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**Retaining International Students for Advanced Study in
Malaysia: An Analysis of Investment and Consumption
Motive**



FOO CHUAN CHEW

UUM
Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
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**Retaining International Students for Advanced Study in Malaysia:
An Analysis of Investment and Consumption Motive**

By



FOO CHUAN CHEW

UUM
Universiti Utara Malaysia

**Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
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Kolej Perniagaan
(College of Business)
Universiti Utara Malaysia

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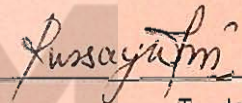
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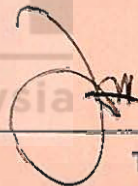
: Assoc. Prof. Dr. Russayani Ismail



Tandatangan

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ABSTRACT

The shift of intention from merely focusing on internationalisation as a source of revenue generation to a more diverse objective of talent development that promotes research and innovation is imperative. Thus, the ability of the host countries to retain quality international students for advanced study is nevertheless essential. Despite huge literature concentrating on identifying the factors that can attract potential international students to enrol in host countries, few known studies however, were carried out to identify the factors that are able to influence the choice of the currently enrolled international students to remain in Malaysia for their advanced study. A combination of different probability sampling methods was used with the first stage involving the stratified random sampling where higher education institutions were divided into five strata, followed by the quota random sampling where students were then stratified by their level of studies. Through this sampling, a total number of 1,000 international students were selected. Self-administered questionnaires were distributed but only 753 were valid to be analysed. Using the Binary Logit Model, the study identified the educational choice motive that influences the decision of international students to remain in Malaysia for their advanced study and to recommend Malaysia to their friends. The finding shows that the consumption motive dominates the investment motive, suggesting that students' decision to remain in Malaysia for advanced study is highly related to the consumption motive as compared to the investment motive. Moreover, this research also found that both investment and consumption motives influenced the currently enrolled international students to recommend Malaysia to their friends and families. The findings from this study lend support to the commonly held view that the quality of education matters.

Keywords: consumption motive, higher education, internationalisation, investment motive, choice.

ABSTRAK

Peralihan fokus pengantarabangsaan pendidikan sebagai sumber penjanaan pendapatan kepada objektif yang lebih meluas merangkumi pembangunan bakat yang menyumbang kepada pembangunan penyelidikan dan inovasi adalah sesuatu yang amat penting. Peralihan fokus ini memerlukan keupayaan sesebuah negara tuan rumah bagi mengekalkan pelajar-pelajar antarabangsa yang berkualiti untuk melanjutkan pendidikan pada peringkat yang lebih tinggi. Terdapat banyak kajian yang dijalankan bagi mengenal pasti faktor-faktor yang mempengaruhi pelajar antarabangsa dalam memilih destinasi pengajian tinggi mereka. Namun begitu, kajian berkaitan faktor-faktor yang mempengaruhi pilihan pelajar antarabangsa sedia ada untuk melanjutkan pengajian pada peringkat seterusnya di Malaysia adalah terhad. Gabungan kaedah persampelan kebarangkalian yang berbeza telah digunakan pada peringkat pertama dengan melibatkan kaedah persampelan rawak berstrata, iaitu institusi pengajian tinggi telah dibahagikan kepada lima strata. Seterusnya diikuti dengan kouta persampelan rawak, iaitu pelajar dipecahkan mengikut peringkat pengajian masing-masing. Melalui persampelan ini, seramai 1000 orang pelajar antarabangsa telah dipilih sebagai responden. Manakala borang soal selidik telah dibangunkan dan diedarkan kepada responden, tetapi hanya 753 borang soal selidik sahaja yang sesuai untuk dianalisis. Dengan menggunakan Model Logit Binari, kajian ini cuba mengenal pasti motif pemilihan pendidikan yang telah mempengaruhi keputusan pelajar antarabangsa untuk kekal melanjutkan pelajaran di Malaysia dan juga mengesyorkan kepada rakan-rakan yang lain untuk memilih pendidikan di Malaysia. Dapatan daripada kajian ini menunjukkan bahawa motif penggunaan menandingi motif pelaburan dalam mempengaruhi pilihan pelajar antarabangsa. Justeru, ia menjelaskan bahawa pelajar memilih untuk menyambung pelajaran di Malaysia adalah berkait rapat dengan motif penggunaan berbanding motif pelaburan. Selain itu, kedua-dua motif juga didapati mempengaruhi para pelajar antarabangsa untuk mengesyorkan Malaysia sebagai destinasi pendidikan kepada rakan dan saudara mara mereka. Akhir sekali, penemuan kajian ini memberi sokongan kepada pandangan umum bahawa kualiti pendidikan adalah penting.

Kata kunci: motif penggunaan, pendidikan tinggi, pengantarabangsaan, motif pelaburan, pilihan

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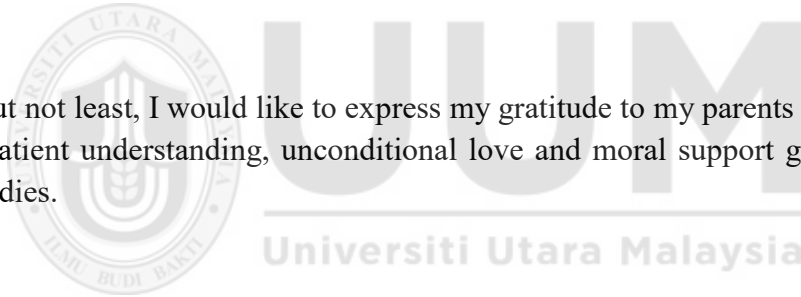


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LIST OF ABBREVIATIONS

OECD	Organization for Economic Co-operation and Development
PSPTN	<i>Pelan Strategik Pendidikan Tinggi Negara</i>
Apex University	Accelerated Programme for Excellent University
AACSB	Association to Advance Collegiate Schools of Business
HICoE	Higher Institution Centre of Excellence
NAFSA	Association of International Educators
UNESCO	United Nations Educational, Scientific and Cultural Organization
ASEAN	Association of Southeast Asian Nations
SETARA	<i>Penarafan Institusi Pengajian Tinggi Malaysia</i>
IPPTN	The National Higher Education Research Institute



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CHAPTER ONE

Background of study

1.0 Introduction

Internationalization of higher education is becoming a common phenomenon in the world market nowadays. It is estimated that in year 2012, there were 4.5 million students who pursued tertiary education outside their home country (OECD, 2014). This is in fact a feature of globalization where higher education services have evolved into a business sector which is capable of generating revenue. The internationalization of higher education is defined as the mobility of students from a country (home country) to another country (host country) which offers higher education services, with the intention to further their tertiary education (Mazzarol & Soutar, 2002). International students are defined as those students who crossed borders with the intention to study (OECD, 2010). Most developing and under developed nations send their students to study abroad particularly in developed countries in order to enhance their skills and knowledge so that in future the knowledge that they gained will be utilized to develop their economy. Countries like the United Kingdom, Germany, United States and Australia have begun to invest in

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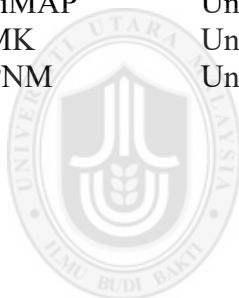
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APPENDICES



Appendix 1: The list of Malaysian Public University

1. UM	Universiti Malaya
2. USM	Universiti Sains Malaysia
3. UKM	Universiti Kebangsaan Malaysia
4. UPM	Universiti Putra Malaysia
5. UTM	Universiti Teknologi Malaysia
6. UIAM	Universiti Islam Antarabangsa Malaysia
7. UUM	Universiti Utara Malaysia
8. UNIMAS	Universiti Malaysia Sarawak
9. UMS	Universiti Malaysia Sabah
10. UPSI	Universiti Pendidikan Sultan Idris
11. UiTM	Universiti Teknologi MARA
12. UDM	Universiti Darul Iman Malaysia
13. USIM	Universiti Sains Islam Malaysia
14. UMT	Universiti Malaysia Terengganu
15. UTHM	Universiti Teknologi Tun Hussein Onn Malaysia
16. UTeM	Universiti Teknikal Malaysia Melaka
17. UMP	Universiti Malaysia Pahang
18. UniMAP	Universiti Malaysia Perlis
19. UMK	Universiti Malaysia Kelantan
20. UPNM	Universiti Pertahanan Nasional Malaysia



