FINANCIAL ANXIETY ON INTERNATIONAL STUDENTS IN HIGHER EDUCATION: A COMPARATIVE ANALYSIS BETWEEN INTERNATIONAL STUDENTS IN UNITED STATES OF AMERICA AND CHINA

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ABSTRACT

Financial anxiety is one of the most stress-causing factors, which destabilizes students' academic activities and performance. This study is purposed to investigate whether there exists any financial anxiety on international students in higher education institutions by comparing students in USA and Mainland China. The study employed a random effect ordered probit model, which utilized a sample size of 3,953 international students during the academic years 2017 – 2019. Findings show that there exists low significant rate of financial anxiety among international students in the United States while foreign students in China experienced a high significant financial anxiety as far as academic life is concerned. Additionally, robustness check using marginal effects in probit shows a positive life satisfaction toward financial behaviour after study period in the USA while a negative life satisfaction toward financial behaviour exist in the Mainland China. Nevertheless, the paper puts forward key recommendations to help address this phenomenon and strengthen relationship between international students and administrators of higher education institutions in both countries.

Key Words: USA, China, Financial Anxiety, International Students, Probit Model

Jel Codes: B26, F38, P34

1. INTRODUCTION

The growing participation of foreign students in international higher education in recent decades has drawn attention on students' well-being and the impact of financial stress on them. Recent national surveys show that college students' finances are one of the leading causes of stress (Kisch, Leino & Silverman, 2005). For example, majority of Americans experience top source of anxiety, which include money, followed by work and the economy (Beiter et. al., 2015). Again, personal financial difficulties is worth exploring in details given the challenges foreign students face regarding the growing burden of academic finances. In fact, a recent report from a non-profit financial education advocate found that four of the top

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five stressors among college students involved problems related to personal finances (Trombitas, 2012). Additionally, higher education institutions at all levels are facing extraordinary challenges at present time, namely, demographic shifts, rising costs of providing higher education, and limited sources of funding (Lapovsky, 2014). It has been well established that effective decision making is related to both financial competencies and levels of financial anxiety (Shapiro and Burchell, 2012). Empirically, this suggests that those experiencing financial stress have a difficult time making decisions (Ackerts et. al., 2003; Grable et. al., 2015).

Anxiety has steadily increased in recent years for college students (Xiao et. al., 2017). For instance, approximately seven out of 10 college students experience stress in their personal finances in a multisite study (Lim, Heckman, and Montalto, 2014). In addition, other researches indicate that women are more likely to report financial stress than men (Brougham, Zail, Mendoza and Miller, 2009). Financial stress has been linked to reduced course loads or dropout and poorer academic performance (Joo, Bagwell Durband, & Grable, 2008; Terriquez & Gurantz, 2015). Wharton (2007) explored college students' financial characteristics affecting their academic success. As a result, students rely heavily on such financial resource for better education (Fosnacht, 2013).

Significantly, it is imperative to recognize that stress and anxiety are common among students at every level in academic sphere. Fortunately, through financial aids like scholarships, grants and other cost reduction measures help more students break out of the poverty cycle and earn their academic degrees. The purpose of the study is to explore the financial behaviour and academic life satisfaction among foreign students in USA and Mainland China and further provide understanding on financial stress in higher education institutions in above mentioned countries. Moreover, this study will serve as an information source to stakeholders in the industry and importantly, add to existing literature on the subject matter. Specifically, the study aimed to address the research question as to whether there is financial distress on foreign students in higher education and how significant this impact on their academic performance. From above discussion, the authors draw four key hypothesis:

H1: Student financial behaviour is inadequate and more likely to cause financial stress.

H2: Graduating students will be more likely to be financially stressed.

H3: Students with high family income support display lesser financial stress compared to students with low or middle level of family income.

H4: College aftermath experiences on students will be more likely to cause financial stress.

Given the important developmental stage of financial stress among students pave way for more detailed analysis on the subject matter based on the application of the Roy Adaptation Model (Roy and Andrews, 2008) in explaining financial anxiety among foreign students in higher education institutions.

2. LITERATURE REVIEW

Financial anxiety is a major concern because of its negative outcomes associated with increased risk of stress. Research has identified a link between financial difficulties and health problems such as anxiety and depression (Roberts et al., 1999; Drentea, 2000; Jenkins et at., 2008). Therefore, it is useful to adopt a health related model in examining how college students deal with financial stress in higher education institutions.

3. INTERNATIONAL DESTINATION OF HIGHER EDUCATION: A COMPARATIVE ANALYSIS BETWEEN CHINA AND USA

Internationalization of higher education has proliferated the mobility of students to access higher education abroad. There are many rationales, which inform the decisions of students to travel abroad to access foreign higher education. A study conducted by Larbi and Fu (2017) shows the rationale of student mobility based on the push-pull model in figure 1 below (refer to appendix 4 for figure 1 (Larbi & Fu, 2017)).

From the figure above, international students focus on several factors to access foreign higher education especially in developed countries. This has intensified the competition among countries to improve their higher education to attract many international students.

The United States stands as the country with the highest number of international students globally. Figure 2 below (refer to appendix 5 for figure 2 (Institute of International Education, 2020)) depicts progressive increment of international students in USA. They recorded an increase of 1,095,299 international students in 2018/2019 academic year.

On the other hand, China hosts a total of 492,185 international students as at the year 2018/2019 academic year (Ministry of Education, 2019). Amongst this number, 63,041, which is 12.81% of the total international students received the Chinese government scholarship (full or partial scholarship) whilst 429,144 equivalent to 87.19% were also self-funded students (MOE, 2019). According to the USA Institute of International Education (2019), the number of international students studying in both USA and China during 2018/2019 academic year shows that USA hosts more than twice of the total number of international students in China due to several factors. On this premise, the study compared the financial anxiety experienced by international students in USA and China because the United States hosts the largest number of international students globally whilst China is an emerging global hub of higher education. Currently, China is the third largest host of international students, which is approximately 10 percent of the total number of international students globally (Hooi, 2019), and obviously the number one in international destination of international students in Asia. Hence, with this narrative, it is important to assess the financial anxiety international students in both countries are likely to encounter and recommend measures to ease this anxiety to provide conducive academic environment for international students.

