AN EMPIRICAL ANALYSIS OF EMERGENCY STUDENT LOAN NEED SIGNALS INTERNATIONAL GRADUATE STUDENT MAY FACE AN AFFORDABILITY CHALLENGE ATTENDING U.S. GRADUATE SCHOOLS

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Abstract
This article is an examination of the influence the U.S. recession may have on where international students decide to complete their post-graduate or graduate studies. Emergency loan need by international students notes a shift in the monolith of education that raises questions about affordability and academic choice. As U.S. financial aid contributes to burdensome long term debt for students, the implication of emergency loan need among international students is financial aid from their governments may be equally as burdensome overtime if unable to acquire an operational practical training (opt) appointment or H1B visa due to the recession. The dynamics of costs in the competitive marketplace may have a detrimental impact on objective decision-making by graduate students to attend a U.S. graduate school when competing international universities can deliver a quality graduate education in a more affordable environment.
Emergency loan need among international students signals a higher level of financial stress within a population already challenged by distance from family, friends, and disciplinary requirements. Through the use of emergency loans, insight provided in an analysis of the financial challenge that created the need may alleviate a graduate student’s interest in generating more loan debt. The erosion of persistence due to debt among international graduate students may taint the learning community mission to increase cultural awareness. Lipka (2005) reported that The Educational Policy Institute ranked the U.S. 13th for affordability in their study of accessibility and affordability in 15 of the world’s most developed countries. Though the study in Lipka (2005) report looked at accessibility and affordability for a four year degree, education cost since the study has risen more than 40% over the past six years at public institutions across the U.S.

Financial aid for domestic and international students underwrites their ability to attend their university of choice around the world. Emergency loan need is an indicator that financial aid leaves many unmet student needs. Though the U.S. has a forgiveness program students may apply after ten years of payment, students may also work in select public service professions to reduce their education debt load. Eaton (2011) reports that students carry off more debt after college and venture into the recession-beaten job market; it’s no surprise that more are defaulting on their student loans. Swarup (2009) points out that India state-run banks are concern as the possibility of default is rising in the current economic climate. Students graduating from school in America, Europe, and the West are finding it tougher to find jobs so banks are concerned about lending. The China Daily (2006) reports that rocketing college tuition fees and cutthroat employment market simply mean many graduates lack the financial ability to pay the money on time. Emergency loan need affirms the challenge of student financial aid debt in China and India two of U.S. universities largest consumers.

With graduate education significantly higher than undergraduate studies, the impact of the trend toward higher education cost may influence access for international students. Graduate students domestic and international have a tendency to focus on the promise of education. Emergency loan need offers an opportunity to sensitize students to their debt commitment at completion. There is no difficulty to extrapolate from Schuman (2005) that from 1992-93 to 2003-04 domestic students borrowing rose from $19.8-billion to $50.5-billion to keep pace with rising tuition, similarly, international students borrowed to manage university tuition and cost of living in the U.S. Obst (2007) reported that 2/3 of international students relied primarily upon personal and family income to attend U.S. universities. Joo, Durband, and Grable (2009) find that a link exists between financial stress and academic performance. As do domestic students, international students use credit cards and unsubsidized loans from their national banks to pay for their graduate
education. The family pays the interest that may vary from 9% to 18% depending on the agency and market while the student studies in the U.S.

Emergency loan need may signal that rising cost is becoming a greater factor among international graduate students attending U.S. universities. The cost creep is tuition driven due to the reduction of state governments’ allocation to support public colleges and universities. The notion of cost creep punctuates the importance of using the emergency loan as a tool to mitigate debt escalation. Though international graduate students acknowledge for visa approval, they have sufficient funds to afford a graduate education in the U.S. International graduate student rely heavily on scholarships and assistantships to stretch loans and family support from home. If an unplanned event occurs with family, international graduate student supplement costs by borrowing from friends and soliciting an emergency loan.