UUM
Universiti Utara Malaysia

Appendix 2: List of countries by region

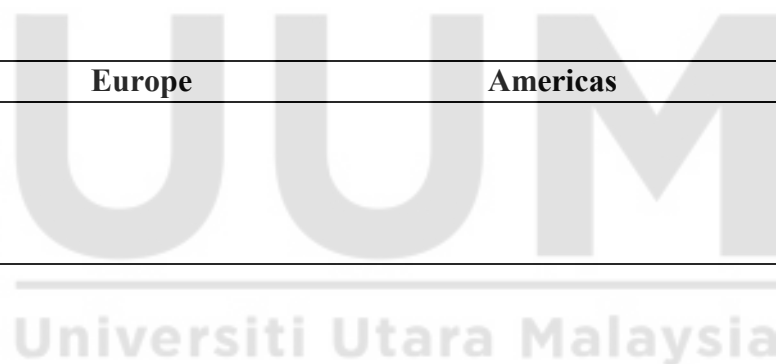
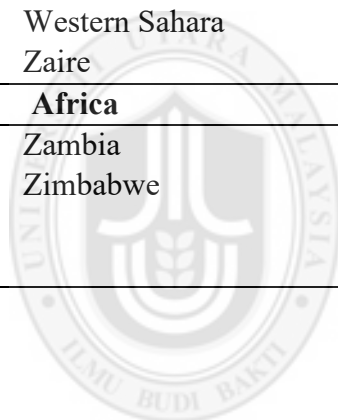
Asia	Africa	Europe	Americas	Australasia
East Asia				
China	Algeria	Aland Island	Antigua & Barbuda	Australia
Hong Kong	Angola	Albania	Argentina	Fiji
Macau	Benin	Austria	Bahamas	New Zealand
Taiwan	Botswana	Azerbaijan	Belize	Papua New Guinea
Japan	Burkina Faso	Belarus	Bolivia	Samoa
South Korea	Burundi	Belgium	Brazil	
North Korea	Cameroon	Bosnia & Herzegovina	Canada	
Mongolia	Central African Republic	British Indian Ocean Territory	Chile	
	Chad	Chechnya	Colombia	
South East Asia	Comoros	Croatia	Costa Rica	
Brunei Darussalam	Congo	Czech Republic	Dominican Republic	
Cambodia	Ivory Coast	Denmark	Guatemala	
Indonesia	Djibouti	England	Guyana	
Laos	Egypt	Finland	Haiti	
Myanmar	Equatorial Guinea	France	Jamaica	
Philippines	Eritrea	Germany	Mexico	
Singapore	Ethiopia	Greece	Panama	
Thailand	Gabon	Hungary	Peru	
Timor Leste	Gambia	Iceland	Saint Vincent	

Appendix 2: List of countries by region (Contiune)

Vietnam	Ghana	Ireland	Trinidad & Tobago	
	Guinea	Italy	USA	
Middle East	Kenya	Kosovo	Uruguay	
Afghanistan	Lesotho	Lithuania	Venezuela	
Asia	Africa	Europe	Americas	Australasia
Bahrain	Liberia	Macedonia		
Cyprus	Libya	Malta		
Georgia	Madagascar	Maldova		
Iran	Malawi	Netheland		
Iraq	Mali	Norway		
Jordan	Mauritania	Poland		
Kazakhstan	Mauritius	Portugal		
Kuwait	Morocco	Romania		
Kyrgyzstan	Mozambique	Russian Federation		
Lebanon	Namibia	Serbia		
Oman	Niger	Slovakia		
Palestinian	Nigeria	Slovenia		
Qatar	Rwanda	Spain		
Saudi Arabia	Senegal	Sweden		
Syria	Seychelles	Switzeland		
Tajikistan	Sierra Leone	Ukraine		
Turkey	Somalia	United Kingdom		
Turkmenistan	South Africa	Yugoslavia		
United Arab Emirates	Sudan			

Appendix 2: List of countries by region (Contiune)

Uzbekistan	Swaziland			
Yeman	Tanzania			
	Togo			
Indian Subcontinent	Tunisia			
Bangladesh	Uganda			
Bhutan	Western Sahara			
India	Zaire			
Asia	Africa	Europe	Americas	Australasia
Maldives	Zambia			
Nepal	Zimbabwe			
Pakistan				
Sri Lanka				



Appendix 3: The enrolment of higher education institution international students by levels of study, 2010

	PhD	Master	Bachelors	Diploma	Others*	Total	%
Public:							
Research University:							
UM	966	1,437	743		62	3,208	22.4
USM	1,287	748	439			2,474	17.2
UKM	1,195	1,138	513		1	2,847	19.8
UPM	1,478	1,250	101			2,829	19.7
UTM	946	1,302	747			2,995	20.9
Total						14,353	100
Comprehensive University:							
UiTM	74	145	193	15		427	7.3
UIAM	586	1,168	1,907	1	1,278	4,940	84.5
UMS	33	27	338			398	6.8
UNIMAS	46	17	16			79	1.4
Total						5,844	100
Focus University:							
UUM	627	618	1,673			2,918	72.6
UPSI	50	12	18			80	2
UTHM	30	86	163	1		280	7
UTeM	5	44	43			92	2.3
UniMAP	44	30	109			183	4.6
UMT	34	19	65			118	2.9
UMP	52	39	64			155	3.9
USIM	91	52	32			175	4.3
UniSZA	4	3	4			11	0.3
UMK		2	2			4	0.1
UPNM		1				1	
Total						4,017	100

Appendix 3: The enrolment of higher education institution international students by levels of study, 2010 (Contiune)

Private:							
Private University:							
Asia Pacific UCTI		102	2,036		2,746	4,884	16.1
MMU	172	885	2,663	92	660	4,472	14.8
LUCT	5	198	2,422	285	571	3,481	11.5
UCSI U	20	75	1,751	159	632	2,637	8.7
INTI		114	1,293	357	688	2,452	8
SUNWAY U		39	1,257	162	641	2,099	6.9
TAYLOR'S		72	1,138	323	155	1,688	5.6
MEDIU		410	1,038			1,448	4.8
KLIUC	1	112	912		237	1,262	4.1
HELP U		154	854	37	190	1,235	4.1
UNITEN	24	119	422		363	928	3.0
KUIN	4	42	682	27	1	756	2.5
IUCTT	21	107	594	17	1	740	2.4
UTP	60	30	439		163	682	2.2
Nilai UC			293	193	100	587	1.9
INCEIF	24	456				480	1.6
UNISEL	20	11	330	38	58	457	1.5
Total						30,288	100
Foreign branch:							
UNIM	43	283	919		56	1,301	38.0
MUSM	173	30	1,011		1	1,215	35.5
SWINBURNE	2	6	591	66	244	909	26.5
Total						3,425	100
Others	108	568	7,704		20,612	28,992	

*Others are Postgraduate Diploma, Advanced Diploma, Certificate and Professional Sources: (Ministry of Education, 2011b)

Appendix 4: The list of Malaysian private universities

Private University:

1. HELP	HELP University
2. MEDIU	Al-Madinah International University
3. UniKL	Kuala Lumpur University
4. INCEIF	International Centre for Education in Islamic Finance
5. INTI	INTI International University
6. MUST Technology	Malaysia University of Science and Management and Science University
7. MSU	Management and Science University
8. MMU	Multimedia University
9. QUIP	Premier International University Perak
10. Sunway (SYUC)	Sunway University
11. Taylor	Taylor's University
12. AIU	AlBukhary International University
13. UNISEL	Selangor Industrial University
14. IMU	International Medical University
15. LUCT Technology	Limkokwing University of Creative
16. UTP	PETRONAS University of Technology
17. UNITEN	University Tenaga Nasional
18. OUM	Open University Malaysia
19. WOU	Wawasan Open University
20. UNITAR	University Tun Abdul Razak
21. UTAR	University Tunku Abdul Rahman
22. UCSI	UCSI University

