Proposed Macro Variables for Analysing International Tertiary Enrolments in Malaysia: A Brief Review

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ABSTRACT

Higher education promises substantial economic returns. Hence, more countries are interested in exporting this commodity to the international market, including Malaysia. Various plans have been drawn up and steps have been taken in realising this dream. In measuring the achievement, monitoring is a must. Analysis on international demand for Malaysian higher education is one of compulsory monitoring measures. Hence, this paper analyses selected literatures in producing a solid empirical basis. Proposed also are two macro variables that are capable in replacing the initial base in this field of study. It is hoped that this paper provides an idea on empirical macro-researches in exploring the international demand for Malaysian higher education.

INTRODUCTION

Higher education is a sustainable economic growth engine. With an estimated growth of 8% per year, it is expected that 8.3 million students will exist in 2020 (Hearps, 2016). This opportunity is equally taken by Malaysia. Malaysia, which was ranked 11th (Nga, 2009), has now risen to the 9th position, as a major destination for international students, as highlighted in "Malaysia di ranking (Malaysia ranked)," (2015). More importantly, Malaysia has set a target of 200,000 international enrolments in 2020, in becoming the sixth largest country in the global higher education market (ICEF, 2012). Hence, various steps have been taken including the establishment of the higher education ministry, provision of long-term plans and official reports, improvements at the institutional level and development of more public and private institutions of higher learning in Malaysia.

At the same time, there is a continuous need in monitoring the progress through on-going research. For example, more studies are needed on identifying the international demand for Malaysian higher education. For the record, numerous empirical studies have been conducted in exploring this type of demand, beginning as early as 2003. However, most are limited to micro data collection and primary data analysis. Hence, more macro-studies which focus on determining the direct impact of macro variables on the demand for Malaysian higher education are needed. For this reason, this paper has listed relevant

literature to describe the macro field. Beginning with the studies on the local demand, this paper will briefly discuss the international demand for the Malaysian higher education. This paper also recommends two suitable macro variables; namely per capita income and exchange rate that can be applied to empirical models in studying this trans-border education. Suggestion on the use of these two variables is based on the success of their use within the theoretical framework of previous researches.

Demand for Malaysian Higher Education

A study by Sidin, Hussin and Soon (2003) was probably the first in analysing the tertiary enrolments by locals in Malaysian higher education institutions. Questionnaires were answered by 210 local respondents from four public higher education institutions (PbHEIs) and four private higher education institutions (PrHEIs) in Klang Valley. These resulted in the significance of three hypotheses; involving academic qualifications, institutional environment and student characteristics. On the other hand, Munisamy, Jaafar, and Nagaraj (2014) have made two separate conclusions; development of career and personal was the reason for furthering studies, while university reputation and employability were the pulling factors in choosing the higher education institutions.

Earlier, Tin, Ismail, Othman, and Sulaiman (2012) came with a new idea of sampling by choosing households. Two third of the samples were male respondents with almost half of them from secondary education background and the highest portion earned a monthly income of between RM1,001 – RM2,500. These conditions reflected the fact that financial aid was the biggest consideration as compared to others. Jaafar (2016) revealed that the motivations of furthering studies varied for different genders and different programs, in terms of intrinsic and extrinsic factors. Out of six main factors, only two were common for respondents from various faculties; namely learning and employability.

In measuring the foreign demand for Malaysian tertiary education, Padlee, Kamaruddin and Baharun (2010) and Baharun, Awang and Padlee (2011) emphasised on the importance of facilities and customer focus. Customer focus for example, was in a significant range, in between 1% to 5% for four different sets of sample sets. For facilities, it was more significant for African students than the majority of Asian students. Migin, Falahat, Yajid and Khatibi (2015) found that academic reputation, program and facilities were significant at 1%. Meanwhile, the low cost of higher education in Malaysia as compared to other traditional countries, has made it less significant.

Foo, Ismail, & Lim (2016) took a different approach by comparing between two different motives. It was concluded that consumptive motive was more motivating than investment motive in enrolling more postgraduate students in Malaysia. Specifically, this motive was represented by four different items, where university environment had the greatest marginal impact. For a specific study in northern Malaysia, seven hypotheses was listed; however, only four were accepted. At the same time, all these variables succeeded in representing nearly 50% of the total variation of the study by Yusuf, Ghazali and Abdullah (2017).

There were also studies that placed qualitative as a basis. Rahman and Islam (2016) identified six indicators used where three of them referred to the characteristics of the students, two associated with the institution and the latter related to Malaysia's attraction as the hosting country. The rapid development of international branch campuses in Malaysia was also an attraction (Zamberi Ahmad & Buchanan, 2016). The pulling factor was the basis of this study, which was heavily influenced by the country's positive image and the reputation of a tertiary institution. Malaysia's strengths in demographic and geographic areas were also emphasised.