Thinking the challenge with the family is short term, an emergency loan offers an opportunity to continue with risk. Failure to make an installment payment while enrolled in their academic discipline may block their enrollment and ability to complete their degree until the loan is fully repaid. Risk reward comes with the use of emergency loans to assist international graduate students. The absence of the emergency loan creates greater uncertainty when the student is faced with an unplanned event that disrupts their revenue stream. The emergency loan may also be an efficient tool to dampen the impact of rising education cost in the U.S. Obst (2007) reported that international students contribute 13.5 billion dollars to the U.S. If the indicator of emergency loan need is correct, rising cost in U.S. higher education may forfeit a significant share of international student revenue. The top five countries that send students to the U.S. are:

1. India
2. China
3. Republic of Korea
4. Japan
5. Canada

The international graduate students have alternatives as does emerging nations to build their intellectual elite to lift their economy and educational standards. Current U.S. policy may influence more international graduate students to consider their options more closely due to the rising cost of education in the U.S.
Table 1 presents a few options that international graduate students now consider when they assess the higher education market for study. Obst (2007) reports that 34% of international students study business & management and engineering. The advantage the U.S. has in global education is capacity. There are more than five thousand colleges and universities for an international graduate student to consider. Table 1 captures the crux of the matter rising out of state tuition when international graduate students do not have a scholarship or assistantship cost trips a downward spiral that establishes emergency loan need. This is accelerated if a calamity back home disrupts the planned revenue supplement to assist with cost management.

Second, the per semester living cost at Texas Universities is modest compared to regions, in general, beyond the southern and southwestern United States. Because Texas is the least expensive state for graduate students to study, emergency loan need among international graduate students serves as an effective indicator that cost may be the significant variable to shift academic study interest elsewhere.

Third, the U.S. provides neither medical insurance for students nor their families. Many international graduate students come from countries with quasi or socialize healthcare systems. Insurance cost is often beyond the means of an international graduate student. If the students have a spouse and small children legally with them, they are likely not insured and the hospital emergency room provides their primary healthcare. Emergency loan need occurs to supplement unplanned expenses for international graduate students and families whether insured, underinsured or uninsured.

Fourth, off campus employment by international graduate students is managed very tightly by campus international officers in the U.S. Students in dire financial distress may get approval to work off campus if they can identify an opportunity discipline related. The time spent working is deducted from the one year allocated for training after graduation. Students prefer not to request certified practical training (cpt) that permits them to work while studying for two reasons: 1) the need for employment while studying toward completion indicates that financial information recorded on the I-20 for the visa to

<table>
<thead>
<tr>
<th>University</th>
<th>Estimated Semester Tuition/Fees</th>
<th>Living Expenses</th>
<th>Insurance</th>
<th>Off Campus Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas Tech University</td>
<td>N/R $5500 or greater</td>
<td>$9000</td>
<td>$1400</td>
<td>Only Campus</td>
</tr>
<tr>
<td>Australia</td>
<td>$10,210 USD or greater</td>
<td>$24,000</td>
<td>$385 year</td>
<td>Yes, Off-campus</td>
</tr>
<tr>
<td>New Zealand</td>
<td>$1887 USD or greater</td>
<td>$10,000</td>
<td>$771 year</td>
<td>Yes, Off-campus</td>
</tr>
<tr>
<td>Canada</td>
<td>$7450 USD or greater</td>
<td>12,000/year</td>
<td>$570 year</td>
<td>Yes, Off-campus</td>
</tr>
<tr>
<td>Germany</td>
<td>$693.81 USD</td>
<td>$10,000/year</td>
<td>$1000 year</td>
<td>Yes, Off-campus</td>
</tr>
</tbody>
</table>
verify self-sufficiency may be erroneous, if misinformation, the visa may be withdrawn and 2) by reducing the time for operational practical training (opt) using cpt while studying the international graduate student lessens employable appeal to employers and reduces H1B visa possibilities with a company. Both challenges make emergency loan need the best option for international graduate students because they are not scrutinized for misinformation, everyone has an unplanned event that requires immediate funds, and they are able to keep the opt year that improves their chances to get a H1B visa.