Private University College:

1. AUCMS Sciences	Allianze University College of Medical
2. AP-UCTI	Asia Pacific University College of Technology and Innovation
3. IUCN	International University College of Nursing
4. KDU UC	KDU University College
5. CUCMS Science	Cyberjaya University College of Medical
6. Berjaya	Berjaya University College of Hospitality
7. KUIS College	Selangor International Islamic University
8. Linton	Linton University College
9. Nilai	Nilai University College

Appendix 4: The list of Malaysian private universities (Contiune)

10. SEGI	SEGI University College
11. UCSA	Shahputra University College
12. IUCTT	International University College of Technology Twintech
13. KLMUC	Kuala Lumpur Metropolitan University College
14. KUIN	INSAHNIAH University College

Branch Campus of Foreign University:

1. MUSM	Monash University Malaysia
2. NUMed	Newcastle University Medicine Malaysia
3. Swinburne	Swinburne University if Technology (Sarawak Campus)
4. UNIM	University of Nottingham in Malaysia

Source: Ministry of Education (2011)



Appendix 5: Survey Instrument



Respondent ID	
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Dear Students

These questionnaires are constructed and distributed for the purpose of obtaining information related to the study on “Identifying the factors of intended choice for further degree among the international students in Malaysia”. This study is a partial fulfillment towards my PhD in Economics.

In order to be able to successfully complete this study, I do require supports from all of you to fully participate in the study by providing the required information. I solemnly promise that all the information given will be treated as **strictly private** and **confidential**.

Thanks you for your cooperation

Yours sincerely,

Foo Chaun Chew
PhD candidate
Department of Economics, finance and banking
University Utara Malaysia
Email: s93671@studentmail.uum.edu.my

Section A : Demographic and education background

Please **CIRCLE OR WRITE DOWN** your answers for the following questions:-

1. Gender
 - a. Male
 - b. Female
2. Age: _____ years old
3. Home country, please specify: _____
4. How many years you have been in Malaysia? (_____ Years
_____ month)
5. What is your current semester? _____
6. What level of study are you taking now?
 - a. Diploma (**Please proceed to question 8**)
 - b. Bachelor (**Please proceed to question 8**)
 - c. Master degree
7. If your level of education now is Master degree, which University did you obtain your Bachelor degree?
Please specify: _____
8. For your current level of study, what is your field of study?
Please specify: _____
9. How do you finance your education here in Malaysia?
 - a. Self-support
 - b. Scholarship (from Malaysia)
 - c. Scholarship (other than Malaysia)
 - d. Loan
 - e. Parents' support
 - f. Others, please specify: _____
10. Do you work part time currently?
 - a. Yes
 - b. No
11. Your current CGPA* result: _____

*(CGPA: the Cumulative Grade Point Average obtained for all the semesters)

12. How much money (USD) do you/your parents spend on your education and living here in Malaysia per year?
- a. Below 5,000
 - b. 5001-10,000
 - c. 10,001-15,000
 - d. Above 15,000

13. Who has recommended Malaysia to you?
(You are allow to “tick” more than one answer)

Family member

Friends

Education agents

Teachers/Lecturers in my home country

Non of the above, please specify: _____

Section B: Intention to further study

This section is to investigate your intention to further study and your choice of higher education destination for your higher level of study.

14. Do you have the intention to further your study after finishing your current level of study?
- a. Yes (**Please continue the following question**)
 - b. No (**Please proceed to section C**)
15. Would you like to continue your Bachelor/Master/PhD in Malaysia?
- a. Yes (**Please continue at question 16**)
 - b. May be Yes and may be No (**Please proceed to section C**)
 - c. No (**Please go to question 18**)

16. In which university in Malaysia you plan to continue Bachelor/Master/PhD?
Please specify: _____

17. In which field of study you plan to register for Bachelor/Master/PhD?
Please specify: _____

(Please proceed to section C)

18. In which country do you plan to continue Bachelor/Master/PhD?
Please specify: _____
19. In which field of study you plan to register for Bachelor/Master/PhD in the above mention country?
Please specify: _____
(Please proceed to section C)

Section C: Self-perception

To what extent you have possessed the following soft skills before you study in Malaysia? Please **circle** the suitable answer according to the following scale:

Very Low 1 2 3 4 5 6 7 **Very High**

Criteria	1	2	3	4	5	6	7
20. Interpersonal communication skills	1	2	3	4	5	6	7
21. Creative and Critical thinking skills	1	2	3	4	5	6	7
22. Problem solving skills	1	2	3	4	5	6	7
23. Analysis skills	1	2	3	4	5	6	7
24. English language skills	1	2	3	4	5	6	7
25. Team work	1	2	3	4	5	6	7
26. Adoption and practicing on positive value	1	2	3	4	5	6	7
27. General knowledge exposure	1	2	3	4	5	6	7
28. Job interview skills	1	2	3	4	5	6	7
29. Resume writing skills	1	2	3	4	5	6	7
30. Job searching	1	2	3	4	5	6	7
31. Good image outlook	1	2	3	4	5	6	7
32. Personal confident	1	2	3	4	5	6	7
33. ICT skills	1	2	3	4	5	6	7
34. Emotional, intellectual and spiritual quotient skills	1	2	3	4	5	6	7
35. Etiquette skills	1	2	3	4	5	6	7
36. Entrepreneurship skills	1	2	3	4	5	6	7
37. Consultation skills	1	2	3	4	5	6	7
38. Leadership skills	1	2	3	4	5	6	7

Section D: Perception about Malaysia and willingness to recommend Malaysia

Below are the various factors that may influence one's choice on higher education destination. Please **circle** the suitable answer based on your perception regarding Malaysia according to the following scale:

Strongly disagree 1 2 3 4 5 6 7 **Strongly agree**

39. The tuition fees that charged by Malaysia higher education institutions are reasonable.	1	2	3	4	5	6	7
40. The price of food and groceries sold in Malaysia are reasonable.	1	2	3	4	5	6	7
41. The books and study equipments sold in Malaysia are reasonable.	1	2	3	4	5	6	7
42. The accommodation fees charged is reasonable.	1	2	3	4	5	6	7
43. The public transportation charged in Malaysia is reasonable.	1	2	3	4	5	6	7
44. The other utility expenditure such as electric bill, phone bill & etc in Malaysia is reasonable.	1	2	3	4	5	6	7
45. I can easily get a job with Malaysian degree in my home country and other countries.	1	2	3	4	5	6	7
46. With Malaysian degree I am able to get a life time income which is higher than if I have a degree from university in my home country.	1	2	3	4	5	6	7
47. Malaysian universities are highly rank among all the International Universities.	1	2	3	4	5	6	7
48. The degree that I obtained from Malaysian university is recognized in my home country.	1	2	3	4	5	6	7
49. I am proud of my current university in Malaysia.	1	2	3	4	5	6	7
50. Malaysian university lecturers are highly qualified in their field.	1	2	3	4	5	6	7
51. Lecturers in Malaysia are internationally known in term of their publications	1	2	3	4	5	6	7
52. Malaysian university lecturers are always well-prepared when they give lectures.	1	2	3	4	5	6	7
53. Malaysian university lecturers are fluent in English language.	1	2	3	4	5	6	7