3.1. Roy Adaptation Model (RAM)

According to Roy and Andrews (2008) adaptation refers to the process and outcome whereby thinking and feeling persons as individuals or in groups, use conscious awareness and choice to create human and environmental integration. A person's adaption level represents the condition of the life processes and it's described in three stages: integrated, compensatory and compromised life processes. An integrated life process may change to a compensatory

process which attempts to re-establish adaptation. If the compensatory processes are not adequate, compromised processes result (Roy, 2008). In addition, both Researchers identified the basic type of adaptive process, namely: the regulator subsystem and cognator subsystem. The former responds through neural, chemical and endocrine coping channels with the body producing an automatic unconscious response to events. Whilst the latter responds through four cognitive emotional channels: perceptual and information processing, learning, judgement and emotion. Significantly, the Authors cited four modes that response to and interaction with the environment can be carried out and adaptation can be observed. These four behaviour / adaptive modes includes physiologic-physical mode, self-concept group identify mode, role function mode and interdependence mode.

Behaviour in the physiologic-physical mode is the manifestation of the physiologic activities of all cells, organs, tissues and systems making up the body. This behaviour is a clear manifestation of adapting to changes in persons physical environment. Secondly, the self-concept group identify mode includes the components of the physical self, including body sensation and body image, and the personal self, including self-consistency, self-ideal and moral-ethical-spiritual self. Thirdly, the role function mode focuses on the roles of the person in the society and the roles within a group. This underline the role function mode of social integrity. That's the need to know who one is in relation to others so that one will know how to act. Finally, the interdependence mode is a category of behaviour related to interdependent relationships. This mode focuses on interactions related to the giving and receiving of love, respect and value.

In a nutshell, the Roy adaptation model explores the three classes of stimuli in the environment: the focal stimulus, contextual stimuli and residual stimuli. The focal stimuli is the internal or external stimulus most immediately in the awareness of the individual or group (the object or event most present in the consciousness). Contextual stimuli are all other stimuli present in the situation that contribute to the effect of the focal stimulus. That's, all the environmental factors that present to the human adaptive system from within or outside but which are not the centre of attention (these factors do influence how people deal with the focal stimulus). Residual stimuli are environmental factors within or outside human systems, the effects of which are unclear in the situation. The effects may be unclear if there is no awareness on the part of the patient that a stimulus is an influence or it may not be clear to the observer that these stimuli are having an influence on the human system (refer to appendix 6 for figure 3).

The concept of the Roy Adaptation Model is clearly and consistently defined in line with human behaviour and importantly, enhances the interaction of human systems within the environment. From the model one can appreciate that the changing environment stimulates a person to make adaptive responses since he/she has the opportunity to continue to grow, develop and emotionally process events as and when they occur. This framework identified coping mechanism and self-concept as two components of control process and effector (respectively) of a human adaptive system. As the foreign student is confronted with possible financial stressors (stimuli) in a new environment (coping mechanism) and acts in response through self-concept (studentship package and positivity). The output is either financial stress (illness) or no financial stress (academic excellence). This empirical model based on the RAM is presented in figure 4 (refer to appendix 7).

3.2. Definitions

Northern et al., (2010), cited financial stress as the inability to meet one's financial obligations but can also include psychological or emotional effects. Similar finding reported by Shapiro and Burchell (2012) fits well with a person's physiological behaviour whilst Porges (2011) explains that high levels of anxiety can lead to a form of learned helplessness. This demonstrate the unpleasant feeling that one is unable to meet financial demands, affords the necessities of life and have sufficient funds to make ends meet (Misra & Castillo, 2004). Additionally, Burchell (2003) define the concept as a process where someone undergo unhealthy attitude toward thinking about, engaging with, or administrating their personal financial situation in an effective manner. In a nutshell, financial anxiety is any kind of worry or stress surrounding personal finances or money. Experts recognised this as a phenomenon that can have a profound negative impact on upon an individual's health and well-being (Thoits, 1995; Tran et. al., 2018).

3.3. Funding of students in Higher Education

Traditionally, college students are uniquely vulnerable to stress and anxiety but how they manage these experiences can make a world of difference. For students, the main causes of financial anxiety includes the inability to meet tuition or loan payments or the desire to go on a school trips. Since the lack of adequate money causes financial anxiety / stress (refer to figure 5 in appendix 8).

Financing education through Grants and financial support from Governments around the world are currently widely perceived to be responsible for ensuring accessibility to quality education. It is important to point out that the above figure (5) makes reference to convergence in expenditure relative to both public and private support in education. Globally, this helps eliminate or mitigate the gap between low-income countries (students) and high-income countries (students) accessing same quality tutoring at all levels of education.

3.4. Effects of Financial Anxiety in Higher Education

According to the American Psychological Association (2010), financial anxiety affects the mind and the body of students, which eventually lead to counselling and medical treatment. Financial anxiety can have major effects on students' health. Some common consequences of stress includes:

On the body, the affected persons experiences health issues like headache, muscle pain / tension, fatigue, sleeping problems, chest pain, stomach upsets, change in sex drive among others. Lastly, on behavioural grounds, one goes through restlessness, lack of motivation (focus), irritability / anger, depression, drug or alcohol abuse, social withdrawal, fear and panic. In sum, common developmental effects of financial anxiety include sleeplessness, mood swings, tiredness, loss of appetite, and withdrawing from others (Cigna, Guay & Fontaine 2018).

