



# **Report of the Taskforce on Competitiveness in Academic Graduate Student Support**

**Adopted by the UC Academic Council  
June 2012**

**Drafted and Submitted by  
The Academic Council Task Force on  
Competitiveness in Academic Graduate Student  
Support**

## Executive Summary

Graduate education is an essential part of UC's mission as a research university, and graduate students are essential contributors to advancing this mission. The Regents' graduate student support policy recognizes that the University must make competitive financial offers in order to attract highly qualified graduate students. This study highlights a number of critical issues concerning the competitiveness of UC's academic doctoral programs. While many of the University's graduate programs are currently rated among the best in the world, rising tuition and uncompetitive stipends threaten to seriously undermine program quality. Specific issues include the following:

- UC offers uncompetitive stipends to newly admitted students;
- UC stipends for continuing students are inadequate;
- High and increasing tuition absorbs graduate student support funds that could be used for stipends;
- High and increasing tuition creates an incentive for faculty to hire post-doctoral scholars instead of graduate student researchers on grants;
- The inadequacy of UC stipends is exacerbated by internal limitations on opportunities for employment.

In addition, non-resident supplemental tuition (NRST) negatively impacts graduate education and UC's ability to compete for the best graduate students in the following ways:

- NRST distorts admission decisions and reduces student quality and diversity;
- NRST absorbs graduate student support funds that could be used for stipends;
- NRST distorts employment decisions regarding graduate students;
- NRST has negative effects on the quality of education for academic doctoral students;
- Competing public universities do not charge NRST to research grants, thereby putting UC campuses at a competitive disadvantage with granting agencies.

Enhancing the competitiveness of UC's academic graduate student support requires immediate action at the systemwide level. This report offers four recommendations for consideration:

1. Reduce the financial impact of NRST.
  - a. Waive NRST for Ph.D. students. Recognizing current budget limitations, the taskforce offers two additional options:
  - b. Increase the number of years NRST is waived for international doctoral students.
  - c. Reduce the cost differential due to NRST over time by forgoing future increases in tuition from international academic doctoral students.
2. Do not charge NRST to research grants.

3. Eliminate the systemwide time limits on graduate student instructor (GSI) employment.
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1. NRST distorts admission decisions and reduces student quality and diversity.
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4. Competing public universities do not charge NRST to research grants.
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1. Reduce the financial impact of NRST.
  - a. Waive NRST for Ph.D. students.
  - b. Increase the number of years NRST is waived for international doctoral students.
  - c. Reduce the cost differential due to NRST over time by forgoing future increases in tuition from international academic doctoral students.
2. Do not charge NRST to research grants.
3. Eliminate the systemwide time limits on GSI employment.
4. Allocate additional resources for net stipends for academic doctoral student support.

## I. Introduction

*For 150 years, the University of California has served the state through its research mission – spawning discoveries that have supercharged our economy, safeguarded our health and improved the quality of our lives. UC’s graduate degree holders are at the core of these achievements.<sup>1</sup>*

Graduate education is an essential part of UC’s mission as a research university. As part of their own education, graduate students conduct original research, as well as assisting faculty members with research. They enrich the learning experience of undergraduates through their teaching, as well as through their collaborative work in laboratories and other research settings. Doctoral students, in particular, are trained to become creators of new knowledge; they are thus vital for maintaining the quality of life in California in the highly competitive world of the twenty-first century. Indeed, after completing their degrees, many of UC’s graduate students become key contributors to California’s economy, serving as managers and professionals in private industry, government, and the non-profit sector. It is estimated that UC doctoral programs have produced up to 25% of the faculty in the UC and California State University (CSU) systems. Roughly half of international students who attend UC remain in the state after graduation.<sup>2</sup> Immigrants with advanced degrees increase employment for U.S. citizens, make a net financial contribution to the economy, and pay more in taxes than they use in government services.<sup>3</sup>

UC is internationally recognized for the quality and strength of its doctoral programs. The National Research Council (NRC) ranked 140 of UC’s 700 doctoral programs in the top ten nationally in their respective fields.<sup>4</sup> Reflecting this excellence, more than 20 UC graduate students have gone on to win Nobel prizes.<sup>5</sup>

However, both the University and the State stand at an important juncture. UC’s graduate student support has been falling behind that of its comparator universities for a number of years, and has dropped to uncompetitive levels. In order to continue to attract the very best students, UC must improve the competitiveness of its graduate student support.<sup>6</sup> Doing so is not a discretionary action, cannot be delayed indefinitely, and is a vital

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<sup>1</sup> “University of California: Graduate Research.” University of California Office of the President. [http://www.universityofcalifornia.edu/news/documents/UC\\_MINI\\_GradResearch\\_F2.pdf](http://www.universityofcalifornia.edu/news/documents/UC_MINI_GradResearch_F2.pdf)

<sup>2</sup> “2006 Final Committee Report and Recommendations to the Provost.” Competitive Graduate Student Financial Support Advisory Committee, June, 2006. University of California Office of the President. <http://www.ucop.edu/sas/sfs/docs/gradcommittee2006.pdf>

<sup>3</sup> “Immigration and American Jobs.” Madeline Zavodny. 2011. American Enterprise Institute and Partnership for a New American Economy.