Strongly disagree 1 2 3 4 5 6 7 **Strongly agree**

54. Malaysian university lecturers practice student centered learning approach.	1	2	3	4	5	6	7
55. Malaysians are very friendly and helpful.	1	2	3	4	5	6	7
56. Malaysia is a very peaceful and safe country.	1	2	3	4	5	6	7
57. I believe there is no racial discrimination in Malaysia.	1	2	3	4	5	6	7
58. Malaysians can speak fairly good English.	1	2	3	4	5	6	7
59. I am able to adapt to the Malaysian lifestyle.	1	2	3	4	5	6	7
60. I am able to adapt to the weather in Malaysia.	1	2	3	4	5	6	7
61. I am satisfied with my current university.	1	2	3	4	5	6	7
62. I am satisfied with the security provided by my current university.	1	2	3	4	5	6	7
63. My current university has a comfortable study environment	1	2	3	4	5	6	7
64. I have family members/friends from my home country who are currently studying in Malaysia.	1	2	3	4	5	6	7
65. The immigration process is simple and efficient.	1	2	3	4	5	6	7
66. The application process to study in Malaysian university is simple and efficient.	1	2	3	4	5	6	7
67. I am allowed to take up part time job while studying in Malaysia.	1	2	3	4	5	6	7
68. I am encouraged to apply the permanent residential status after my graduation.	1	2	3	4	5	6	7
69. The facilities provided in the lecture hall are in good quality.	1	2	3	4	5	6	7
70. The facilities in library such as books, other material and information that I need to complete my assignments are enough.	1	2	3	4	5	6	7
71. The computer labs in my university are very up-to-date and equipped with high-technology instruments.	1	2	3	4	5	6	7

Strongly disagree 1 2 3 4 5 6 7 **Strongly agree**

72. The facilities provided in the students hostel are in good quality.	1	2	3	4	5	6	7
73. The facilities provided in the cafeteria are clean and in good quality.	1	2	3	4	5	6	7
74. The administrative staff from international office/departments is helpful and friendly.	1	2	3	4	5	6	7
75. The information that provided by the international office/department is timely and accurate	1	2	3	4	5	6	7
76. The administrative staff from other departments is helpful and friendly.	1	2	3	4	5	6	7
77. The information that provided by other departments is timely and accurate.	1	2	3	4	5	6	7
78. Malaysian institutions had involved a lot of the well known education expo/fair in my home country.	1	2	3	4	5	6	7
79. The information provided by <i>Education Malaysia</i> (a government agency) regarding Malaysia is informative and accurate.	1	2	3	4	5	6	7
80. The information provided by internet regarding Malaysia is informative and accurate	1	2	3	4	5	6	7
81. The information provided by print media (newspaper, magazine & etc) regarding Malaysia is informative and accurate.	1	2	3	4	5	6	7
82. The information provided by other media regarding Malaysia is informative and accurate.	1	2	3	4	5	6	7
83. Overall, I am happy to study in Malaysia	1	2	3	4	5	6	7

84. I am required to seat for certain English test (TOEFL, IELTS & etc) before enter to Malaysian University.

- a. Yes
- b. No

85. Please indicate your level of satisfaction towards each of the following factors.

Very unsatisfied	1	2	3	4	5	6	7	Very satisfied
Cost					<input type="checkbox"/>			
Reputation					<input type="checkbox"/>			
Social					<input type="checkbox"/>			
Regulation					<input type="checkbox"/>			
Service					<input type="checkbox"/>			
Promotion/Advertising					<input type="checkbox"/>			

86. I would recommend Malaysia to my family member/relative/friends in my home country to study in Malaysia.

- a. Yes (Please answer question 87)
- b. No (Please answer question 88)

87. Kindly state at least **ONE** reason why you will recommend Malaysia

Reason 1: _____

Reason 2: _____

88. Kindly state at least **ONE** reason why you will not recommend Malaysia

Reason 1: _____

Reason 2: _____

89. Please state if there are any other factors that influenced you to choose Malaysia besides the six factors stated above.

THANK YOU FOR YOUR CO-OPERATION

Appendix 6: Definition and measurement of variables

Variables	Definition	Measurement Units
1. Gender	Gender	0=Female, 1=Male
2. Age	Age	Years
3. Home Country	Home country for currently enrolled international student in Malaysia	1=East Asia, 2=South East Asia, 3=African Nation, 4=Middle East, 5=India Subcontinent, 6=North America, 7=South America, 8=Europe
4. Years in Malaysia	Years in Malaysia	Months
5. Current semester	Semester	Semester
6. Level of study	Current level of study	1=Diploma, 2=Bachelor degree, 3=Master degree
7. Obtain Bachelor degree	Where did those currently enrolled international student who is doing master program obtain their bachelor degree	0=non-Malaysian University, 1=Malaysian University
8. Field of study	Field of study	1=Education, Religious, Arts & Philosophy, 2=Social Sciences, Business & Law, 3=Information Technology & Communication, 4=Engineering, Manufacturing, Architecture & construction, 5=Health sciences & Medicine, 6=Argriculture studies, 7=Others
9. Financing Education	How did currently enrolled international student finance their education in Malaysia	1=Self / Family support, 2=Scholarship (from Malaysia), 3=Scholarship (other than Malaysia), 4=Loan, 5=Others
10. Part time job	Part time job	1=Yes, 0=No
11. CGPA	Cumulative Grade Point Average	Point
12. Expenses	Expenditure for education in USD (\$)	1=Below \$ 5000, 2= \$5001-10,000, 3=\$10,001-15,000, Above \$15,000
13. University category	University category	1=Focus university, 2=Comprehensive university, 3=Research university, 4=Local private university
14. Intention to further study	Intention to further study	1=Yes, 0=No
15. Further study in Malaysia	Choose Malaysia as advanced study destination	1=Yes, 2=Uncertain, 3=No



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Appendix 6: Definition and measurement of variables (Continue)

Variables	Definition	Measurement Units
16. University environment	Social factor	Likert scale 1-7
17. University services	Service factor	Likert scale 1-7
18. Academic quality	Reputation factor	Likert scale 1-7
19. Education cost	Cost factor	Likert scale 1-7
20. Information guidance	Promotion factor	Likert scale 1-7
21. Social	Social factor	Likert scale 1-7
22. Regulation	Regulation factor	Likert scale 1-7



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(b) Marginal Effect

. mfx

Marginal effects after logit
y = Pr(DYESB15) (predict)
= .27354538

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	x
FAC1_U~i	.1040384	.02153	4.83	0.000	.061833 .146244	-.013157
FAC2_U~v	.0542504	.01798	3.02	0.003	.019017 .089484	-.028574
FAC3_A~y	.0541991	.01987	2.73	0.006	.015263 .093135	-.028222
FAC4_E~t	.0123691	.02004	0.62	0.537	-.026911 .05165	.009852
FAC5_I~e	.0453509	.01862	2.44	0.015	.008852 .08185	-.028831
FAC6_Soc	.0039454	.0192	0.21	0.837	-.033693 .041584	-.039023
FAC7_R~u	.0240338	.02029	1.18	0.236	-.015727 .063795	-.027196
DMale_~r*	-.0141241	.04292	-0.33	0.742	-.098238 .06999	.645714
Age	.0184065	.00694	2.65	0.008	.004803 .032011	24.9957
DA3_Ea~a*	-.08983	.05854	-1.53	0.125	-.204568 .024908	.108571
DA3_SE~a*	-.1871173	.04558	-4.10	0.000	-.276462 -.097773	.25
DA3_Mi~t*	-.0309949	.05002	-0.62	0.536	-.129041 .067051	.285714
DA3_In~b*	-.0436476	.06319	-0.69	0.490	-.167498 .080203	.105714
Years	-.0016991	.00112	-1.52	0.128	-.00389 .000491	43.37
DMaste~1*	-.0482776	.05128	-0.94	0.346	-.148788 .052233	.381429
Dfield~2*	-.1748753	.06729	-2.60	0.009	-.306759 -.042992	.56
Dfield~3*	-.1304381	.05923	-2.20	0.028	-.246523 -.014353	.164286
Dfield~4*	-.145638	.05831	-2.50	0.013	-.259925 -.031351	.174286
Dfield~5*	-.1178502	.12301	-0.96	0.338	-.358947 .123246	.01
Dfinan~1*	-.0338783	.05597	-0.61	0.545	-.143587 .07583	.815714
Dfinan~2*	.1101339	.13742	0.80	0.423	-.159207 .379475	.03
Dfinan~4*	-.1514697	.09227	-1.64	0.101	-.332318 .029378	.025714
DYES_P~s*	.0685435	.05819	1.18	0.239	-.045514 .182601	.151429
CGPA	.0265949	.05062	0.53	0.599	-.07261 .125799	3.16199
DExpen~1*	-.0881531	.04758	-1.85	0.064	-.181415 .005109	.188571
DExpen~2*	-.0388802	.05186	-0.75	0.453	-.140521 .062761	.251429
DExpen~3*	.0101766	.04823	0.21	0.833	-.084345 .104698	.242857
Duni_F~s*	.0506852	.06733	0.75	0.452	-.081275 .182646	.24
Duni_C~e*	-.0932298	.05758	-1.62	0.105	-.206075 .019615	.335714
Duni_P~e*	.1152574	.07295	1.58	0.114	-.027725 .25824	.244286

