FT1, number of job offer and expected wage). The number of job offer and expected wage are found to be insignificant either individually (test statistic: 0.59 and 0.02 respectively) or jointly (test statistic: 0.17). Overall, the finding on the voluntary unemployment hypothesis remains unchanged.

In addition, we tabulate the mean number of job offer and expected wage by employment

TABLE 6. EMPLOYMENT STATUS, NUMBER OF JOB OFFER AND EXPECTED WAGE

Employment status	Number of job offer ¹	Expected wage (RM per month) ²
Unemployed (UNE)	2.689	1614
Full-time employment comm with qual(FT1)	4.069	1775
Full-time employment not comm with qual(FT2)	4.034	1557
Self-employment/ Part-time employment (SPT)	2.250	1300

Notes: 1. The mean differences of number of job offer are found to be insignificant (test statistic=1.93)

2. The mean differences of expected wage are found to be significant at 1% level (test statistic=0.000)

status and perform one way ANOVA test on the mean differences. Table 6 presents the results. It is found that the mean number of job offer of unemployed graduates does not differ significantly from those who are FT1, FT2 and SPT; whereas the mean expected wage of UNE are significantly higher than the FT2 and SPT. Thus, on average, the unemployed graduates are able to choose to be employed or unemployed and have a higher wage expectation than employed graduates (FT2 and SPT). This finding supports the voluntary unemployment hypothesis: the graduate unemployment in Malaysia, to an extent, is voluntary.

2. Effects of Other Variables

From Table 5, in line with the prediction of set-point theory, the log of duration of unemployment is found to have a significant negative non-linear impact on change in happiness. By the interpretation of the Lin-Log model, the estimated coefficient of -0.2731 implies that the increase of 1% in unemployment duration will lead to decrease in change of happiness by 0.002731 units. Thus, the impact of unemployment duration (in terms of number of days) on change in happiness appears to be stronger at an early stage. This negative impact appears declining over the length of unemployment duration. This supports the view that the long-term unemployed are getting 'happier' than the short-term unemployed. Other variables that found to have significant influence on change in happiness are: financial difficulties, gender, self-perceived marketability of degree studied, age and health status.

VI. Conclusion

This paper was concerned with change in happiness during the graduate's transition from university to labour market and tested the voluntary unemployment hypothesis of Malaysian graduates using a happiness approach. The results show that, in the transition from university to labour market, Malaysian graduates suffer a substantial deterioration in their life happiness and the unemployed graduates endure the worst deterioration in their life happiness. It is found that graduate unemployment in Malaysia, to an extent, is voluntary such that the unemployed graduates could choose to be unemployed, instead of being employed with self-employed, part-time or full-time employment that does not commensurate with qualification. On the other hand, graduates do not choose to be unemployed or employed with employment that commensurate with their qualification.

This finding also implies that the negative psychological impact of unemployment varies

according to the quality of employment. This highlights the importance of disaggregating the state of 'being employed' from 'good-quality' to 'less-quality' jobs, instead of treating it as homogenous state. It is suggested that the published official statistics of Malaysian graduate unemployment should not aggregate the 'employed' into one homogenous state. The disaggregate statistics on employment status are needed to provide more insights and better understanding of graduate unemployment in Malaysia. The government's policy to re-train unemployed graduates in order to improve their employability and increase job opportunities for graduates, should take into consideration that self-employed, part-time or full-time employment that does not commensurate with qualification, could be an alternative to the unemployed graduates.

There is a few important caveats in the above findings. This study uses a self-collected sample with only 240 respondents from two universities. However, this is the best available data that provides the information of labour market outcomes and happiness of graduates to test the voluntary unemployment hypothesis. The findings of this study are also subjected to the potential sampling bias in second survey. Thus, the findings of this study should be treated as at exploratory level. Future studies are suggested to validate the findings of the present paper.