However, competitor nations with prominent research institutions in their visa process approve international graduate students to work on or off campus, and their spouse may work in the community to supplement household income. This practice may not eliminate emergency loan needs but goes a great distance to reduce the risk of such need. The U.S. sees percentage slippage of international graduate students due to less flexible practices, rising tuition, and cost of living. Emergency loan need indicates that graduate education due to cost creep may be rising faster than anticipated beyond the means of middle class international graduate students. Countries that have a more flexible model see growth in their education industrial complex. Healy (2009) reports that Australian universities set another record with 21.7 percent growth in new students driven by 40 percent leap in enrollments by Indian students and a 19.6 percent jump among Chinese students. Australia gains 15.5 billion dollars from the export of education, which follows coal and iron ore as the third growth industry of their economy. Obst (2007) reports the top eight nations that attract students to study:

1. United Kingdom
2. Germany
3. France
4. Australia
5. Canada
6. China
7. Japan
8. United States

In the foreseeable future, the data points that emergency loan need will continue to escalate among international graduate students. Masters graduate students makes up better than 50% of the international graduate student population. Few, if any, scholarships and assistantships are set-aside by colleges and universities to underwrite Masters students academic programs. The vast majority of such funds underwrite the research doctorate students do under mentorship of their professors. Federal and state deficits have a direct relationship to the availability of funds colleges and universities may use for scholarships and assistantships to support graduate students.

In education, the U.S. debt ceiling legislation, done or undone, shapes a dynamic course for funding international graduate students with scarce revenue years into the future. Due to budget deficits with federal and state governments, a different normal by these entities in resource allocation certain leave less to assist the interest of graduate international students trying to achieve a masters or doctorate degree in the U.S. Revenue management to address deficits at the government’s federal and state levels establishes
the perfect scenario that assures, with less allocated to education will increase, the need of international graduate students to seek emergency loans.

Schonhardt (2011) reports international students injected nearly 19 billion dollars into the U.S. economy, last year. This indicates that the concerted effort of the U.S. to attract students from fast growing economies like Indonesia and Vietnam may be paying some dividends. Students from these emerging economies are not immune to the rising cost of U.S. graduate education and subject to emergency loan need. Montgomery and Powell (2006) find that opportunity cost earnings lost while attending the university does influence students’ perceptions about their graduate education. Their research suggests that high opportunity cost tend to reduce enrollment and degree completion. Rising tuition and opportunity cost may be sufficient to deter international graduate students from completing graduate studies in the U.S. Emergency loan need signals that there is a current revenue problem among international graduate students, combined with tuition increases and opportunity cost, it could be an impending crisis and cost the U.S. billions in found funds. This is not affordable for the U.S. education industrial complex when the federal and state governments in financial distress are cutting allocations to U.S. colleges and universities.

McMurtrie (2001) points out that United States students studying abroad are numbered at 143, 590. This number is significantly less than international students studying in the United States. When the researcher compares gender, the study presents that U.S. students studying abroad are 65% female and 35% male, whereas, international students studying in the U.S. are 57% male and 43% female. Makela, Punjavat, and Olson (1993) report that 407,500 international students attended United States universities and colleges in 1990-1991, spending an estimated $7.2 billion in the economy. Today, More than a half million international students study in the U.S. and spend twice the sum reported in 1990-1991.

Rising costs have a provocative role in domestic and international students’ migration to seek a graduate education. Fewer U.S. students may travel abroad to study and international students will gravitate to countries that are affordable. The international initiative in education is important to both developed and less developed nations. Developing nations need people with advanced level degrees to support the building of community colleges and stabilize the growth of a middle-class. Developed nations need more students in study abroad programs to understand the impact of economic disenfranchisement on populations in small and large economies. Emergency loan need among international students affirms that cost influences their role in the academic community. The unaffordable risk of the emergency loan indicator is that it may limit engagement with global education industrial partners that promote research.