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. vif

Variable	VIF	1/VIF
Dfieldstud~2	3.78	0.264442
DUni_Compr~e	2.99	0.334087
Dfieldstud~4	2.98	0.336102
Dfieldstud~3	2.89	0.346231
DUni_Focus	2.68	0.372661
DUni_Private	2.66	0.376028
DA3_SEAsia	2.13	0.469624
DMaster_1	2.05	0.488254
Age	1.95	0.513818
DA3_MidEast	1.87	0.534355
DA3_EastAsia	1.81	0.553946
DExpenses_2	1.69	0.592916
DExpenses_1	1.52	0.657937
Dfinanceed~1	1.49	0.670904
DA3_IndiaSub	1.46	0.684365
DExpenses_3	1.44	0.695950
CGPA	1.37	0.729987
Years	1.37	0.732089
FAC1_Unienvi	1.33	0.749484
Dfinanceed~4	1.31	0.765108
Dfinanceed~2	1.29	0.776136
DMale_Gender	1.21	0.829048
FAC7_Regu	1.19	0.840797
Dfieldstud~5	1.19	0.842524
DYES_PTJobs	1.17	0.854161
FAC2_Uniserv	1.12	0.891353
FAC3_Acaqu~y	1.10	0.909129
FAC6_Soc	1.09	0.915992
FAC4_Educost	1.07	0.930691
FAC5_Infog~e	1.05	0.948115
Mean VIF	1.74	

. imtest

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	432.90	418	0.2973
Skewness	206.99	30	0.0000
Kurtosis	57.01	1	0.0000
Total	696.90	449	0.0000

. estat clas

Logistic model for DYESB15

Classified	True		Total
	D	~D	
+	69	42	111
-	145	444	589
Total	214	486	700

Classified + if predicted Pr(D) >= .5
True D defined as DYESB15 != 0

Sensitivity	Pr(+ D)	32.24%
Specificity	Pr(- ~D)	91.36%
Positive predictive value	Pr(D +)	62.16%
Negative predictive value	Pr(~D -)	75.38%
False + rate for true ~D	Pr(+ ~D)	8.64%
False - rate for true D	Pr(- D)	67.76%
False + rate for classified +	Pr(~D +)	37.84%
False - rate for classified -	Pr(D -)	24.62%
Correctly classified		73.29%

. linktest

Iteration 0: log likelihood = -430.93998
Iteration 1: log likelihood = -374.84188
Iteration 2: log likelihood = -373.39476
Iteration 3: log likelihood = -373.38118
Iteration 4: log likelihood = -373.38118

Logistic regression Number of obs = 700
LR chi2(2) = 115.12
Prob > chi2 = 0.0000
Pseudo R2 = 0.1336

DYESB15	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
_hat	1.036316	.1618945	6.40	0.000	.7190085	1.353623
_hatsq	.0260376	.0866141	0.30	0.764	-.143723	.1957981
_cons	-.0062115	.1185094	-0.05	0.958	-.2384856	.2260627

Multinomial logistic regression
 Log pseudolikelihood = -808.68156

Number of obs = 700
 Wald chi2(90) = 1346.63
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.1475

DB14B15	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]
YesNo	(base outcome)				
YesYes					
FAC1_Unienvi	.4177599	.146365	2.85	0.004	.1308898 .7046299
FAC2_Uniserv	.4378379	.1239398	3.53	0.000	.1949203 .6807555
FAC3_Acaqu~y	.4038567	.1412935	2.86	0.004	.1269266 .6807869
FAC4_Educost	.1935958	.1464304	1.32	0.186	-.0934026 .4805942
FAC5_Infog~e	.2345809	.1440691	1.63	0.103	-.0477893 .516951
FAC6_Soc	.2517745	.1322894	1.90	0.057	-.0075079 .5110568
FAC7_Regu	.3650071	.1504831	2.43	0.015	.0700656 .6599487
Dmale_Gender	.0722874	.2952933	0.24	0.807	-.5064769 .6510517
Age	.0474696	.0516304	0.92	0.358	-.0537243 .1486634
DA3_EastAsia	-.287843	.5520284	-0.52	0.602	-1.369799 .7941127
DA3_SEAsia	-1.109008	.454894	-2.44	0.015	-2.000584 -.2174327
DA3_MidEast	-.3872986	.378765	-1.02	0.307	-1.129664 .3550672
DA3_IndiaSub	-.3587172	.491775	-0.73	0.466	-1.322578 .6051441
Years	.0035966	.0086526	0.42	0.678	-.0133623 .0205554
Dmaster_1	.144393	.4022472	0.36	0.720	-.6439971 .932783
Dfieldstud~2	-.7940962	.4465194	-1.78	0.075	-1.669258 .0810658
Dfieldstud~3	-1.00407	.5163868	-1.94	0.052	-2.01617 .0080294
Dfieldstud~4	-.6145534	.5327656	-1.15	0.249	-1.658755 .4296479
Dfieldstud~5	13.29458	.8067877	16.48	0.000	11.7133 .1487585
Dfinanceed~1	-.502659	.4268071	-1.18	0.239	-1.339185 .3338675
Dfinanceed~2	-.168473	.816231	-0.21	0.836	-1.768256 1.43131
Dfinanceed~4	.1404284	1.281454	0.11	0.913	-2.3711176 2.652032
DYES_PTJobs	-.0015593	.3591126	-0.00	0.997	-.7054072 .7022885
CGPA	.1139632	.3772027	0.30	0.763	-.6253406 .853267
DExpenses_1	.2253804	.4017483	0.56	0.575	-.5620317 1.012793
DExpenses_2	.7381932	.4395615	1.68	0.093	-.1233315 1.599718
DExpenses_3	.1941064	.3325889	0.58	0.559	-.4577558 .8459686
Duni_Focus	.9734899	.4903887	1.99	0.047	.0123456 1.934634
Duni_Compr~e	-.2394358	.4387437	-0.55	0.585	-1.099358 .6204861
Duni_Private	-.8902221	.4696272	-1.90	0.058	-.0302303 1.810674
_cons	-.0320961	1.862098	-0.02	0.986	-3.681741 3.617549
YesUncerta~y					
FAC1_Unienvi	.0602714	.1499466	0.40	0.688	-.2336185 .3541613
FAC2_Uniserv	.3068189	.1399488	2.19	0.028	.0325242 .5811135
FAC3_Acaqu~y	.3123062	.1469801	2.12	0.034	.0242305 .6003818
FAC4_Educost	.1520903	.1464584	1.04	0.299	-.134963 .4391436
FAC5_Infog~e	-.0543295	.1423981	-0.38	0.703	-.3334247 .2247658
FAC6_Soc	.27227	.1321209	2.06	0.039	.0133177 .5312223
FAC7_Regu	.2670422	.1491925	1.79	0.073	-.0253697 .5594541
Dmale_Gender	.3528686	.2979271	1.18	0.236	-.2310578 .936795
Age	-.0678178	.0623151	-1.09	0.276	-.1899533 .0543176
DA3_EastAsia	-.1706339	.6296989	-0.27	0.786	-1.404821 1.063553
DA3_SEAsia	-.0543919	.4461615	0.12	0.903	-.8200687 .9288524
DA3_MidEast	-.0749376	.4111831	-0.18	0.855	-.8808417 .7309664
DA3_IndiaSub	-.5580599	.5247294	-1.06	0.288	-1.586511 .4703908
Years	.0028109	.0088436	0.32	0.751	-.0145222 .0201439
Dmaster_1	.0313923	.4199503	0.07	0.940	-.7899311 .8527157
Dfieldstud~2	-.2199096	.4749674	-0.46	0.643	-.7110094 1.150829
Dfieldstud~3	-.1189998	.5522907	-0.22	0.829	-1.20147 .96347
Dfieldstud~4	-.1540212	.5757979	-0.27	0.789	-.9745219 1.282564
Dfieldstud~5	13.76733	1.1247	12.24	0.000	11.56295 15.9717
Dfinanceed~1	-.4927493	.4513195	-1.09	0.275	-1.377319 .3918205
Dfinanceed~2	-.4465502	.8419131	-0.53	0.596	-2.09667 1.203569
Dfinanceed~4	.4844346	1.28617	0.38	0.706	-2.036413 3.005282
DYES_PTJobs	-.5680013	.3758662	-1.51	0.131	-1.304686 .168683
CGPA	.1431812	.3834494	0.37	0.709	-.6083657 .8947282
DExpenses_1	.9179137	.4251144	2.16	0.031	.0847049 1.751123
DExpenses_2	1.440792	.4297918	3.35	0.001	.5984153 2.283168
DExpenses_3	.2305551	.3608856	0.64	0.523	-.4767677 .9378779
Duni_Focus	.8471101	.550441	1.54	0.124	.2317345 1.925955
Duni_Compr~e	.8435384	.490611	1.72	0.086	-.1180415 1.805118
Duni_Private	.7217968	.5264386	1.37	0.170	-.3100038 1.753597
_cons	.7715898	2.127947	0.36	0.717	-3.399109 4.942288
No					
FAC1_Unienvi	-.3937605	.1620636	-2.43	0.015	-.7113994 -.0761217
FAC2_Uniserv	.1479528	.1341532	1.10	0.270	-.1149826 .4108881
FAC3_Acaqu~y	.0565673	.1474703	0.38	0.701	-.2324693 .3456038
FAC4_Educost	.1641124	.1418788	1.16	0.247	-.113965 .4421898
FAC5_Infog~e	.083985	.138831	0.60	0.545	-.1881188 .3560889
FAC6_Soc	.3561145	.1433098	2.48	0.013	.0752326 .6369965
FAC7_Regu	.420671	.1525018	2.76	0.006	.1217729 .719569
Dmale_Gender	.0418682	.2966493	0.14	0.888	-.5395537 .6232901
Age	-.0426823	.0638724	-0.67	0.504	-.1678698 .0825053
DA3_EastAsia	.4891881	.5650129	0.87	0.387	-.6182168 1.596593
DA3_SEAsia	-.1706766	.4659646	-0.37	0.714	-1.083951 .7425973
DA3_MidEast	-.5428563	.415803	-1.31	0.192	-1.357815 .2721025
DA3_IndiaSub	.0930103	.4937436	0.19	0.851	-.8747093 1.06073
Years	.0248064	.0088485	2.80	0.005	.0074636 .0421492
Dmaster_1	.8589812	.4177117	2.06	0.040	.0402812 1.677681
Dfieldstud~2	-.0011994	.5185159	-0.00	0.998	-1.017472 1.015073
Dfieldstud~3	-.5349944	.5900072	-0.91	0.365	-1.691514 .6215256
Dfieldstud~4	.4078364	.588981	0.69	0.489	-.7465452 1.562218
Dfieldstud~5	14.88886	1.06525	13.98	0.000	12.80101 16.97671
Dfinanceed~1	-.4397478	.452495	-0.97	0.331	-1.326622 .4471262
Dfinanceed~2	-1.805654	.9682459	-1.86	0.062	-3.703381 .0920732
Dfinanceed~4	1.451927	1.19702	1.21	0.225	-.8941894 3.798043
DYES_PTJobs	-.2924356	.3858425	-0.76	0.449	-1.048673 .4638017
CGPA	-.1515182	.38756	-0.39	0.696	-.9111218 .6080854
DExpenses_1	.8517635	.4046584	2.10	0.035	.0586477 1.644879
DExpenses_2	.825294	.4463948	1.85	0.064	-.0496236 1.700212
DExpenses_3	.217867	.3576926	0.61	0.542	-.4831977 .9189316
Duni_Focus	1.096079	.5288885	2.07	0.038	.0594764 2.132681
Duni_Compr~e	-.1524561	.4630712	-0.33	0.742	-1.060059 .7551469
Duni_Private	.2605224	.4861217	0.54	0.592	-.6922586 1.213303
_cons	.6349668	2.18987	0.29	0.772	-3.6571 4.927034