[http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE\\_Im-AmerJobs.pdf](http://www.renewoureconomy.org/sites/all/themes/pnae/img/NAE_Im-AmerJobs.pdf)

<sup>4</sup> University of California: Graduate Research.” University of California Office of the President. Rankings available at <http://sites.nationalacademies.org/PGA/Resdoc/index.htm>.

<sup>5</sup> “University of California: Graduate Research.” University of California Office of the President. [http://www.universityofcalifornia.edu/news/documents/UC\\_MINI\\_GradResearch\\_F2.pdf](http://www.universityofcalifornia.edu/news/documents/UC_MINI_GradResearch_F2.pdf)

<sup>6</sup> “Biennial Accountability Sub-Report on Graduate Academic and Professional Degree Students.” Discussion Item J2 for September 2010 Board of Regents meeting. <http://www.universityofcalifornia.edu/regents/regmeet/sept10/j2.pdf>

investment to protect and enhance the core of the University and the future of the State. The importance of maintaining and improving the quality of UC's graduate students is recognized across all ten campuses. Unfortunately, recent responses to budgetary constraints, primarily rising tuition and high levels of non-resident tuition for international doctoral students, have undermined the University's ability to compete for the best doctoral students. By absorbing funds that could have been used to offer stipends that would meet living expenses for doctoral students, UC's high tuition levels prevent the University from attracting the best minds in the world. Students are increasingly likely to find better offers from other graduate programs. Over the long-term, this has harmed, and continues to harm, not only UC's excellence, but the future of the State's economy and of its educational institutions.

The Regents' Graduate Student Support Policy recognizes that the University must make competitive financial offers in order to attract "a diverse pool of highly qualified students who are willing and able to pursue graduate academic and professional degrees."<sup>7</sup> The policy also calls for periodic examinations of the competitiveness of UC's support levels. Systemwide action can play an important role in maintaining UC's competitiveness in graduate education. As the policy states, "Systemwide funding levels in support of this policy need to recognize changes in enrollment, changes in the total cost of attending the University (i.e., both fee and non-fee expenses), and changes in the availability of extramural support."

This report focuses on two aspects of financial support where recent trends have harmed UC's excellence in graduate education, and where action to improve competitiveness of UC's graduate student support is urgently needed: net stipends and Non-Resident Supplemental Tuition (NRST).

The Board of Regents and Office of the President can exercise leadership and protect the quality of graduate education at UC by undertaking specific actions to improve graduate student support. These are not primarily campus-specific issues, and fall within the Regents' scope of responsibility. Teaching assistant salaries and benefits are determined at the systemwide level. The Board of Regents has sole responsibility for setting tuition levels, including NRST. The Board also determines who is eligible for a NRST waiver. This report presents a few recommendations for consideration.

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<sup>7</sup> Regents Policy 3201: THE UNIVERSITY OF CALIFORNIA FINANCIAL AID POLICY *Approved January 21, 1994.* <http://www.universityofcalifornia.edu/regents/policies/3201.html>

## II. Net Stipends

**While many of UC's doctoral programs are currently rated among the best in the world, rising tuition and uncompetitive stipends threaten to seriously undermine the quality of those programs.**

The net stipend is defined as the total compensation paid to a graduate student, minus the tuition and fees that are paid for or by the student. Graduate student stipends are to a large degree determined by the salaries they can earn as graduate student instructors (GSIs) or graduate student researchers (GSRs), and any fellowship stipends they are awarded. In addition, many support offers include payment of the student's tuition and fees; without this component, few offers would be taken seriously. GSI salaries and benefits are determined at the systemwide level through negotiations between UCOP and the United Auto Workers.

In contrast, GSR salaries are established locally. Individual graduate programs choose where on a set of centrally determined scales to set their GSR salaries; local decisions are based on available resources and competition in the respective disciplines. Much of the funding for GSR salaries and tuition comes from extramural research grants. Such funds are scarce, have high opportunity costs, and cover many other expenses related to research. Therefore, available funds at the local program level, rather than at the systemwide level, are the primary direct determinant of net stipends received by GSRs. However, the *number* of GSRships available to offer to Ph.D. students is affected by the cost of tuition and, if applicable, NRST.