4. METHODOLOGY

This study employed a random effects ordered probit model with Mundlak correction to examine financial distress on foreign students in higher education and how significant this impact on academic performance. This model has the advantage of controlling for unobserved time-invariant individual heterogeneity (Mundlak, 1978). Through this approach, quantitative

method was used to analyze the data. The quantitative method enabled us to establish whether or not international students encounter financial stress with regards to their studentship by analyzing the numerical data to accept or reject the hypothesis stated. First, with 8 universities from each country, the survey was conducted in 16 universities across United States and Chine and 4,000 respondents completed the questionnaires during academic period 2017 – 2019. The survey was administered online through weChat (social media software) strategy using student group platforms and snowballing techniques. Additionally, the questionnaires were 20 items based on a five-point likert-scale with the response options of: Strongly Disagree (1), Disagree (2), Not Sure (3), Agree (4), or Strongly Agree (5), and grouped into four parts based on the experience, thought and feelings regarding anxiety during their study. Also, the questionnaires were answered by final year Master students and second year undergraduate students as the target group. This selection option were chosen because these students are more adapted to campus life expenses than freshmen. Afterwards, the study analyzed completed surveys from a total of 3,953 students (after accounting for missing data) comprising 2,091 foreign students in USA and 1862 foreign students in Mainland China. As reiterated above, the purpose of the Financial Anxiety Questionnaire (FAQ) is to examine financial distress on foreign students in higher education and how significant this impact on academic performance. Systematic sampling was used in the collection of data due to the fixed academic starting point identified to facilitate participants' selection and involvement. Again, regarding the validity and reliability of the instrument, Cronbach's Alpha coefficient was carried out and had an overall Cronbach's α = 0.89 and empirically, this is considered high enough for the use of the instrument. Finally, the probit model is carried out taking into account the dependent variable and independent variables. The econometric model of financial anxiety questionnaire (FAQ) can be written as:

$$\gamma at = \beta 1\, x at + \xi at = \beta 1\, x at + v at + \mu a \qquad (1)$$

$$a = 1, 2 \ldots\ldots N; \quad t = 1, 2, 3$$

where γat is a latent variable showing the unobservable satisfaction level of financial anxiety of students "a" at time "t". Additionally, $x at$ is a vector of observable time invariant factors whilst the time factor shows the pattern in students' feelings or characteristics towards anxiety. Also, $\beta 1$ indicate a vector of estimated parameters and ξ is the error term. Moreover, the white noise composition (i.e, $v at + \mu a$) error term $v at$ is a time and anxiety specific error term assumed to be uncorrelated with the explanatory variables.

On the other hand, financial anxiety of students cannot be observed rather a categorical but ordered random variable γat is estimated as a function of the explanatory variables at academic sampled period Zj (j = 1, 2, 3).

$$\gamma at = \begin{cases} 1 \text{ if } \gamma at \le Z1 \\ 2 \text{ if } Z1 < \gamma at \le Z2 \\ 3 \text{ if } Z2 < \gamma at \end{cases} \qquad (2)$$

Therefore, the contingent probability of a given observation can be written as:

$$\Pr(\gamma at = j / x at) = \Pr(Zj \le \beta 1\, x at + \xi at < Zj+1)$$
$$= \Pr(Zj \le \gamma at < Zj+1) \qquad (3)$$

Where *j* in the equation is aggregate average response of respondents and ranges between the academic period 1 and 3. The probability that financial anxiety encountering respondent average response of *j* given the explanatory variables (*x*at) corresponds to the region of the distribution where γ*at* falls between Zj and Zj+1. Finally, in this paper, the dependent variable via the FAQ divides the mean response into three scaling and coded as (1) < 3.00; (2) 3.00 to < 5.50; and (3) ≥ 7.00; for the purposes of analyzing the marginal effect of the independent variables.

5. ANALYSIS AND DISCUSSION OF RESULTS

5.1. Summary Demographic Results

Below figures show information about the respondents' gender, age, education among others.

Figure 6 (refer to appendix 9) shows that majority of the respondents in both countries are males with 28% and 26% (respectively) and the minority been females with 24% and 22%.

Averagely, figure 7 (refer to appendix 10) depicts a score of 3% of the respondents fall between the 30 and above age group; while 23% and 11% are ages 26 - 30 years; and ages 15 – 20 years (respectively) across the study countries. Whiles majority of the respondents (64 %) fall within 21-25 years indicating the youthful exuberance of international students in higher educational institutions.

From figure 8 (refer to appendix 11) above, 19% and 29% of students in the United States, and 22% and 30% of students in China have Master education and Bachelor's degree respectively.

Figure 9 (refer to appendix 12) above confirms the non-existence of financial anxiety on international students in the United States with 94% score whilst 87% of the respondents experience financial anxiety in Mainland China.

As seen in Table 1 (refer to appendix 1), respondents' aggregate average financial anxiety rate stood at 38.16 and 67.05 (USA and China respectively). The average score of approximately 38 percent and 67 percent means that the lower the score, the lower the anxiety. Clearly, this indicates that international students in USA have lower financial anxiety than that of Mainland China. In addition, international students in the United States who could save enough money and have the ability to engage in campus activities stand at the rate of 84 percent and 89 percent (respectively) while 39 percent and 24 percent of international students in China account for their ability to save money and engage in campus activities (respectively).

Again, international students in both countries have the privilege to access full scholarship package, where 15 percent of the participants in the United States applied for such financial support while 62 percent of the participants in China applied for the Chinese government scholarship to further their education. This clearly depicts that international students in China have no other source of income to support their education aside from the Chinese government scholarships. Furthermore, 71 percent and 62 percent of students had high academic performance in the United States and China (respectively). Likewise, conducive

internship (working) environment of international students stands at a rate of 92 percent and 23 percent in the United States and China respectively. Moreover, foreign students scored 90 percent and 47 percent of the ability to control frustration and manage financial stress in the United States and China respectively. Lastly, 92 percent of international students in the United States boast of recommending their universities to others (friends and family members) while in China, 59 percent of foreign students agreed to recommending their universities to others.