. mfx

Marginal effects after mlogit
 y = Pr(DB14B15==YesNo) (predict)
 = .12692575

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	x
FAC1_U~i	-.0052784	.01401	-0.38	0.706	-.032742 .022185	-.013157
FAC2_U~v	-.0337482	.0125	-2.70	0.007	-.058239 -.009257	-.028574
FAC3_A~y	-.0294164	.01392	-2.11	0.035	-.0567 -.002133	-.028222
FAC4_E~t	-.0189349	.01417	-1.34	0.181	-.046699 .008829	.009852
FAC5_I~e	-.0103578	.01396	-0.74	0.458	-.037709 .016994	-.028831
FAC6_Soc	-.0322557	.0126	-2.56	0.010	-.056959 -.007552	-.039023
FAC7_R~u	-.0388449	.01432	-2.71	0.007	-.066916 -.010774	-.027196
DMale~r*	-.0170307	.02938	-0.58	0.562	-.074623 .040561	.645714
Age	.0020213	.00567	0.36	0.721	-.009092 .013135	24.9957
DA3_Ea~a*	-.0044531	.05453	-0.08	0.935	-.111323 .102417	.108571
DA3_SE~a*	.0440843	.05016	0.88	0.379	-.054233 .142402	.25
DA3_Mi~t*	.0380233	.04282	0.89	0.375	-.045899 .121946	.285714
DA3_In~b*	.0301701	.05535	0.55	0.586	-.078312 .138652	.105714
Years	-.0011053	.00085	-1.30	0.194	-.002773 .000563	43.37
DMaste~1*	-.0370149	.03754	-0.99	0.324	-.110584 .036555	.381429
Dfield~2*	.024737	.04374	0.57	0.572	-.060996 .11047	.56
Dfield~3*	.0658311	.06689	0.98	0.325	-.065271 .196933	.164286
Dfield~4*	-.0015593	.05342	-0.03	0.977	-.106266 .103148	.174286
Dfield~5*	-.1431989	.0164	-8.73	0.000	-.175341 -.111056	.01
Dfinan~1*	.04757	.03458	1.38	0.169	-.020214 .115354	.815714
Dfinan~2*	.0781293	.11762	0.66	0.507	-.152401 .308659	.03
Dfinan~4*	-.0674434	.06679	-1.01	0.313	-.198343 .063456	.025714
DYES_P~s*	.0304687	.03949	0.77	0.440	-.046931 .107869	.151429
CGPA	-.0044818	.03752	-0.12	0.905	-.078022 .069058	3.16199
DExpen~1*	-.0638998	.02877	-2.22	0.026	-.120279 -.007521	.188571
DExpen~2*	-.0939917	.03023	-3.11	0.002	-.153233 -.03475	.251429
DExpen~3*	-.0227131	.03067	-0.74	0.459	-.082833 .037407	.242857
DUni_F~s*	-.090196	.03516	-2.57	0.010	-.159102 -.021291	.24
DUni_C~e*	-.0194843	.04167	-0.47	0.640	-.101155 .062186	.335714
DUni_P~e*	-.064064	.03682	-1.74	0.082	-.136226 .008098	.244286