For students who receive fellowships from the university, rather than employment, net stipends are paid from the same pool of funds that pays for their tuition and, if applicable, their NRST. It should be said that many students are supported by more than one type of stipend during the course of their graduate studies.

### **1. UC offers uncompetitive stipends to admitted students**

The 2010 "Graduate Student Support Survey" of all academic doctoral students admitted to UC for fall 2010 concluded that UC's stipends are not competitive, and reported that UC's offers lagged behind those of its competitors by an average of \$2,697.<sup>8</sup> 2010 was the first year that UC offered California residents a lower net stipend than non-UC institutions did with the average UC offer to California residents being \$267 lower than the average outside offer. Obviously, potential graduate students have no illusion of becoming rich while they are in graduate school. However, they are increasingly aware of the debt burdens that they may take on, and they are savvy enough to figure out whether or not a financial offer will actually cover their living

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<sup>8</sup> "Findings from the Graduate Student Support Survey: Trends in the Comparability of Graduate Student Stipends." University of California Office of the President, Office of the Vice President, Student Affairs, Student Financial Support. December, 2010. [http://www.ucop.edu/sas/sfs/docs/gradsurvey\\_2010.pdf](http://www.ucop.edu/sas/sfs/docs/gradsurvey_2010.pdf)

expenses. Further, while graduate students welcome employment as GSRs or GSIs, they also place high value on strategically timed fellowship support that frees them from the need to work in either capacity for some portion of their time as graduate students.

According to one UC graduate assistant dean, better competing offers are the single reason students go elsewhere. Students are more likely to choose schools that offer higher stipends, pay moving expenses, and offer signing bonuses – even if the differences amount to one or two thousand dollars annually. Indeed, Insufficient offers of financial support in recruitment packages – committing inadequate funding and/or too few years of support – often result in UC losing the best potential students to other institutions. This problem poses a direct threat to the programs that have already achieved national and international prominence, and it reduces the likelihood that rising programs will achieve equal distinction. UC offers are not as generous and are less likely to include fellowship funding that is not linked to an employment commitment.

- Between 2007 and 2010, UC's per capita net stipend offers increased by **\$345**.
- Competitors' offers increased by **\$1,992**.
- In 2010, UC's net stipend offer averaged **\$2,697 below** student's top non-UC institution choices.

*Source: 2010 Graduate Student Support Survey*

UC's excellence may once have meant that students would overlook such differences in financial support packages, but today's economic environment means that students must increasingly worry about taking on substantial debt burdens. Moreover, the size of the stipend gap varied by residency status, which is a critical point. UC net stipend offers to domestic non-residents were about \$2,664 lower, almost ten times as large as the gap for California residents. UC was even less competitive in its net stipend offers for international students: on average, the UC offer was \$5,224 lower.<sup>9</sup> Given that the market for the best doctoral students is an international one, UC is severely limiting its ability to compete by providing such unattractive offers to non-residents.

The effect of uncompetitive net stipends on Ph.D. student recruitment is also obvious in the 2010 Graduate Student Support survey responses. The less competitive the financial offer, the less likely a student is to choose UC over a competing institution. A difference that might seem small, when compared to the value of a UC graduate education over an entire career, can have a substantial impact on a student's choice between graduate programs. 51% of respondents who were offered a UC stipend that was less than \$1000 higher than the non-UC stipend chose to come to UC, while 46% of respondents who were offered a UC stipend that was less than \$1000 lower than the