As can be seen from Table 2 (refer to appendix 2), the coefficient of campus activities of international students had a percentage of 83 and 51. This means that for every 1 percent increase in foreign students' ability to engage in campus activities, there is a decrease in financial anxiety by 83 percent (USA) and 51 percent (China). Likewise, for every 1 percent increase in foreign students' ability to save leads to 62 percent and 34 percent decrease in financial anxiety of students in the United States and Mainland China respectively. On academic performance, overseas students pursuing higher education programs in the United States stand at 91 percent whilst those in China scored 76 percent. Meaning, for every 1 percent increase in high academic performance, financial anxiety decrease by 91 percent amongst students in the United States and 76 percent amongst students in China. Significantly, the extent of financial anxiety foreign students' experience during internship exercise in the United States and China recorded a mark of 82 percent and 53 percent respectively. Clearly, this shows that the United States has a better / conducive working environment than China because overseas students enjoy such working privilege attached to their studentship than those in China. Generally, foreign students in the United States recorded a lower rate of 6 percent mark of financial anxiety in higher education and this is as a result of other factors such as internship opportunities, working environment, academic performance, saving rate, motivation towards studies and others mentioned above (Table 2). The reverse is true for international students in higher education where a higher mark of 87 percent of them experience financial anxiety during the period of their education as illustrated in Table 2. Likewise, results from Table 3 (refer to appendix 3) expands the understanding of the anxiety on college students' financial help-seeking behaviour by combining measures of financial resources, financial attitudes and mental health status. Again, Table 3 output revealed that the magnitude of the positive or negative relationship between the dependent variable and the independent variables did not differ from the reality. Significantly, overseas students in China were more strongly related to financial anxiety than those in the United States who experienced lower anxiety as they pursue their educational career.

5. 2. Other Factors Contributing to Anxiety in Higher Education

Based on the participants' responses, there are other stress-causing factors aside from financial anxiety that students encounter, which are expressed in figure 10 below (refer to appendix 13 for figure 10).

The overall survey outcome found that 25 percent of foreign students felt that coursework is the most stressful aspect of college life, while 17 percent are of the view that examination contributes to stressful factors. Also, 14 percent identified financial constraint as the most stressful in higher education and 10 percent each of stress-causing factors for course adjusting and being away from family attributed to stress. Lastly, fewer respondents identified making new friends (8 percent), health issues (6 percent), living condition (4 percent), trying to fit in (4 percent) and others (2 percent) as been stressful.

6. CONCLUSION

Globally, governments continue to play a major role in their educational system and this effort contributes tremendously to the enhancement of better living standard of the citizenry. Significantly, the study highlights the key role stakeholders play in developing quality higher education by way of mitigating financial anxiety amongst international students. For this reason financial anxiety and stress are ranked as the top three major concerns observed in higher education as well as an obstacle to the goal of governments in creating financially self-sufficient citizens (Burchell, 2003). In line with the above data analysis, the study concludes that government policy play a beneficial role in the academic lives of students and as a result, financial anxiety on foreign students in higher education institutions in the United States and Mainland China.

Pursuance to the conceptual framework utilized in this study, the empirical interpretation and response to information form a major component of the study. We hypothesize four main pathways to examine research outcomes in order to draw implications from our framework. Significantly, it was determined that financial anxiety in higher education among foreign students in the United States had lower effect at a rate of 6 percent whilst international students in China recorded a higher rate of 87 percent of financial anxiety in their academic pursuance. This phenomenon is attributed to the fact that international students in the United States are permitted to take up part-time jobs during their studies, whilst working in China as an international student is prohibited and punishable by law. Therefore, international students studying in China are likely to experience financial constraint and thereby encounter financial anxiety than international students studying in the United States. Specifically, financial stressors (such as financial situations of foreign students) and their demographic adaptation (location) significantly contributed in the achievement of academic satisfaction. In addition, self-concept identified influence students' perception and behavior to a large extent and plays a key role in the validity of this study. As previously mentioned, self-concept in the context of positive mindset, conducive working environment and management of knowledge towards higher education, and this empirical research outcome from foreign college students show that there is a negative relationship with financial anxiety in students' attitudinal level and as a results, eliminate financial stress among foreign students (no financial stress) in the United State and vice versa in the case of Mainland China. In general, this finding supports the conceptual framework highlighted above and also, shows that the Chinese Government as a national regulator needs to take a second look at the educational parameters to help eliminate or mitigate financial anxiety especially among foreign students and ultimately help increase their financial well-being by benefiting from such academic packages.

In a nutshell, the results output is quite clear that international students frequently engaged in a variety of campus activities and this demonstrate the magnitude of 'stress-free' impact on students. With reference to the above four null hypothesis indicate that overseas students in the United States recorded a lower rate of 6 percent of financial anxiety in higher education, therefore rejected the null hypothesis while foreign students in Mainland China supported the statements (null hypothesis) that students are more likely to experience financial anxiety where a higher percentage of 87% of them experience financial anxiety during the period of their education as illustrated in Table 2.

6.1. Recommendation

Foreign-based educational system offers students the privilege to acquire needed skills through college education and provides incentives for academic progress thereby increasing participation of students from developing countries, which is undoubtedly one of the most important aspects of countries' economic prospects. Currently, higher education comes with high cost/expenses to students during their pursuance. Below are some measures to help address and strengthen international students' issues raised above in higher education institutions.

First, the study recommends the assessment of financial stability as a criterion for evaluating the financial condition of the institution when conducting accreditation procedures and quality assessments. Second, the establishment of financial counselling team should be implemented in all higher education institutions, this will help students financially when they encounter financial crises on timely basis. Moreover, an electronic (online) request platform should be in place to address urgent students' financial needs. Furthermore, higher education institutions should cultivate the habit of organizing periodic "Students Relationship Forum" to help build a strong bond between authorities and students as a whole to address concerns and challenges that arise amongst the students in their academic periods. Lastly, the study recommends an introduction of a curriculum that teaches effective Stress and financial management from all sphere of academic syllabus. This will help to decrease and/or eliminate chronic stress and avoid unhealthy changes in blood pressure and help the entire students to live a more enjoyable and stress-free life during and after school.

6.2. Limitation

These policy recommendations are fundamental aspect in higher education and falls in line with most innovative changes made by developed countries. We therefore recommend that future researchers could investigate into other stress-causing phenomenon such us cultural disparities/shock and such related phenomenon, which affects academic performance of international students in higher education institutions.