APPENDIX

1. Definition and Measurement of Variables

Variable abbreviation	Definition
<u>Employment status:</u>	
Full-time employment commensurate with qual	Dummy variable for employment status being full-time employment commensurate with qualification (FT1) (comparison group: unemployed)
Full-time employment not commensurate with qual	Dummy variable for employment status being full-time employment not commensurate with qualification (FT2) (comparison group: unemployed)
Self-employment/part-time employment	Dummy variable for employment status being self-employed or part-time employed (SEPT) (comparison group: unemployed)
<u>Types of degree:</u>	
UUM Economics	Dummy variable for UUM Bachelor of Economics (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM Public/Development Mgt	Dummy variable for UUM Bachelor of Public Mgt / Development Mgt (comparison group: UTAR Bachelor of IT/Computer Sciences)
UUM Business Admin	Dummy variable for UUM Bachelor of Business Admin (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM Accounting	Dummy variable for UUM Bachelor of Accounting (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM IT	Dummy variable for UUM Bachelor of Info Tech (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM Other degrees	Dummy variable for UUM Other degrees (Tourism/Education/Technology Mgt/Decision Sciences) (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM Human Resources/Social Work	Dummy variable for UUM Bachelor of Human Resource Mgt / Soc Work Mgt (UBSW) (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM International Business/Issues Mgt	Dummy variable for UUM Bachelor of International Buss/ Issues Mgt (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM Finance	Dummy variable for UUM Bachelor of Banking/ Finance (comparison group: UTAR Bachelor of IT /Computer Sciences)
UUM Communication	Dummy variable for UUM Bachelor of Communication (comparison group: UTAR Bachelor of IT /Computer Sciences)
UTAR Business Admin	Dummy variable for UTAR Bachelor of Business Admin (comparison group: UTAR Bachelor of IT /Computer Sciences)
UTAR Accounting	Dummy variable for UTAR Bachelor of Chinese Studies/ Journalism/ Public Relations (comparison group: UTAR Bachelor of IT /Computer Sciences)

<u>Other variables:</u>	
Log (unemployment duration)	Log on unemployment duration
Health condition	Self-reported (Ordinal scale: 0 'poor' to 6 'excellent')
Self-expected unemployment duration	Self-expected unemployment duration during final year studies (in months)
Financial difficulties	Self-reported while in final year studies (Ordinal scale: 0 'no difficulties' to 6 'high difficulties')
Financial difficulties ²	Squared financial difficulties
Age	Age (in years)
Age ²	Squared age
Male	Dummy variable for male
Malay	Dummy variable for ethnic group Malay
Self-perceived marketability of degree studied	During final year studies (Ordinal scale: 1 'low' to 7 'high')
Family working members / family size	Ratio of family working members to family size
Academic attainment	Cumulative Grade Point Average obtained in final year studies (Continuous scale: 2 to 4)

2. Sampling Design and Sample Representativeness

Sampling Design

The universities in Malaysia were stratified into two: 17 public and 21 private universities. The Universiti Utara Malaysia (UUM), was selected for the stratum of public universities, and Universiti Tunku Abdul Rahman (UTAR), was selected for the stratum of private universities, randomly. In terms of employability, there are 20% unemployed graduates (average of all public university: 21%) for UUM; 30.2% unemployed graduates (average of all private university: 21.3%). Economically inactive (mostly due to further studies) graduates are reported to be only 3.7% (UUM) and 3.5% (UTAR) (Graduate Tracer Study Report 2011, 2012). Ideally, the second stage of stratified random sampling should be implemented using the list of all final year students of the UUM and the UTAR. Given the list, one may further stratify the students by types of degree and ethnicity to obtain a more efficient sample. It is quite unfortunate that administrative bureaucracy did not reveal the required information on the grounds of its being confidential. Thus, the implementation of the second stage of stratified sampling was not possible. Hence, it was decided that all the final year students would be approached as the best effort.