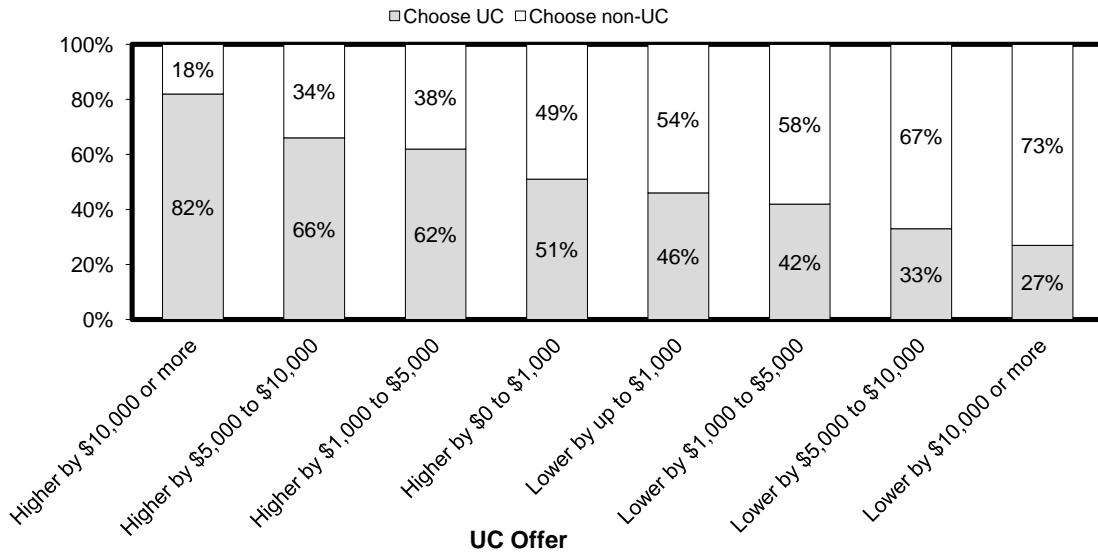
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<sup>9</sup> "Findings from the Graduate Student Support Survey: Trends in the Comparability of Graduate Student Stipends." University of California Office of the President, Office of the Vice President, Student Affairs, Student Financial Support. December, 2010. [http://www.ucop.edu/sas/sfs/docs/gradsurvey\\_2010.pdf](http://www.ucop.edu/sas/sfs/docs/gradsurvey_2010.pdf)



non-UC stipend chose to come to UC, a 5% difference.<sup>10</sup> Figure One, which plots students' enrollment decisions as a function of the difference between their UC offer and non-UC offer, shows that the effect increases as the difference grows.

**Figure One**  
**Percent of Respondents Choosing UC vs. non-UC by Difference**  
**in Offers, 2010**



Source: Reproduction of Figure 1a in "Findings from the Graduate Student Support Survey: Trends in the Comparability of Graduate Student Stipends." University of California Office of the President, Office of the Vice President, Student Affairs, Student Financial Support. December, 2010. [http://www.ucop.edu/sas/sfs/docs/gradsurvey\\_2010.pdf](http://www.ucop.edu/sas/sfs/docs/gradsurvey_2010.pdf)

While troubling, such aggregate statistics cannot provide a full sense of the extent to which uncompetitive offers affect the quality and composition of the student body in UC's academic doctoral programs. The situations faced by individual departments amplify the message. For example, one highly ranked department in the humanities, which routinely draws applications from some of the most qualified prospective students in the country, is unable to compete with peer institutions when it comes to funding packages. None of the graduate students that this department is attempting to enroll would be required to pay fees out of their own pockets at any of the competing institutions, nor would the departments at those institutions have to do so. The UC department, in contrast, has to cover tuition as part of the funding package for these students. The unfortunate result is that the net stipends offered by the UC department are substantially less than those offered by its competitors, since such a large portion of the available funds is targeted at tuition.

<sup>10</sup> "Findings from the Graduate Student Support Survey: Trends in the Comparability of Graduate Student Stipends." University of California Office of the President, Office of the Vice President, Student Affairs, Student Financial Support. December, 2010. [http://www.ucop.edu/sas/sfs/docs/gradsurvey\\_2010.pdf](http://www.ucop.edu/sas/sfs/docs/gradsurvey_2010.pdf)

## 2. UC stipends for continuing students are inadequate

For those students that do choose to come to UC, the support associated with fellowships and/or employment often does not cover basic living expenses. This is true for both GSIs and GSRs. Monthly stipends for 50% time GSIs (9 month salary), are approximately \$1,700/month take home pay. Many students must supplement that amount by depleting savings and taking on additional debt. Others seek employment above 50% time during the academic year, if it is available, and are more likely to increase work time and decrease research time during the summers. GSR salaries may

“The situation is so bad that the Associated Students and Graduate Students’ Association at UCSB have started an on-campus food-bank.” *UC faculty member*

be higher in departments that have more plentiful fund sources, but the opportunity costs for finite research funds are high. Campus policies that require that fee remissions for GSRs be paid by the funding source put further stress on grants.

### **3. High and increasing tuition absorbs graduate student support funds that could be used for stipends.**

A substantial share of the tuition paid for academic doctoral students comes from the University itself. Unlike undergraduate return-to-aid, which is need-based and enhances access and affordability, academic graduate return-to-aid is used to fund fellowships and offset tuition in order to attract the best graduate students. For the 2010-11 academic year, UC fellowships paid 20% of resident tuition and fees for academic doctoral students: \$48.8 million.<sup>11</sup> Waiving tuition for academic doctoral students on fellowship would enable programs to use fellowship funds to enhance the competitiveness of net stipends.