6.3. Conflict of Interest

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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Appendix 1

Table 1. Descriptive Statistics for variables

Variables	Description	Mean (SD) USA	Mean (SD) China
	Dependent variable		
Respondents	Aggregate average students response rate	38.16 (0.13)	67.05 (0.26)
	Independent Variables		
Financial Stressors			
Campus Activities	Have enough money to engage in campus activities	89.13 (0.17)	39.74 (0.32)
Living expenses	Ability to meet monthly living expenses	70.82 (0.39)	42.03 (0.18)
Savings	Enough to save	84.10 (0.21)	24.95 (0.23)
Scholarship	Scholarship accessibility	15.28 (0.34)	62.32 (0.41)
Burden	Financial burdens on other students for support	23.84 (0.26)	87.93 (0.35)
Travel	Have enough to travel	76.02 (0.41)	81.72 (0.26)
Adaptation level			
Dependence	Have family relatives dependent on you	46.73 (0.32)	68.25 (0.34)
Performance	Academic performance on lessons	71.04 (0.37)	62.73 (0.23)
Motivation	Experience of desire to want or escape something	82.11 (0.10)	56.28 (0.27)
Management	Ability to control frustration and manage fin. Stress	90.12 (0.39)	47.82 (0.42)
Communication	Ability to communicate on new perspectives on campus	92.83 (0.14)	54.70 (0.11)
Learning	Obtain knowledge and skills needed to succeed	79.52 (0.22)	75.83 (0.35)
Failure	Rate of failure in a course(s)	13.03 (0.38)	27.04 (0.43)
Self-concept			
Investment	Home investment from studentship package	93.07 (0.28)	52.02 (0.27)
Internship	Conducive working environment (part-time)	92.32 (0.33)	23.91 (0.11)
Resistance	Resist financial difficulties after graduation	81.20 (0.15)	48.02 (0.29)
Mindset	Positive mindset after graduation	88.03 (0.39)	67.49 (0.38)
Reference	Recommend HEI to others (friends and family)	92.38 (0.21)	59.84 (0.19)
Finance	Demonstrate basic finance management knowledge	79.02 (0.32)	66.03 (0.24)
Output			
Attitude	Financially stressed during studentship	26.07 (0.10)	73.25 (0.29)

Source: Author's computations (2019)

Appendix 2

Table 2. Random effects order probit (with Mundlak correction)

Independent Variables	**Coefficient (*p-value*)**	**Coefficient (*p-value*)**
	USA	
China		
Have enough money to engage in campus activities	-0.83*** (0.00)	-0.51*** (0.00)
Ability to meet monthly living expenses	-0.62** (0.02)	-0.34*** (0.00)
Enough to save	-0.75*** (0.00)	-0.57** (0.04)
Scholarship accessibility	-0.54** (0.05)	-0.48** (0.02)
Financial burdens on other students for support	-0.61* (0.07)	-0.39** (0.06)
Have enough to travel	-0.68* (0.09)	-0.54 (0.29)
Have family relatives dependent on you	-0.85*** (0.00)	-0.25** (0.04)
Academic performance on lessons	-0.91*** (0.01)	-0.76*** (0.00)
Experience of desire to want or escape something	-0.56 (0.20)	-0.31 (0.27)
Ability to control frustration and manage fin. Stress	-0.82* (0.07)	-0.59* (0.08)
Ability to communicate on new perspectives on campus	-0.76* (0.10)	-0.64 (0.11)
Obtain knowledge and skills needed to succeed	-0.82* (0.09)	-0.78** (0.03)
Rate of failure in a course(s)	0.63** (0.05)	0.26** (0.02)
Home investment from studentship package	-0.57*** (0.02)	-0.48** (0.06)
Conducive working environment (part-time)	-0.82** (0.03)	-0.53** (0.08)
Resist financial difficulties after graduation	-0.61** (0.04)	-0.52** (0.06)
Positive mindset after graduation	-0.79* (0.06)	-0.73** (0.02)
Recommend HEI to others (friends and family)	-0.92* (0.09)	-0.58** (0.05)
Demonstrate basic finance management knowledge	-0.58 (0.18)	-0.46 (0.29)
Financially stressed during studentship	0.06*** (0.00)	87.25*** (0.00)
N	2,027	1,926
Chi-square (20)	73.49*** (0.00)	54.26*** (0.00)

***, **, and * denote significance at 1%, 5% and 10% respectively
Source: Author's computations (2019)

Appendix 3

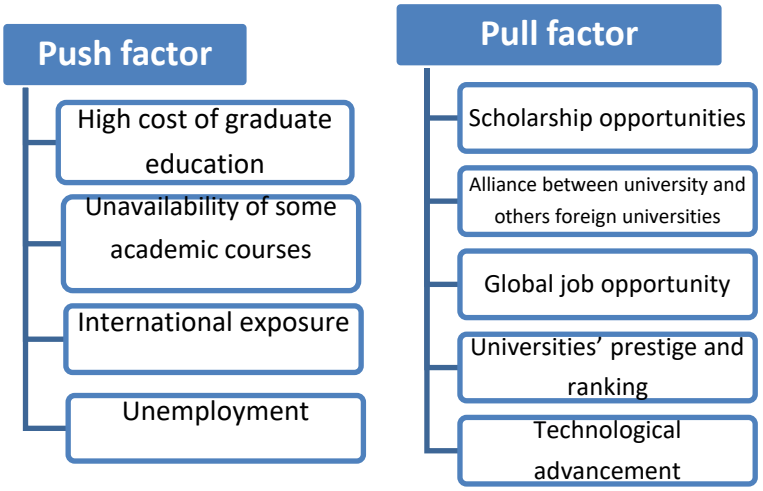
Table 3. Robust check output table on Marginal Effects.