The Proposed Macro Variables

The earliest study in estimating demand for higher education was initiated by Campbell and Siegel (1967). The undergraduate aggregate enrolment data was used as a sample in studying the demand for higher education in the US for the period between 1919 and 1964. Income linked in a positive way with the enrolments, while price (cost) worked negatively. This study was inspired by the human capital investment theory which was discussed thoroughly by Schultz (1961) and Becker (1964). Schultz (1961) for example, highlighted that formal education (including the tertiary level) as one of five requirements in improving human capabilities. At the same time, there was a need for higher education in avoiding the recurrence of a vicious cycle of poverty as stressed out by Childress, Hand, Pullins, Rutherford, and Tye (2017).

In general, the study by Campbell and Siegel (1967) has become a benchmark for the majority of studies in this field. Their success in explaining 87% of the total demand by using only two independent variables is amazing. However, the analysis is limited to local students. The reality today, the presence of international students has become a phenomenon and is now one of the most awaited economic commodities. Hence, in taking this study as a base, two macro variables are proposed. In replacing 'income', per capita income is proposed. In order to replace the price, the holistic concept of cost is needed. Hence, the exchange rate is proposed in illustrating the burden that has to be paid by every international student.

Per Capita Income

A paper by Agarwal (1983) was based on the theory of migration where a better educational opportunity is one of migration factors (Sjaastad, 1962). The per capita GDP or commonly known as per capita income was used in capturing macro factors, determined by the home country rather than the student itself. In other words, a person's tendency to pursue overseas studies was directly proportional to the country's wealth. The same idea was agreed upon by Lee and Tan (1984). Per capita income positively influenced the massive flow of tertiary students, from developing countries to developed countries.

Naidoo (2007) proposed three possible reasons for the flow of foreign students to the UK, namely social/cultural, economic and political. In measuring the economic reason, per capita income was explored. In addition to the positive relationship with the flow, there was no significant difference between high and medium income countries. Hence, in attracting more students to the UK, the focus should be given equally to all potential countries. This model was then augmented in Chadee and Naidoo's (2009). It was concluded that four (Malaysia, Singapore, South Korea and Thailand) out of seven countries experienced significant impacts. Additional change in per capita income boosted the number of their students to the UK.

In the African continent, more students went overseas, especially to North America, Europe and other same continental countries (Kritz, 2015). Per capita income of the home country was used in the four different models. All models successfully recorded significant positive relationships. Furthermore, the elasticity values were in line with the outbound rate. Inversely situation however, happened in Germany. The home country per capita income was inversely related to the international student enrolments there (Bessey, 2012). Based on six different individual regressions and a panel data analysis, negative relationships at weak significant rates were recorded. This can be expected, as Germany offers free education to its international students (Matthews, 2017).

Perkins and Neumayer (2011) instead used per capita income for both origin and destination countries. An increase in the per capita income of the destination country will attract more international enrolments. At the same time, a reduction in per capita income for the country of origin forced more locals to foreign countries. Dozens of countries were the samples. Yang and Wang (2016) restricted the

service destination countries to only six European countries. The results obtained differ completely from what was reported in Perkins and Neumayer (2011). The influx of international students in these six countries was inversely proportional to their per capita income, while per capita income in the home country reacted the other way.

Still using per capita income for both countries, a different approach however was used by Whei (2013). A gap between the per capita income of the original country and the destination country was made as one of the independent variables. As a result, the migration of students from the developing countries to the developed nations was more influenced by this factor, than the students from the same developed region. The same idea was applied in Ramos and Royuela (2017). Per capita income gap between Spain and country of destination entered the model, in a positive way. This caused an increase in migration of graduates from Spain to other countries, especially those who took semi-technical courses at higher institutions throughout Spain.

In combining both per capita incomes, a ratio was used as shown in Dreher and Poutvaara (2011). In detail, per capita income of the home country was placed at the top, while per capita income of the USA was ranked bottom. As a result, half of the six models built, have shown a significant negative correlation between this variable with international student enrolments in the US. Not limited to the actual per capita income, the use of disposable per capita income was recommended in Brown, McClary and Bellingar (2012). The main purpose of this study was to analyse the demand for higher education in Florida. Though both cohorts received a positive impact from rise in disposable per capita income, the impact was experienced more by Florida students.

In addition to per capita income, the country's income itself is used in explaining the economic capability of respective country. In measuring the economic strength of home countries and host country (the USA), the Gross Domestic Product (GDP) was used as an indicator in Mcmahon (1992). However, in clustering the origin countries, samples were divided into four categories; high-income, middle income, low-income and oil producing developing countries, based on per capita Gross National Product (GNP). In Zheng (2014), three types of GDP counted, i.e. total, growth and per capita. The results were mixed as the per capita income recorded a negative relationship with tertiary flows, the economic growth made a positive result, while the total GDP was less significant, as reported in the study.

In a different view, per capita GNP was proposed as an economic proxy by Cummings (1984). It was hypothesised that the per capita GNP was able to explain the total outbound among the Asian students. This may be advantageous for oil exporting countries in sending their students abroad. This pattern may then be followed by newly industrialised countries (NICs) which experienced a dynamic growth rate at that time. In 2000's, data set from the 64 most active countries in student exchange were analysed by Chen and Barnett (2000). One of the key findings was a positive correlation that increased over time, for the period between 1985-1995: between per capita GNP and international enrolments.