Using internal fellowship funds to pay tuition does not benefit students directly; they are funds the University pays to itself. As observed above, admitted students focus on the net stipends they are offered when making their enrollment decisions; the majority of students benefiting from fee remission would simply never have come to UC if they had been asked to pay these amounts themselves. In short, these students do not consider the level of tuition and fees that are paid for them as equivalent to funds they receive in the form of a stipend.

At the present time, substantial amounts of internal fellowship funds are used to pay tuition by individual graduate programs. This reduces programs' ability to provide students with fellowship stipends.

"We used to use our fellowship allocation to fund our best students for a dissertation-writing quarter, free of teaching commitments. But because of the fee increases, we are providing far fewer of these; the fees are more than the cost of the stipend, so they simply don't make financial sense anymore. This is unfortunate because our students have virtually no other options for fellowships at the dissertation phase, when they are most useful." *UC faculty member*

In view of its negative effect on funds available for net stipends, *tuition for academic doctoral students should be forgiven entirely if our resources permit us to do so.* Recognizing that the current budgetary situation makes such a step infeasible, the taskforce endorses the recommendation to the Board of Regents from the 2006 Competitive Graduate Student Financial Support Advisory Committee, a joint administration-Academic Senate group, that graduate tuition be frozen at its current level.<sup>12</sup>

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<sup>11</sup> Item 3A.7 "Graduate Student Support by Type of Support, Fund Source, and Expenses Covered." Accessed in June 2012.

<sup>12</sup> "2006 Final Committee Report and Recommendations to the Provost," Competitive Graduate Student Financial Support Advisory Committee, June, 2006. University of California Office of the President. <http://www.ucop.edu/sas/sfs/docs/gradcommittee2006.pdf>

#### 4. High and increasing tuition is creating an incentive for faculty to hire post-doctoral scholars instead of graduate student researchers on grants.

Increases in tuition have translated directly into the high and increasing cost of employing graduate student researchers. More and more often, faculty members are choosing to hire post-doctoral scholars instead of graduate students; the effect is strongest for nonresident students. Post-doctoral scholars are at a more advanced stage of their careers, they are more productive, and require less mentoring. Even though UC faculty members are very committed to graduate education, they must balance that commitment with the need to maintain a productive research program and demonstrate its value to funding agencies.

- A typical first-year postdoctoral fellow costs a NIH-funded faculty member **\$46,000/year total** (with benefits) compared to **\$59,000/year** for a graduate student with NRST
  - Post-doctoral fellows work full-time, compared to graduate students who work half-time
  - Postdoctoral fellows have up to 10 years of additional experience

Between 2005-06 and 2010-11 GSR employment remained effectively constant in terms of both headcount and full-time equivalent positions. Postdoctoral scholar employment increased,<sup>13</sup> as did total UC research expenditures.<sup>14</sup> These three factors are consistent with faculty choosing to expand their hiring of relatively cheaper postdoctoral scholars, rather than expanding their hiring of relatively expensive graduate student researchers, when their total research funds increase. Had research funding not grown, it seems likely that graduate student research FTEs would have declined in absolute terms, not just in the relative proportions we have observed. Moreover, new academic doctoral student enrollment declined during this period.

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<sup>13</sup> Item 1C.1 "Graduate Student Researcher and Postdoctoral Scholar Headcount and FTE over Time." Accessed in June 2012.

<sup>14</sup> "Indicator 10.2.2: Direct research expenditures by source, Universitywide, 1997-98 to 2009-10." University of California Office of the President.  
<http://www.universityofcalifornia.edu/accountability/index/10.2.2>.

## 5. The inadequacy of UC stipends is exacerbated by internal limitations on opportunities for employment

Uncompetitive net stipends disproportionately affect students in the Humanities and Social Sciences, which carry longer normative times to degree and where a relatively large share of doctoral students are employed as GSIs rather than GSRs.<sup>15</sup> Two key factors limit graduate student employment. First, budget reductions have resulted in cuts to GSI budgets, leading departments to cut back on the number of years of support they can offer to each individual graduate student at the time of admission. Students are left scrambling for support every quarter. Some programs are also reducing the number of graduate students admitted, as systemwide, new academic doctoral student enrollments declined 12% between 2007 and 2010, from 5,002 to 4,405 newly enrolled students.<sup>16</sup>