Independent Variables	**Marginal effect for average score (*p-value*)**				
	USA			**China**	
	< 3.00	3 - < 5.50	≥ 7.00	< 3.00	3 - < 5.50	≥ 7.00
Campus Activities	-0.065** (0.36)	-0.95** (0.07)	-0.033* (0.21)	-0.042** (0.19)	-0.083* (0.39)	-0.057* (0.23)
Living expenses	-0.059* (0.41)	-0.046** (0.20)	-0.091* (0.10)	-0.025* (0.08)	-0.034 (0.21)	-0.048** (0.54)
Savings	-0.074** (0.20)	-0.059 (0.32)	-0.035 (0.29)	-0.064** (0.32)	-0.023* (0.39)	-0.034 (0.09)
Scholarship	-0.023** (0.22)	-0.085 (0.32)	-0.012* (0.16)	-0.038* (0.03)	-0.004 (0.26)	-0.058** (0.45)
Burden	-0.045** (0.13)	-0.093* (0.22)	-0.036 (0.14)	-0.047** (0.42)	-0.085 (0.19)	-0.049* (0.26)
Travel	-0.064* (0.32)	-0.075*** (0.13)	-0.049* (0.10)	-0.038** (0.23)	-0.047* (0.27)	-0.039** (0.12)
Dependence	-0.052 (0.14)	-0.056 (0.47)	-0.059 (0.19)	-0.044 (0.12)	-0.033 (0.09)	-0.056 (0.45)
Performance	-0.049** (0.29)	-0.007** (0.32)	-0.064* (0.29)	-0.059 (0.38)	-0.009** (0.47)	-0.029* (0.37)
Motivation	-0.084* (0.27)	-0.018 (0.39)	-0.054 (0.46)	-0.045** (0.13)	-0.05** 4 (0.49)	-0.054 (0.17)
Management	-0.047** (0.17)	-0.026 (0.21)	-0.043** (0.27)	-0.023 (0.23)	-0.023 (0.32)	-0.062** (0.23)
Communication	-0.094 (0.09)	-0.035 (0.23)	-0.033** (0.23)	-0.034* (0.07)	-0.043* (0.43)	-0.034 (0.09)
Learning	-0.063* (0.32)	-0.094 (0.15)	-0.084 (0.28)	-0.057** (0.18)	-0.035** (0.19)	-0.045** (0.13)
Failure	0.037** (0.14)	0.074* (0.21)	0.035** (0.42)	0.032* (0.23)	0.035 (0.28)	0.057** (0.35)
Investment	-0.086** (0.15)	-0.067 (0.09)	-0.041 (0.03)	-0.048 (0.38)	-0.048** (0.39)	-0.039 (0.29)
Internship	-0.082 (0.25)	-0.042* (0.28)	-0.083** (0.10)	-0.075(0.08)	-0.029 (0.12)	-0.042 (0.04)
Resistance	-0.073* (0.18)	-0.072* (0.32)	-0.022* (0.18)	-0.002 (0.53)	-0.003** (0.48)	-0.009* (0.34)
Mindset	-0.093* (0.37)	-0.043 (0.13)	-0.012 (0.05)	-0.012* (0.48)	-0.015 (0.07)	-0.045 (0.27)
Reference	-0.083 (0.15)	-0.037(0.34)	-0.026* (0.41)	-0.062 (0.37)	-0.064** (0.14)	-0.043* (0.47)
Finance	-0.071** (0.43)	-0.074 (0.25)	-0.010 (0.39)	-0.056* (0.42)	-0.045* (0.43)	-0.062** (0.28)
Attitude	0.019*** (0.12)	0.065** (0.12)	0.027*** (0.13)	0.036** (0.15)	0.074** (0.32)	0.073** (0.27)

***, **, and * denote significance at 1%, 5% and 10% respectively
Source: Author's computations (2019)

Appendix 4

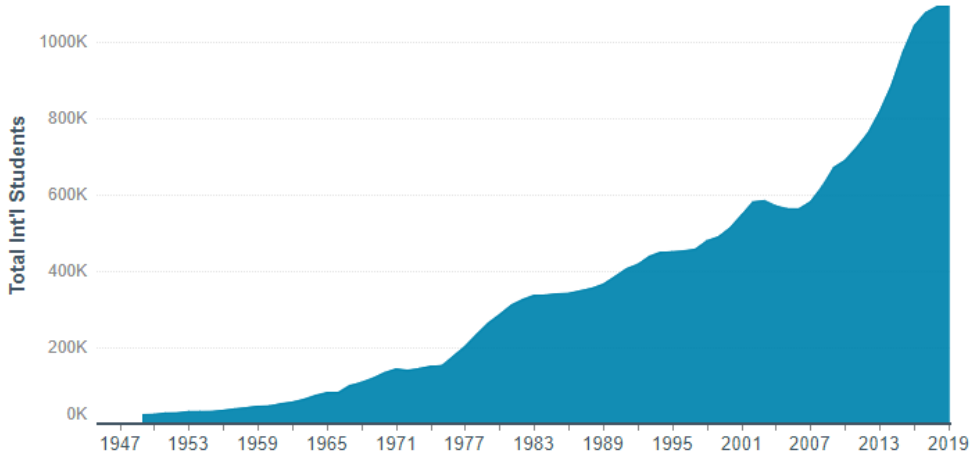
Figure 1. Rationale of international students' mobility based on push-pull model.



Source: Larbi and Fu (2017. P. 89).

Appendix 5

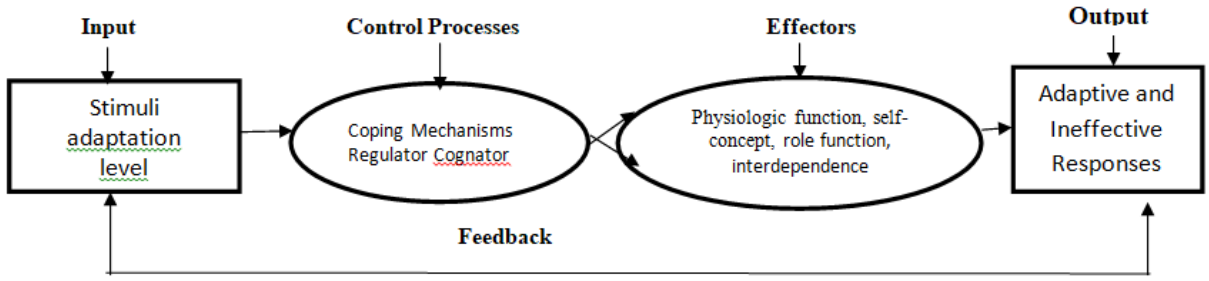
Figure 2. International students in USA



Source: Institute of International Education (2020)