Methodology

International graduate students at this large southwestern public university self identified their emergency student loan need. Students demonstrated emergency need: 1) presented most recent local bank statement with negative balance; 2) showed credit card
statements maxed to the limit; 3) brought notices for utilities termination if bill not paid; 4) receipts presented for unplanned medical charges not subject to insurance pay to the hospital and or doctor; 5) tuition and fee arrearage required payment to continue forward with their university enrollment matriculation; 6) requested loan to augment resources for international travel to wrap up research related to degree completion; and 7) purchase equipment essential to improving program learning outcomes. All needs are subject to multiple reviews in the graduate school prior to approval of the loan. The administrative team in the graduate school did not want to heap another loan on a student, unless there were no other options in the foreseeable near future to resolve the financial challenge.

Since funds in the emergency loan pool were essential for completion or to prevent a step out, the analysis to fund required careful consideration because reimbursement of the loan to the graduate school started sixty days from the date of allocation. The emergency loan fund recycles funds paid back to other students. The fund may not loan more than it collects each month from recipients with outstanding loans. Students often reuse the fund when they have successfully paid off a previous loan. Though not a common practice, students may receive a second loan while paying off the first when an unplanned event dictates such intervention.

International students with assistantships must arrive six weeks prior to the beginning of the semester. Students among this population often did not have sustainable funds until they received their first check from the university. Graduate advisors across disciplines referred these students to the emergency loan program. The students provided bank and credit card statements with I-20 information. The emergency loan was the best option since students were unable to complete electronic transfer of funds to their local U.S. bank. The reason for failed attempts range from no money in the account required parental approval to the national bank in their home country would not allocation until after the start of the semester. This referred population from graduate advisors was dependent on the kindness of the academic community for survival if the emergency loan failed to fund them sufficiently.

Other international graduate students that ventured to the U.S. under funded hoped that on arrival they could earn an assistantship and or scholarship to defray a share of the financial burden. This population of international graduate students did not consider the excellence of their peers. Due to decreased probability of receiving an assistantship, the student found that his/her best option was minimum hourly wage work at 20 hours per week on campus until an opportunity became available. The earnings from such opportunity were insufficient to manage living cost, health insurance, tuition and fees. Since the majority of international graduate students were masters non-thesis, the emergency loan was their life line combined with local earnings and funds from home. This international graduate student population competed for department and graduate school scholarships. The award of a scholarship provided in state tuition for twelve months. Though the scholarships did not solve their problem, it alleviated the stress of having to pay out state tuition, which is double the expense of in state tuition. Word of mouth got this population of international graduate students to the graduate school to self-identify their emergency loan need.
For this analysis, data collection methodology came from the self-identified students. The graduate school verified their acceptance into a graduate program as well as confirmed the good standing of international graduate students that attended the university more than a semester. Information under review and discussed prior to approval of an emergency loan included the following:

a. Name, address, phone number, discipline, GPS, and social security number
b. Bank and credit card statement
c. Employment type: hourly wage or assistantship with benefits
d. A signed emergency loan request with problem narrative.

Approval of the emergency loan is linked to four criteria: 1) medical expenses, 2) family and household needs, 3) teaching and research, 4) ability to reimburse the fund through repayment. International graduate students may borrow up to $2500 to address their emergency loan need. The review and discussion of the issue attempt to narrow the sum to the least amount of need. This is a loan where failure to make the scheduled low payments can block enrollment until the student brings the loan current or pay it off. Blocked enrollment is high risk for international graduate students because it exposes their visa to revocation.