Second, there is a systemwide limit on the number of quarters (18) or semesters (12) that students can be employed as GSIs. Some campuses also limit the number of quarters they can be employed as GSRs.<sup>17</sup> The taskforce recognizes that employment limits can encourage students to finish their doctoral programs in a timely fashion. Nonetheless, these limits may constrain programs in disciplines with relatively long times to degree. It is important to acknowledge that systemwide limits on GSI employment and campus limits on GSR employment are separate, and in theory, a student could distribute the two types of employment over much more than six academic years. However, the very disciplines characterized by relatively long times to degree are often the same disciplines where student employment is primarily through teaching assistantships, and the 18-quarter limit could bind students who do not have access to employment as GSRs. As a result, such programs cannot support their students throughout their studies. The employment limit also prevents programs from exercising the option of choosing to have a smaller number of students with a larger amount of financial support per student, if appropriate for that program.

“Time to completion in the Humanities and Social Sciences has been longer than in the other divisions for as long as I have been here, but it’s also lengthening as a direct result of the fact that, **at 18 quarters, the time when we are eligible to work for the university is inadequate to even our normative time-to-completion.** This leads to a truly vicious cycle in which that time grows longer and longer, and a larger and larger proportion of it is ineligible for support through academic work.”  
*Ph.D. student in Humanities*

<sup>15</sup> Item 3A.1.2.3 “Per Capita Support by Residency.” Accessed in June 2012.

<sup>16</sup> Calculated using data provided by UCOP Institutional Research (7B.7-11 Doctoral Admissions Data for Workgroup.xlsx).

<sup>17</sup> An individual graduate program or campus may have stricter limits.

To give but one example: a large social sciences department whose graduate program is ranked as the number one public university graduate program in its field by the National Research Council (NRC), now has a GSI allocation that hovers around 30 half-time appointments. This GSI allocation means that the department can support around ten new Ph.D. students per year, and that most of those students will receive an initial offer of only three years of GSI support – in a field for which the average national time to degree is seven years. A few top ranked students (2-3 per year) will receive central campus offers that augment those three years up to five years, and can rely on block grant support during their final year. However, most students have to scramble and borrow in order to survive after they have used up their GSI time; some end up taking extra-mural teaching jobs after they advance to candidacy<sup>18</sup>, which may significantly slow their time to degree, since they have greater responsibilities and less support. Of course, this program could choose to admit fewer students each year and offer each student more support. However, guaranteeing support for the normative time to degree would result in too few students to support the critical mass of Ph.D. courses required to maintain excellence in the field.

In sum, if the University is not competitive for the best students, its investments in faculty and infrastructure will not be enough to sustain its status as the world's greatest research university. While low net stipends affect all corners of UC's graduate enterprise, their effects are most insidious on the humanities, social sciences, and fine arts, as shown by UCOP data on per capita net stipends.

"I am the first person in my family to go to grad school. Both of my parents have spent extended periods out of work, and as a result, I don't have a 'family lifeline' when the rent is due. Two years ago, as the end of my normative time approached – the 'eighteen quarter rule,' as we've come to know it – I was forced to choose between further increasing my student debt and leaving my life's work of the past seven years. I took out the maximum in federal student loans and scraped by as best I could, often relying unduly on my partner in the process. I now hold well over one hundred thousand dollars in debt, a tally that accrues interest and proves to be a constant source of background preoccupation and stress." *Ph.D. student in the Social Sciences*

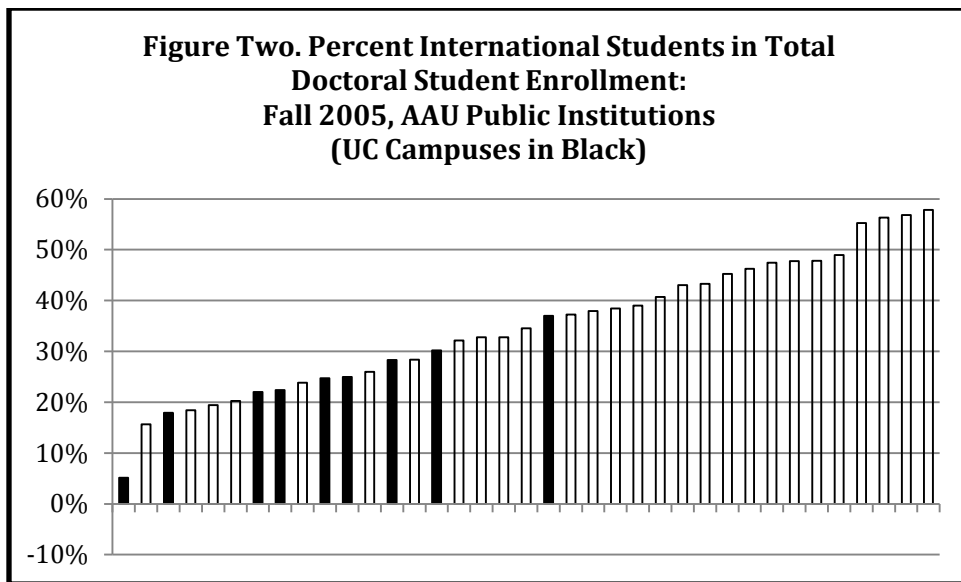
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<sup>18</sup> A Ph.D. student advances to candidacy after passing a qualifying examination. At this point, s/he has completed all degree requirements except the dissertation and, in some programs, an oral examination or exit seminar regarding the dissertation.