Appendix 6

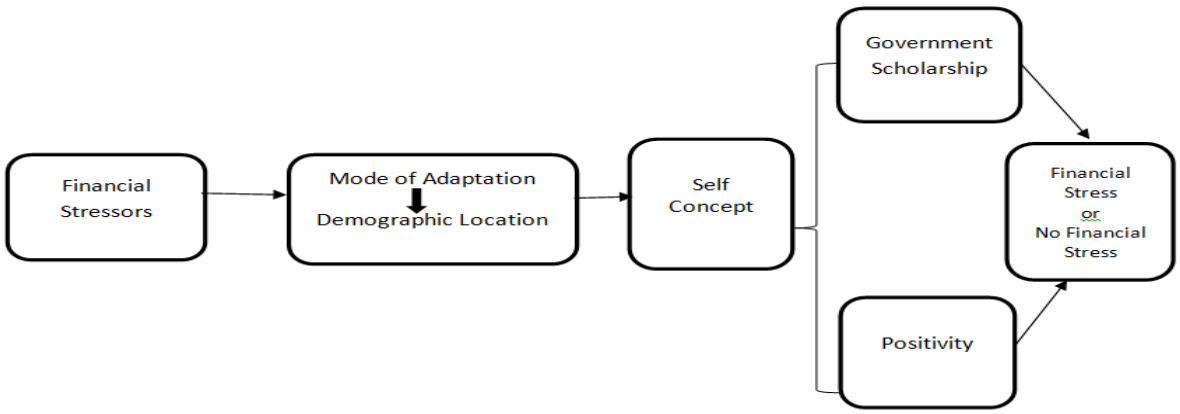
Figure 3. Roy Adaptation Model (RAM)



Source: Roy and Andrews (2008)

Appendix 7

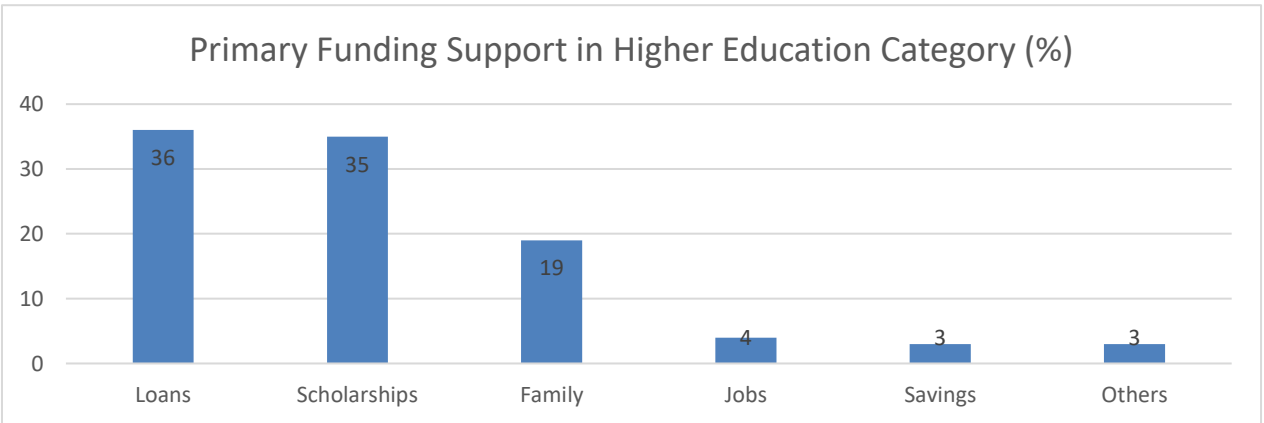
Figure 4.0: Conceptual Framework from the Roy Adaptation Model



Source: Authors' work, 2019

Appendix 8

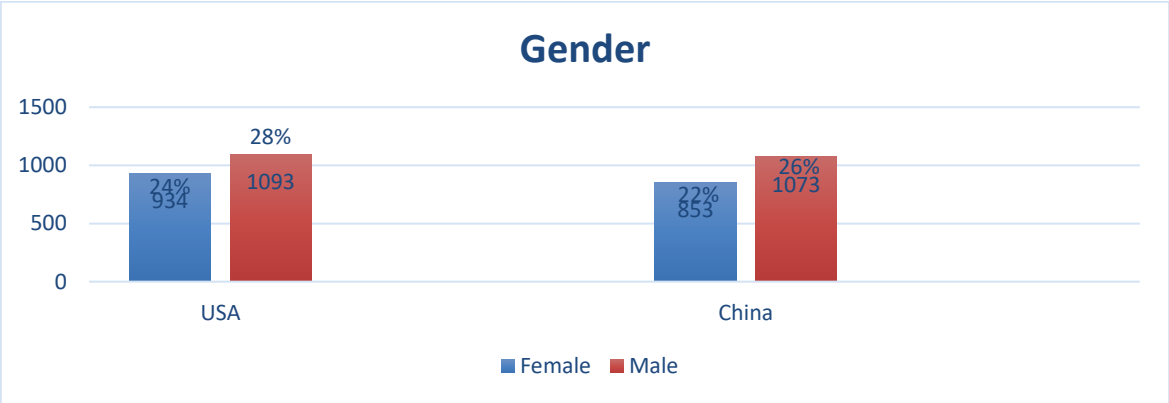
Figure 5. Primary Funding Support in Higher Education



Source: Ohio State University (College of Education and Human Ecology, 2019)