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. vif

Variable	VIF	1/VIF
Dfieldstud~2	3.78	0.264442
DUni_Compr~e	2.99	0.334087
Dfieldstud~4	2.98	0.336102
Dfieldstud~3	2.89	0.346231
DUni_Focus	2.68	0.372661
DUni_Private	2.66	0.376028
DA3_SEAsia	2.13	0.469624
DMaster_1	2.05	0.488254
Age	1.95	0.513818
DA3_MidEast	1.87	0.534355
DA3_EastAsia	1.81	0.553946
DExpenses_2	1.69	0.592916
DExpenses_1	1.52	0.657937
Dfinanceed~1	1.49	0.670904
DA3_IndiaSub	1.46	0.684365
DExpenses_3	1.44	0.695950
CGPA	1.37	0.729987
Years	1.37	0.732089
FAC1_Unienvi	1.33	0.749484
Dfinanceed~4	1.31	0.765108
Dfinanceed~2	1.29	0.776136
DMale_Gender	1.21	0.829048
FAC7_Regu	1.19	0.840797
Dfieldstud~5	1.19	0.842524
DYES_PTJobs	1.17	0.854161
FAC2_Uniserv	1.12	0.891353
FAC3_Acaqu~y	1.10	0.909129
FAC6_Soc	1.09	0.915992
FAC4_Educost	1.07	0.930691
FAC5_Infog~e	1.05	0.948115
Mean VIF	1.74	

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. imtest

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	439.60	418	0.2243
Skewness	84.43	30	0.0000
Kurtosis	40.12	1	0.0000
Total	564.16	449	0.0002

. tab pred_choice DB14B15

pred_choice	DB14B15				Total
	YesNo	YesYes	YesUncert	No	
1	20	7	16	11	54
2	31	127	47	42	247
3	33	67	90	53	243
Total	84	201	153	106	544

. linktest

Source	SS	df	MS			
Model	105.565384	2	52.7826921	Number of obs = 700		
Residual	645.204616	697	.925688114	F(2, 697) = 57.02		
				Prob > F = 0.0000		
				R-squared = 0.1406		
				Adj R-squared = 0.1381		
Total	750.77	699	1.07406295	Root MSE = .96213		

DB14B15	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
_hat	.2674273	.5350091	0.50	0.617	-.7829953	1.31785
_hatsq	.2151554	.1546635	1.39	0.165	-.0885068	.5188177
_cons	.5914529	.4549328	1.30	0.194	-.30175	1.484656



. mfx

Marginal effects after logit
 y = Pr(DYESB15) (predict)
 = .70075355

variable	dy/dx	std. Err.	z	P> z	[95% C.I.]	x
FAC1_U~i	.0657773	.03334	1.97	0.048	.000433	.131121	.204066	
FAC2_U~v	.113529	.02968	3.83	0.000	.055356	.171702	.023351	
FAC3_A~y	.0988559	.03258	3.03	0.002	.03501	.162702	-.03657	
FAC4_E~t	.0339536	.03112	1.09	0.275	-.027036	.094943	-.006569	
FAC5_I~e	.0416007	.02964	1.40	0.161	-.016502	.099703	.019891	
FAC6_Soc	.0543572	.03277	1.66	0.097	-.009867	.118582	-.097472	
FAC7_R~u	.0627839	.03129	2.01	0.045	.001464	.124104	-.161013	
DMale_~r*	.0104118	.06857	0.15	0.879	-.123987	.14481	.658228	
Age	.014318	.01502	0.95	0.340	-.015121	.043757	25.6519	
DA3_Ea~a*	-.01994	.14825	-0.13	0.893	-.310505	.270625	.091772	
DA3_SE~a*	-.3228648	.1351	-2.39	0.017	-.587656	-.058074	.174051	
DA3_Mi~t*	-.0638536	.09235	-0.69	0.489	-.244856	.117149	.322785	
DA3_In~b*	-.0768646	.12209	-0.63	0.529	-.316152	.162423	.10443	
Years	.0019203	.00205	0.94	0.349	-.002099	.005939	40.9525	
DMaste~1*	-.024688	.10631	-0.23	0.816	-.233054	.183678	.43038	
Dfield~2*	-.2392297	.09579	-2.50	0.013	-.426974	-.051486	.541139	
Dfield~3*	-.419098	.14226	-2.95	0.003	-.697931	-.140265	.183544	
Dfield~4*	-.2684393	.14766	-1.82	0.069	-.557839	.02096	.167722	
Dfinan~1*	-.1186146	.07885	-1.50	0.133	-.273165	.035936	.825949	
Dfinan~2*	-.0324657	.17281	-0.19	0.851	-.371171	.30624	.03481	
Dfinan~4*	-.0024777	.22248	-0.01	0.991	-.438538	.433583	.009494	
DYES_P~s*	.0807941	.08354	0.97	0.333	-.082948	.244536	.167722	
CGPA	-.0356415	.08428	-0.42	0.672	-.200829	.129546	3.19282	
DEXpen~1*	-.0238538	.10854	-0.22	0.826	-.236581	.188873	.161392	
DEXpen~2*	.1490644	.07228	2.06	0.039	.007389	.290739	.196203	
DEXpen~3*	-.032047	.08094	-0.40	0.692	-.190684	.12659	.262658	
Duni_F~s*	.2577647	.0761	3.39	0.001	.108612	.406918	.240506	
Duni_C~e*	.0091276	.09831	0.09	0.926	-.183562	.201818	.316456	
Duni_P~e*	.1726987	.08088	2.14	0.033	.014176	.331221	.234177	

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. vif

Variable	VIF	1/VIF
Dfieldstud~2	3.62	0.276428
Dfieldstud~3	3.26	0.306789
Dfieldstud~4	2.94	0.339873
Duni_Compr~e	2.83	0.353931
DMaster_1	2.68	0.373248
Duni_Focus	2.62	0.382224
Duni_Private	2.47	0.404950
Age	2.18	0.459223
DA3_SEAsia	2.11	0.473279
DA3_MidEast	1.92	0.521274
DA3_EastAsia	1.85	0.539502
DExpenses_1	1.61	0.621266
Years	1.52	0.656170
Dfinanceed~2	1.50	0.666314
CGPA	1.50	0.667145
DExpenses_2	1.45	0.689055
DA3_IndiaSub	1.44	0.693213
FAC1_Unienvi	1.44	0.694831
Dfinanceed~1	1.43	0.697900
DExpenses_3	1.43	0.698476
DYES_PTJobs	1.38	0.725766
FAC7_Regu	1.27	0.788541
DMale_Gender	1.24	0.808895
FAC2_Uniserv	1.22	0.818427
Dfieldstud~5	1.19	0.839153
FAC6_Soc	1.19	0.842439
Dfinanceed~4	1.16	0.861709
FAC4_Educost	1.11	0.904175
FAC3_Acaqu~y	1.10	0.907010
FAC5_Infog~e	1.09	0.920798
Mean VIF	1.79	

. imtest

Cameron & Trivedi's decomposition of IM-test

Source	chi2	df	p
Heteroskedasticity	319.00	317	0.4579
Skewness	75.89	30	0.0000
Kurtosis	31.53	1	0.0000
Total	426.43	348	0.0026

. estat clas

Logistic model for DYESB15

Classified	True		Total
	D	~D	
+	180	52	232
-	28	56	84
Total	208	108	316

Classified + if predicted Pr(D) >= .5
True D defined as DYESB15 != 0

Sensitivity	Pr(+ D)	86.54%
Specificity	Pr(- ~D)	51.85%
Positive predictive value	Pr(D +)	77.59%
Negative predictive value	Pr(~D -)	66.67%
False + rate for true ~D	Pr(+ ~D)	48.15%
False - rate for true D	Pr(- D)	13.46%
False + rate for classified +	Pr(~D +)	22.41%
False - rate for classified -	Pr(D -)	33.33%
Correctly classified		74.68%

. linktest

Iteration 0: log likelihood = -202.93645
Iteration 1: log likelihood = -166.23449
Iteration 2: log likelihood = -165.69343
Iteration 3: log likelihood = -165.69075
Iteration 4: log likelihood = -165.69075

Logistic regression Number of obs = 316
LR chi2(2) = 74.49
Prob > chi2 = 0.0000
Log likelihood = -165.69075 Pseudo R2 = 0.1835

DYESB15	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
_hat	1.132945	.1973054	5.74	0.000	.7462341	1.519657
_hatsq	-.0995212	.0932506	-1.07	0.286	-.282289	.0832467
_cons	.0512045	.1612495	0.32	0.751	-.2648387	.3672477