The timing of the loan and understanding the true depth of the student’s family resources is essential prior to approval. International graduate students understand they cannot be indigent studying in the U.S. Therefore, they are reluctant to speak directly about their true financial situation in the U.S. and back home. Several meetings may be required before the international graduate student truly come to appreciate that misinformation in the emergency loan need process can deconstruct his/her opportunity to complete their graduate academic program.

**Data Analysis**

We ran a regression analysis; and below is the equation:

\[
\text{Loan\_Amount} = \beta_0 + \beta_1 \text{Time\_to\_complete\_degree} + \varepsilon
\]

\[
\text{Loan\_Amount} = 1352.71 + 67.41 \, (\text{Time\_to\_complete\_degree}) + \varepsilon
\]

The P-value for the above regression model is 0.04; and this strongly support there is a positive relationship between loan borrowed by students and the time it take students to complete their studies. Also, the appendix strongly supports our regression equation.
Figure A confirmed that a higher percentage of international graduate students with emergency loan need in the study completed their academic programs. The analysis found that Y=51% completers in the data collected related to emergency loan need. Further, the data in Figure A showed that EG=35% of the international students remained in their academic programs. After receipt of the emergency loan, the data reflected that N=14% failed to remain in their program. Overall, the data demonstrated that the emergency loan was a valuable support tool to assist international students in financial distress. More importantly, Figure A punctuated that rising cost and less funds allocated for graduate education may influence admissions into U.S. universities by international students. Emergency loan needs by international students indicated a crack in the bedrock of graduate education that in prior years had sufficient revenues to award scholarships and assistantships.
Figure B shows that male graduate students need emergency loan more than female graduate student. This indicates the rising cost of the US graduate education and the global challenges faced by international students studying in the US. Thus some emerging nations such as Ethiopia, Bolivia, Indonesia, and Viet Nam may cease or reduce the number of students they send to the U.S. to study at research institutions. Or, only the power elite in emerging societies can afford to educate their children at the best research colleges and universities. Emergency loan need for international female graduate students may be a catastrophic indicator of what the future may hold as it pertains to their graduate studies in the U.S. Since many of the emerging nations are patriarchal societies; and may be reluctance to aggressively send females to complete graduate research studies in the United States. It is not outside the realm of reason that female progress may be set back in India and China signaled by emergency loan need influence due to rising cost of graduate education in the U.S. Since males are the majority of international students, the indicator of emergency loan need among females affirms a trend to an already suppress population in global research institutions.

Figure C: Borrowed by degree type

- PhD: 50%
- Masters: 44%
- DMA: 5%
- CERT: 1%

*Degree type legend: CERT: Certificate; DMA: Doctor of Music*

Figure C shows emergency loan need among the degree type in our data for International Students studying in a major research university in the US. Among international graduate students seeking a graduate certificate, the data report that 1% have emergency loan need. The majority of specialization certificates may be completed in a semester or academic year. However, these certificates do not fully prepare a graduate student to be neither an applied professional nor an effective researcher. International graduate students study in the U.S. prefers to achieve a master and or doctorate degree rather than a certificate. The population represented in the percentage indicates cost is a rising factor in education. As colleges and universities increase tuition to fill the financial gap, this contributes to the continued rise in cost that requires international graduate students to borrow more to achieve a graduate credential. Although there are alternative nations that
are more affordable; and none of these alternative nations have the academic capacity of the U.S. with its many research institutions. Without an increase of subsidies for international students in graduate education, there will be a greater slippage in the number of students who can afford to study in the U.S. The foreseeable problem is greater emergency loan need and fewer graduate students from nations trying to lift their educational standards.