### III. Non-resident Supplemental Tuition

A world-class research university must seek world-class researchers. Attracting the very best graduate students from other countries is an important part of maintaining excellence, and the University's success in enrolling international students provides a measure of its competitiveness. Non-resident supplemental tuition (NRST) for Ph.D. students greatly handicaps the ability of UC to compete worldwide for the best and brightest, leads to differential treatment of international students, and even distorts admission and employment decisions. And as noted above, it is a drain on fellowship funds that can be used to attract outstanding students via more competitive financial offers.

Relative to other public institutions within the Association of American Universities (AAU), UC campuses mostly have low shares of international students, as shown in Figure Two which reports percentages for fall 2005. Only UC Riverside exceeds the median percentage.<sup>19</sup>



Source: Prepared using data in item 7B.1-6 "NRC Intl Data."

In contrast to the relatively small share of international students in enrolled academic doctoral students, slightly over a third of UC assistant professor hires from the 2006-07

<sup>19</sup> From left to right, the UC campuses are San Francisco, Santa Cruz, Berkeley, Santa Barbara, San Diego, Los Angeles, Davis, Irvine, and Riverside. UC Merced is not included because the data are for 2005. The four non-UC public institutions with the lowest percentage of international academic doctoral students are University of Texas at Austin, University of Colorado at Boulder, University of Oregon, and University of North Carolina at Chapel Hill. The four non-UC public institutions with the highest percentage of international academic doctoral students are Texas A&M University, Purdue University (main campus), Georgia Institute of Technology, and Iowa State University.

through the 2010-11 academic years were non-U.S. citizens (37%).<sup>20</sup> In other words, UC's competitiveness in the global market for faculty is not reflected in the composition of the student body in its academic doctoral programs.

Recognizing its negative effects, the Regents have taken actions to reduce the adverse effects of NRST on graduate education. In November 2005, the Regents voted to freeze NRST for academic doctoral students at its 2004-5 level for 2006-07, and to waive NRST for Ph.D. students for the first three years after advancing to candidacy. The Regents also recommended freezing tuition for academic graduate students for 2007-08. While these actions have been very valuable, the increasingly competitive global marketplace for intellectual talent requires additional investment in graduate education. Reducing the fiscal impacts of NRST on graduate education will protect and improve the quality of the University of California's graduate student body and sustain their contributions to its teaching and research missions.

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<sup>20</sup> Data provided by UCOP Office of Academic Personnel. Annual averages ranged from 36.73% (2009-10) to 38.61% (2010-11). Averaging hires over all five years resulted in 37.32% of new hires being non-U.S. citizens.



### 1. NRST distorts admission decisions and reduces student quality and diversity

NRST makes non-resident students more expensive to admit to Ph.D. programs than California residents. As a result, programs have cut back on the number of non-resident students they admit and/or applied higher admission standards to non-residents. Reducing the share of non-resident students in Ph.D. programs reduces the diversity of student perspectives, which has negative effects on the academic and creative environment for all Ph.D. students. It also makes the pool of available teaching assistants less diverse, which has the same narrowing effect on the undergraduate experience. Simply put, graduate programs are educating the best students that *they can afford*, and risking the quality of UC's graduate education and research as a result. A 2005 survey of selected departments by UCOP found that available financial support influenced decisions regarding the shares of domestic and international applicants in the students admitted for over 90% of responding departments. Around half had lowered their number of international admissions.<sup>21</sup>

“Our international students must meet higher standards than domestic students because of the NRST expense. We select international students whom we expect can advance to candidacy early and complete the degree quickly. We also severely limit their number because of the NRT expense. In one recent year, we admitted 1/3 of the US citizens who applied and 1/8 of the international applicants. Overall about 15% of the graduate students in our program are international, compared to about 50% in the same field nationwide. This financial cost severely hampers our efforts to increase our standing.” *UC faculty member*