First Survey Data Collection and Its Sample Representativeness

The first survey data collection was implemented between July 2005 and March 2006. The UUM and UTAR final year students were the targeted sample. The students were approached during their leisure hours. The present researcher and his research assistants were involved in the first survey. We personally administrated the questionnaire to as many students as possible. Upon approaching the students, they were asked whether others had approached them about participating in this survey or not. The number of students approached, whether they agree to participate or not, was noted and summed to calculate the percentage response rate. For the UTAR, a total of 415 final year students were approached and 126 agreed to participate in this survey, a response rate of 30.36%. For the UUM, a total of 2569 final year students were approached and 304 agreed to participate. This gave a response rate of 11.83%. Thus, in total, the response rate for the first survey was 14.41%.

Using the published statistics (aggregated by types of degree) released during the convocation of September 2006 (UUM) and March 2006 (UTAR), the sample representativeness could be evaluated. These published statistics show that there were 5637 graduates (5142 UUM and 495 UTAR). Table 11.3 of Sekaran (1999, p.295) suggests that a sample size of 357 to 361 is needed for population size of 5000 to 6000. Thus, the achieved sample size of 430 at first survey, was adequate.

FIGURE A2.1. DISTRIBUTION BY TYPES OF DEGREE: UUM

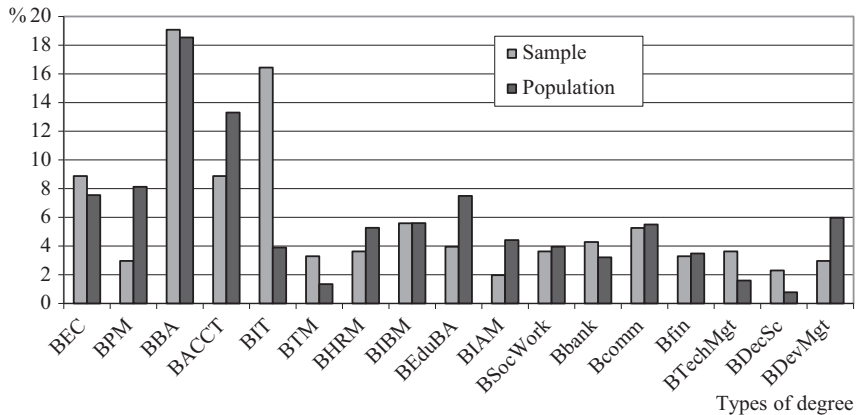
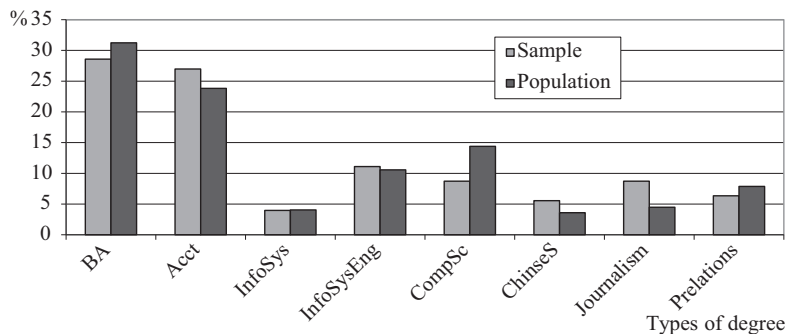


FIGURE A2.2. DISTRIBUTION BY TYPES OF DEGREE: UTAR



Figures A2.1 and A2.2 present the population and sample distribution by types of degree for UUM and UTAR graduates, respectively. In Figure A2.1, the sample and population distribution seem to have a good fit, except Bachelor of Information Technology (BIT) which is over-represented in the sample. The χ^2 goodness of fit test concluded that there is evidence that the sample and population distribution fit with a p-value of 0.3371. This suggests that for UUM graduates, except BIT, the sample fits into the population distribution by types of degree. Figure A2.2 shows the sample and population distribution by types of degree for UTAR graduates. It seems that there is also a good fit between the sample and population distribution. The χ^2 goodness of fit test concludes that there is good fit between sample and population distribution (p-value=0.3107). This suggests that for UTAR graduates, the sample fits into the population distribution by types of degree.