. mfx

Marginal effects after logit
 y = Pr(DYES_D86) (predict)
 = .75837921

variable	dy/dx	Std. Err.	z	P> z	[95% C.I.]	x
FAC1_U~i	.0879547	.02005	4.39	0.000	.048667	.127242		-.013157
FAC2_U~v	.0369498	.01711	2.16	0.031	.003405	.070494		-.028574
FAC3_A~y	.0577331	.01786	3.23	0.001	.022738	.092728		-.028222
FAC4_E~t	.0415968	.01792	2.32	0.020	.006478	.076716		.009852
FAC5_I~e	.0281319	.01742	1.61	0.106	-.006601	.062274		-.028831
FAC6_Soc	.0949885	.01872	5.07	0.000	.058299	.131678		-.039023
FAC7_R~u	.0288616	.01942	1.49	0.137	-.0092	.066924		-.027196
DMale~r*	-.0106593	.04079	-0.26	0.794	-.090606	.069288		.645714
Age	.0067248	.00613	1.10	0.272	-.005283	.018732		24.9957
DA3_Ea~a*	-.076831	.08841	-0.87	0.385	-.250115	.096453		.108571
DA3_SE~a*	.1272393	.04886	2.60	0.009	.031482	.222997		.25
DA3_Mi~t*	-.0341508	.05163	-0.66	0.508	-.135342	.06704		.285714
DA3_In~b*	.020734	.06024	0.34	0.731	-.097343	.138811		.105714
Years	-.0003998	.0011	-0.36	0.715	-.002547	.001748		43.37
DMaste~1*	.022546	.04888	0.46	0.645	-.073251	.118343		.381429
Dfield~2*	-.0024672	.07589	-0.03	0.974	-.151217	.146283		.56
Dfield~3*	-.070379	.09292	-0.76	0.449	-.252508	.11175		.164286
Dfield~4*	.0062454	.08536	0.07	0.942	-.161054	.173545		.174286
Dfield~5*	.1091003	.17186	0.63	0.526	-.227747	.445948		.01
Dfinan~1*	-.0366478	.05528	-0.66	0.507	-.145004	.071708		.815714
Dfinan~2*	-.0483245	.1246	-0.39	0.698	-.292532	.195883		.03
Dfinan~4*	-.0737597	.1458	-0.51	0.613	-.359522	.212003		.025714
DYES_P~s*	-.0451271	.05692	-0.79	0.428	-.156687	.066433		.151429
CGPA	-.0170278	.0499	-0.34	0.733	-.114823	.080767		3.16199
DExpen~1*	-.0715802	.05438	-1.32	0.188	-.178157	.034996		.188571
DExpen~2*	.0083658	.05099	0.16	0.870	-.09158	.108312		.251429
DExpen~3*	.0222258	.04625	0.48	0.631	-.068415	.112867		.242857
DUni_F~s*	-.0451097	.07283	-0.62	0.536	-.187854	.097634		.24
DUni_C~e*	-.0054043	.06827	-0.08	0.937	-.139217	.128408		.335714
DUni_P~e*	-.0828345	.07368	-1.12	0.261	-.22725	.061581		.244286

(*) dy/dx is for discrete change of dummy variable from 0 to 1

. vif

Variable	VIF	1/VIF
Dfieldstud~2	3.78	0.264442
DUni_Compr~e	2.99	0.334087
Dfieldstud~4	2.98	0.336102
Dfieldstud~3	2.89	0.346231
DUni_Focus	2.68	0.372661
DUni_Private	2.66	0.376028
DA3_SEAsia	2.13	0.469624
DMaster_1	2.05	0.488254
Age	1.95	0.513818
DA3_MidEast	1.87	0.534355
DA3_EastAsia	1.81	0.553946
DExpenses_2	1.69	0.592916
DExpenses_1	1.52	0.657937
Dfinanceed~1	1.49	0.670904
DA3_IndiaSub	1.46	0.684365
DExpenses_3	1.44	0.695950
CGPA	1.37	0.729987
Years	1.37	0.732089
FAC1_Unienvi	1.33	0.749484
Dfinanceed~4	1.31	0.765108
Dfinanceed~2	1.29	0.776136
DMale_Gender	1.21	0.829048
FAC7_Regu	1.19	0.840797
Dfieldstud~5	1.19	0.842524
DYES_PTJobs	1.17	0.854161
FAC2_Uniserv	1.12	0.891353
FAC3_Acaqu~y	1.10	0.909129
FAC6_Soc	1.09	0.915992
FAC4_Educost	1.07	0.930691
FAC5_Infog~e	1.05	0.948115
Mean VIF	1.74	

. imtest

Cameron & Trivedi's decomposition of IM-test

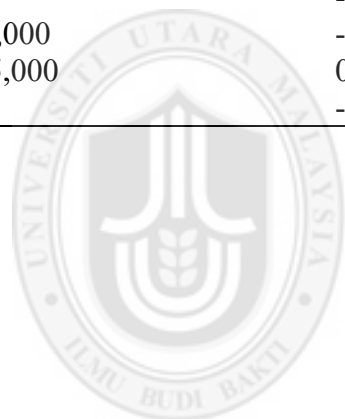
Source	chi2	df	p
Heteroskedasticity	483.48	418	0.0147
Skewness	208.40	30	0.0000
Kurtosis	26.08	1	0.0000
Total	717.95	449	0.0000

Appendix 11

Logit Model: Comparison between undergraduate and postgraduate

	Overall		Undergraduate		Postgraduate	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Investment:						
Education cost	0.0622	0.538	0.1031	0.462	0.0043	0.980
Consumption:						
University environment	0.5235	0.000***	0.6118	0.000***	0.3910	0.056*
University service	0.2730	0.003***	0.4229	0.001***	0.2836	0.064*
Academic quality	0.2727	0.007***	0.3889	0.006***	0.1673	0.393
Information guidance	0.2282	0.016**	0.1889	0.156	0.4152	0.013**
Social	0.0198	0.837	-0.016	0.894	0.2297	0.234
Regulation	0.1209	0.237	0.1118	0.464	-0.0037	0.983
General Background:						
Male	-0.0707	0.741	-0.4114	0.137	0.1403	0.704
Age	0.0926	0.008	0.0914	0.254	0.0874	0.031
East Asia	-0.4978	0.168	-0.3421	0.468	-0.3410	0.655
South East Asia	-1.0818	0.000	-0.7493	0.049	-1.4931	0.022
Middle East	-0.1584	0.542	-0.0026	0.994	-0.0127	0.979
India Subcontinent	-0.2292	0.508	0.3496	0.489	-0.3055	0.598
Period spend in Malaysia	-0.0085	0.129	0.0077	0.476	-0.0087	0.344
Education Background:						
Master	-0.2463	0.353	-	-	-	-
Social Sciences	-0.8660	0.009	-0.8236	0.154	-1.4648	0.003
Information Technology & Communication	-0.7449	0.057	-0.1495	0.805	-2.7003	0.000
Engineering	-0.8430	0.034	-0.6163	0.326	-1.9594	0.002

Health sciences & Medicine	-0.7102	0.443	0.3329	0.804	-3.2799	0.003
CGPA	0.1079	0.599	0.0961	0.787	0.0919	0.847
Focus university	0.2480	0.440	0.0004	0.999	1.2451	0.036
Comprehensive university	-0.4878	0.121	-0.4808	0.338	-0.6855	0.157
Private university	0.5483	0.099	0.6470	0.201	0.9433	0.115
Financial Background:						
Part-time jobs	0.3287	0.218	0.2581	0.461	0.4413	0.360
Self/Parent support	-0.6717	0.224	0.8408	0.071	-1.4386	0.001
Scholarship (from Malaysia)	0.5051	0.388	1.0173	0.146	-1.0277	0.628
Loan	-1.4805	0.108	0.1049	0.920	-	-
Spend below \$5,000	-0.4770	0.087	0.3454	0.367	-1.1914	0.010
Spend between \$ 5,001 –10,000	-0.2002	0.465	-0.8940	0.812	0.1556	0.754
Spend between \$10,001 –15,000	0.0509	0.832	0.4930	0.143	-0.8056	0.045
constant	-1.3174	0.348	-3.7012	0.099	-0.0702	0.974



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