Exchange Rate

Naidoo (2007) recommended the use of exchange rate in measuring student enrolments in the United Kingdom. This selection was based on its extensive use in studies on international trade. Since higher education is also a commodity of trade, this factor must be taken into account. In the same study, the exchange rate was one of the items under an economic reason that catalysed the trans-border higher education. The same concept was later applied in Chadee & Naidoo (2009). Of the six home-country samples, four of them were highly sensitive to exchange rate, in a reverse proportion. The four were significant at 1% significance level.

However, two different situations were reported in Zheng (2014). Tertiary students from developed countries were unaware of the UK pound sterling fluctuation. On the other hand, students from developing countries argued that currency rate affected their presence in the UK. Not limited to

international student enrolments, exchange rate was also used in assessing the amount of student visa applied in the UK (Jena & Reilly, 2013). Given all the samples were from developing countries, once again the exchange rate became an important parameter. An appreciation in home country currency increased its citizens' financial capacity thus allowing them to apply for more student visas in the UK.

For students from China in the UK, they were differentiated by financial aid reform (Machin & Murphy, 2014). For pre-reform students, they were not influenced by the Yuan/Pound Sterling ratio as they were sponsored by the Chinese government. Instead, students in post-reforms were more affected, as most of them were self-sponsored. The same burden was felt by those who came from other developing countries. A huge difference between the Iranian Rial and the US Dollar had forced some of the students to change their direction to other European countries such as Italy (Holden, 2017). Students of short-term courses and exchange programs also faced a similar problem.

Exchange rate was the main reason why Malaysian parents were more willing to send their children to study only in the final year in the UK (Lee, 2015). For them, over-exchanging cost restricted the study duration of franchise programmes in the UK. More extremely, the exchange rate was a major priority in determining the choice of place of study, as emphasised by Verbik and Lasanowski (2007). Despite being the top choice, the high rates of UK Pound Sterling and US Dollar provided a nuisance to potential students, especially from Africa and Southeast Asia. This had caused them to move to other English speaking countries (MESDC) such as Canada, Australia and New Zealand (Hearps, 2016).

Issues related to exchange rate were not limited to the UK and the US markets. The exchange rate was examined as the pulling factor for higher education in Australia and New Zealand (Abbott & Ali, 2009). It was concluded that exchange rate was less sensitive to Asian students. This was great news as the majority of their foreign students came from this region. Lawrence and Yoon (2016) highlighted the fact that a reasonable value of the New Zealand Dollar had successfully attracted tertiary students from OECD countries such as South Korea. This explained why groups of students from this country were the fourth largest contributor to international student enrolments in New Zealand, as highlighted in the same study.

In Canada, more local parents complained about expensive local tuition fees (Liu, 2016). This did not happen to parents of Chinese students although Renminbi's exchange rate against Canadian Dollar was up to five times higher. The nature of Chinese people who love to save for the purpose of education of their children is the key to this ability. In India, a major depreciation in Indian Rupee against the world's major currencies, led to a drop of 20% in demand for foreign education. Additionally, with limited local educational opportunities, this undermined the human capital development in India. Sadly, financial loans received in local currency were no more sufficient which forced students to work part-time (Javid & Mohammad, 1993).

Padlee, Kamaruddin and Baharun (2010) found that the exchange rate recorded an average value of 4.19 as compared to the full-scale-six. Nevertheless, it was ranked 12th out of the 20 indicators studied in determining the reasons why Malaysia was the preferred destination for higher education. Though it had an impact on the selection, entry requirement and medium of instruction were more important. At the same time, Malaysian students abroad, for example in Australia, increased due to depreciation in the host county currency (Ilieva & Goh, 2011). Simultaneously, Australia's lower dollar value as compared to US dollar and UK pound sterling was partly the reason why this country was a top choice for Malaysians.

The economic downturn in 1997 changed the landscape of Malaysia's higher education. The fall of Malaysian Ringgit against the US dollar prevented more students overseas. Alternatively, more local students continued their studies at private institutions of higher learning (Aziz & Abdullah, 2014). The rise in world's major currencies like the UK pound sterling also forced the Malaysian government to change its approach. Through one of its agencies, outstanding students were asked to choose non-traditional countries such as Norway, Sweden and Spain (Yahaya, 2014). In comparison, the costs incurred in sponsoring a student in the UK, were able to sponsor up to two or three students in Sweden.

CONCLUSION

This paper has presented relevant literature in reviewing the international demand for higher education in Malaysia. Concurrently, two macro variables, namely per capita income and exchange rate have been proposed. Per capita income represents the element of income required by a student in continuing his/her studies at a tertiary level. Meanwhile, the exchange rate is an indicator of the burden they must incur during the study period. The use of these two variables is suggested as it represents the most important element of the demand for higher education proposed by Campbell and Siegel (1967), i.e. income and price (cost). In giving a clearer idea, the data associated with these both variables will be displayed in the future studies. Thus, it is hoped that this paper will be useful to those who are interested in expanding this field of study from a macro perspective. One area for future research in similar realm but from a different focus would be the international student movement which can be an interesting topic and needs to be explored continuously in studying its impact on the economy of a country.

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