Figure D captures the percent borrowed by the international graduate students in the analysis by academic colleges. The college of arts and sciences represented 35% of the population with emergency loan need. Engineering represented 29% and Business 5% among the international graduate students in the analysis that sustained their program through the use of emergency loans. The research on interest of academic programs indicates that the majority of international graduate students seek graduate credentials in engineering and business. In this modern environment, the branding of top universities around the world to mimic the high level of quality training at their home campus at satellite campuses may influence the decision of an international graduate student to study in the U.S. The education industrial complex not only stratified quality through the use of satellite campuses it manages investment in engineering and business programs to the exclusion of other disciplines. Educators must be concern about this franchise model of industrializing education in disciplines less focused on the well being of people. Figure 4 signals that emergency loan need may contribute to the expansion of satellite campuses for engineering and business to the detriment of arts and humanities.
Conclusion

Emergency loan need identifies that the symptom financial aid creates the ailment debt that is burdensome to students around the world. This indicates that the commoditization of education may marginalize advance learning opportunities for students from less wealthy families. Globally the notion of commoditization could setback scholarship interest in humanities because financial need compels students to study disciplines with greater income yield that improves the likelihood their educational debt will be manageable. Emergency loan need signals an impending hazard that require future study if the trend continues to commoditize education. Domestic and international students graduated during the recession cycle will be indentured to their debt because many accepted underemployment rather than remain unemployed.

Rising cost for a U.S. education may have international students elect to complete their graduate education in a competitor nation. Or, cost may derail the mission of global partnerships graduating international students with an enduring negative experience of their graduate education in the U.S. due to the constant financial struggle while studying. If 20% of the international graduate student population studies elsewhere, the U.S. forfeits an estimated 3.8 billion dollars to the national economy. U.S. brand satellite universities in depressed or emerging areas of the world fail to benefit national interest. Satellite campuses are designer universities with a limited range of academic products to offer. Future study is necessary to assess the impact of U.S. brand satellite universities on the flow of graduate students to the U.S. for graduate study. The data in this analysis does not affirm satellite campuses play a role in the decision by international graduate students to study in the U.S. or attend an alternative none U.S. institution.

The research indicates that engineering and business are the popular areas of study for international graduate students. Montgomery and Powell (2006) found that there were two cost associated with graduate education: 1) tuition, the explicit cost and 2) implicit cost, lost earnings while attending graduate school. They defined implicit cost as opportunity cost of obtaining the degree. Their study points out that high opportunity cost tends to reduce enrollment and degree completion. Though their study focused on students seeking a graduate management degree, opportunity cost is the human capital investment made by students across disciplines to prepare themselves for stable future earnings that comes with having a graduate degree.

The finding of emergency loan need among international graduate students establishes that the challenge is more alarming when opportunity cost is associated with the rising cost of tuition across the nation. The human capital investment may rise to a price where cost for repayment can consume more than twenty years of a professional career. This means a graduate student will have less to set aside for their children to achieve a higher education, and debt prevents them from enjoying the full benefit of graduate education until the latter years of their professional careers. So this forfeiture of earnings while attending and the expense of rising tuition with increased living cost in the U.S. is sufficient to warrant international graduate students re-think the value of higher education
in the U.S. versus a competitor nation that can deliver a quality engineering and business education at significant less cost.

If U.S. education ceases to be globally competitive, the impact will ripple through every U.S. industry. Though the U.S. may have the greatest amount of graduate education capacity, affordability may change the quality of international graduate students that want to attend graduate school in the U.S. Emergency loan need serves as a leading indicator of an impending challenge among a population that was accepted into graduate programs predicated on their ability to absorb unplanned cost with their own financial resources. Different from many southwestern and southern universities, an emergency loan fund is available to assist graduate students subject to unanticipated cost on this southwestern university campus. As education cost has risen, emergency loan need for the international graduate students is inextricably link to their completions.


Reference


Appendix

Graph type legend: LAmt: Loan Amount; TDY: Time to Complete Degree

$\text{LAmt} = 1352.7 + 67.414 \times \text{TDY}$

$N = 110$

$R^2 = 0.0357$

$\text{Adj. } R^2 = 0.0268$

$\text{RMSE} = 541.56$