In addition, it was found that the first survey's sample characteristics of gender (dominated by female), ethnicity (UUM is dominated by Malay and UTAR consists of almost all Chinese), marital status (almost all are single) and age (mean age 23), are reflecting the well-known UUM and UTAR undergraduate population characteristics (and also the Malaysia public and private university undergraduate population). Thus, it is concluded that the sample is adequate and has at least an acceptable level of representativeness.

The first survey questionnaire consisted of six sections. Section I consisted of four questions which asked for respondents' personal information. Sections V to VI, measured the important variables of this study. Section V comprised of 6 questions which asked about respondents' self-reported happiness on leaving university, happiness in university life, happiness in overall life, happiness compared to others, and zero-dividing line happiness. Section VI has 11 questions asking about the respondents' attitude towards work and self-perceived ability.

Second Survey Data Collection

The 430 respondents to the first survey were the targeted sample in the second. The data of the second survey were collected between November 2006 and February 2007 using mail questionnaire. This approach was used since the 430 respondents were then in various parts of the country after their graduation. The second survey questionnaire was mailed to the 430 respondents, together with a stamped return envelope. For those with contact numbers and email, calls were made and emails were sent to invite them to be participants in the second survey. It successfully obtained return of a total of 240 questionnaires. Thus, the response rate was 55.81%. This is an acceptable level of response rate for mail questionnaire approach.

The employment status are measured in the second survey, as self-reported by the respondents. The second survey questionnaire consisted of four sections. Section I consisted of 13 questions about employment status, job search start date and others. Section II consisted of 11 questions about self-perceived ability and attitude. Section III consisted of 8 questions about number of job applications submitted, job offer received, expected wage, unearned income, occurrence of influential events on well-being and financial difficulties. Section IV consisted of three questions about life happiness, university life happiness and happiness compared to friends.

REFERENCES

- Blanchflower, G.D. and J.A. Oswald (2004), "Well-being over Time in Britain and USA," *Journal of Public Economics* 88, pp.1359-1386.
- Cheah, Y.K. and C.F. Tang (2013), "The Socio-demographic Determinants of Self-rated Happiness: The Case of Penang, Malaysia," *Hitotsubashi Journal of Economics* 54, pp.1-16.
- Clark, E.A. and J.A. Oswald (1994), "Unhappiness and Unemployment," *Economic Journal* 104, pp.648-659.
- Cummins, A.R. and H. Nistico (2002), "Maintaining Life Satisfaction: The Role of Positive Cognitive Bias," *Journal of Happiness Studies* 3, pp.37-69.
- Dockery, A.M. (2003), "Happiness, Life Satisfaction and the Role of Work: Evidence from Two Australian Surveys," Working Paper 03.10 Curtin Business School, Curtin University of Technology, Australia.
- Dockery, A.M. (2005), "The Happiness of Young Australians: Empirical Evidence on the Role of Labour Market Experience," *Economic Record* 81, pp.322-335.
- Dolan, A. (2012), "It Is My Human Right Not to Work for Poundland," Mail Online, Jan 12, 2012, News, London, Daily Mail.
- Graham, C. and M. Fitzpatrick (2002), "Does Happiness Pay? An Exploration Based on Panel Data from Russia," Working Paper No. 24 Centre on Social and Economic Dynamics,