Appendix 9

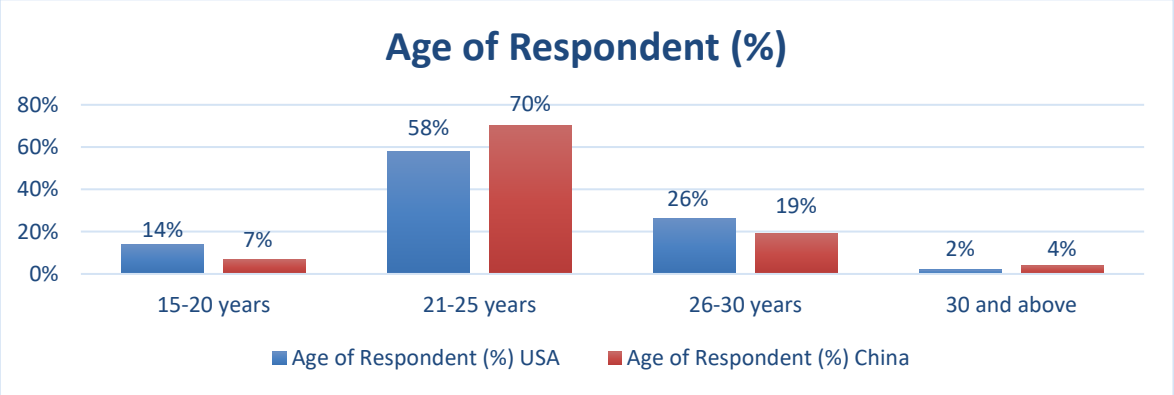
Figure 6: Genders of Respondents



Source: Field Survey, 2019

Appendix 10

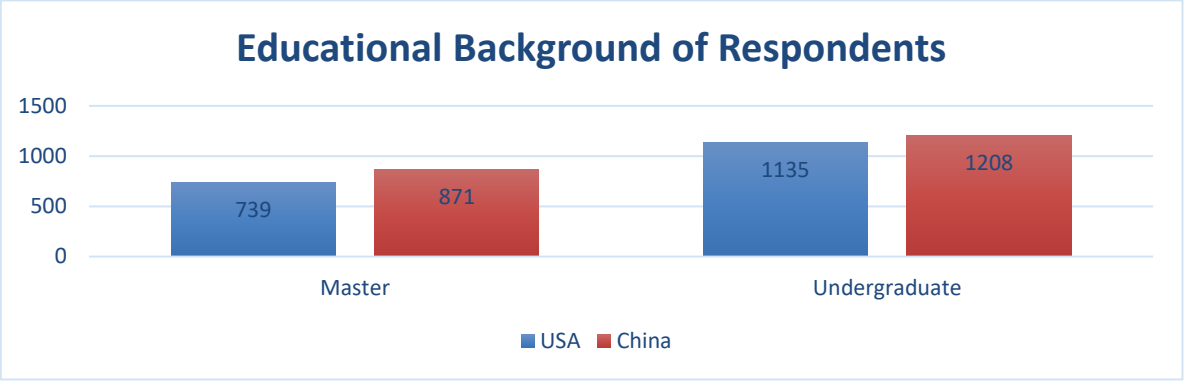
Figure 7: Ages of Respondents



Source: Field Survey, 2019

Appendix 11

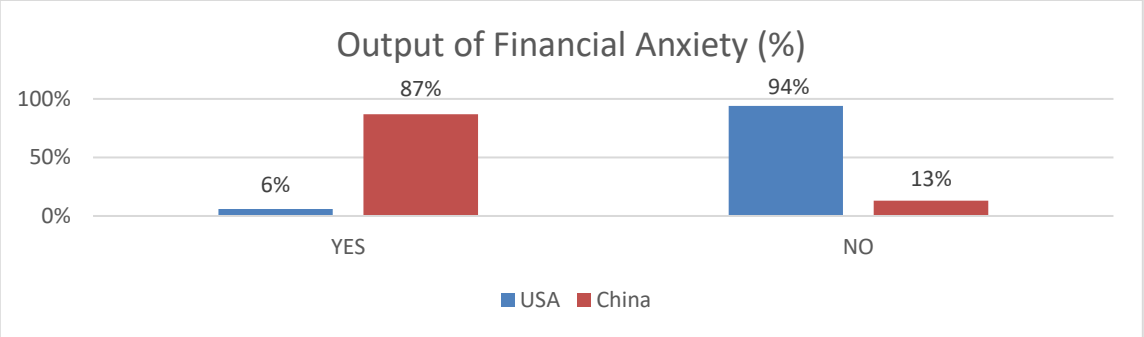
Figure 8: Educational Background of Respondents



Source: Field Survey, 2019

Appendix 12

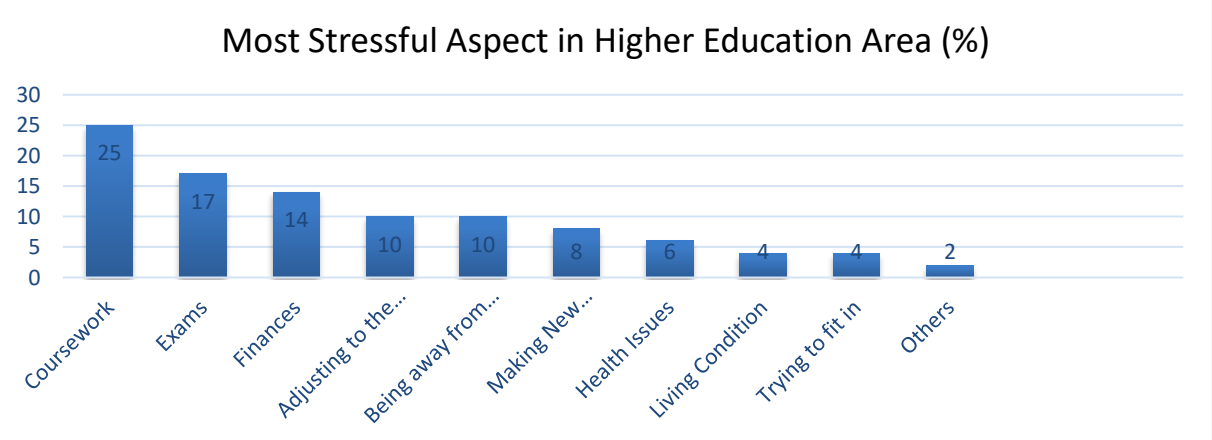
Figure 9: Output of Financially Anxiety Respondents



Source: Field Survey, 2019

Appendix 13

Figure 10. Most Stressful Aspect in Higher Education



Source: Authors' computation