- Economic Studies Program, The Brookings Institution, Washington.
- Hartini, S. (2013), "Unemployed Graduates: How Can We Address This Situation?," Online article no.7650, Institute of Islamic Understanding Malaysia, Kuala Lumpur, Malaysia,
- Headey, B. and M. Wooden (2004), "The Effects of Wealth and Income on Subjective Well-being and Ill-being," *Economic Record* 80 (Special Issue September 2004), pp.24-33.
- Isarji, S., M.Z. Ainol, N. Mohamad Sahari, and T.A. Tunku Badariah (2011), "English Language Competency for Employment Purposes: Meeting the Needs of Industry," in: M.D. Nuraihan, S. Isarji, J.M. Ainon, E.I. Engku Haliza and O. Khairiah, eds., *Language Studies. In the Muslim World*, Kuala Lumpur, IIUM Press, pp.179-208.
- Lim, H.E. (2010a), "Predicting Low Employability Graduates: The Case of Universiti Utara Malaysia," *Singapore Economic Review* 55, pp.523-535.
- Lim, H.E. (2010b), "Estimating Psychological Impact of Unemployment: The Case of Malaysian Graduates," *Malaysian Journal of Economic Studies* 47, pp.33-53.
- Lim, H.E., J. Rich and N.M. Harris (2008), "Employment Outcomes of Graduates: The Case of Universiti Utara, Malaysia," *Asian Economic Journal* 22, pp.321-341.
- Lim, H.E. and A.B. Normizan (2004), "Unemployment Duration of Graduates of Universiti Utara Malaysia: The Impact of English Language Proficiency," *Malaysia Journal of Economic Studies* 41, pp.1-20.
- Lucas, E.R., E.A. Clark, Y. Georgellis, and E. Diener (2004), "Unemployment Alters the Set Point for Life Satisfaction," *Psychological Science* 15, pp.8-13.
- Ministry of Higher Education Malaysia (2012a), *Graduate Tracer Study Report 2011*, Putrajaya, Malaysia.
- Ministry of Higher Education Malaysia (2012b), *The National Graduate Employability Blue Print 2012-2017*, Serdang, Malaysia, UPM Press.
- Morshidi, S., B. Abd. Aziz, M.I. Abd Majid, P. Ambigapathy, A. Moha Asri, I. Mohamed Dahlan, P. Mohd Hafiah, N.N. Lee, S. Munir, B. Rosni, M. Rujhan, A.R. Shukran, H. Siti Zubaidah, C.M. See, and K.M. Wan Ahmad (2004), *Masalah pengangguran di kalangan siswazah [The problem of unemployment among graduates]*, USM IPPTN Monograph 2/2004, Penang, USM Press.
- Morshidi, S., L.H. Chan, S. Munir, A.R. Shukran, A.K. Seri Rahayu and N.S. Jasvir Kaur (2012), "Employability of Graduates in Malaysia," in: United Nations Educational, Scientific and Cultural Organization, eds., *Graduate Employability in Asia*, Bangkok, UNESCO, pp.23-24.
- Morshidi, S., A. Pandian, B. Muniandy, M.M.S. Fazal, H. Harshita Aini, A. Hazita, M.K. Kabilan, and A.R. Ratna Roshida (2008), "The University Curriculum and the Employment of Graduates," in: A.B. Md. Yusof, H.M. Nor Aieni, J. Rohana, M.Z. Ainol, O. Norasmah and G. Aries, ed., *Enhancing the Quality of Higher Education through Research: Shaping Future Policy*, Malaysia, Ministry of Higher Education, pp.136-159.
- New Straits Times Press (2012), "Job Seekers Too Choosy", *New Straits Times Online*, Editorial Opinion 1.44099, Feb 9, 2012, Kuala Lumpur, Malaysia.
- Sun Media Corporation (2007), "Job Seekers Who Reject Offers to Be Blacklisted," *The Sun Daily Online*, node 169445, Aug 11, 2007, Petaling Jaya, Malaysia.
- Theodossiou, I. (1998), "The Effects of Low-pay and Unemployment on Psychological Well-being: A Logistic Regression Approach," *Journal of Health Economics* 17, pp.85-104.