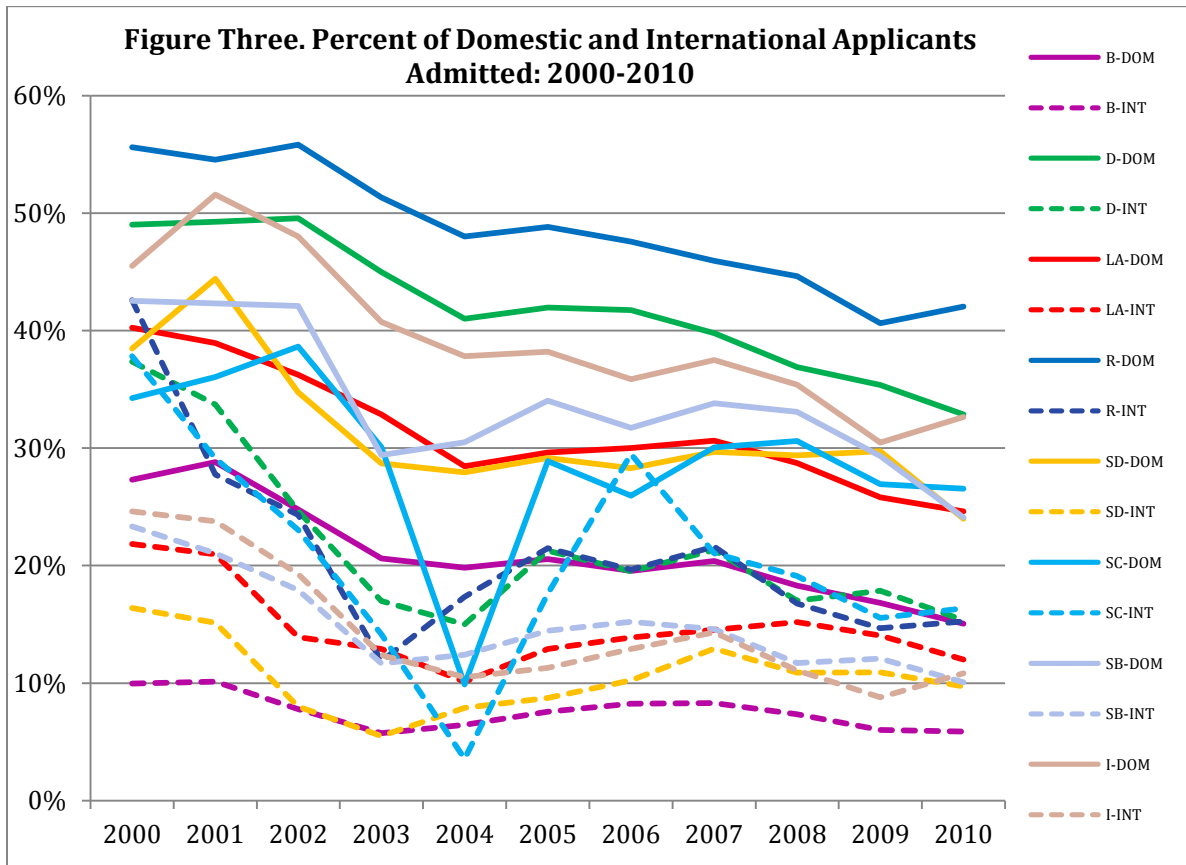
Indeed, domestic applicants were admitted at more than twice the rate that international applicants were in 2010 (24% versus 10%).<sup>22</sup> Figure Three plots admission rates for domestic and international applicants by campus for 2000-2010. The domestic admission rate is plotted as a solid line for each campus and the international admission rate is plotted as a dashed line. Each campus has the same color for those two data series. (UC Merced and UC San Francisco are omitted due to small numbers.) While the absolute values of the admission rates vary by campus, for a given campus the domestic admission rate is always higher.<sup>23</sup> This difference could be explained by a larger proportion of low-quality applicants in the international pool than in the domestic pool, or by the use of a higher admission standard for international applicants due to their greater cost. No aggregate data are available to quantify the relative importance of these two possibilities. While post-9/11 effects complicate any interpretation of data

<sup>21</sup> “UCOP Survey of Graduate Applications, Admissions, and Enrollment Issues.” Student Financial Support, Student Affairs. May, 2005. [http://www.ucop.edu/sas/sfs/docs/gradsupport\\_survey\\_app-enroll.pdf](http://www.ucop.edu/sas/sfs/docs/gradsupport_survey_app-enroll.pdf).

<sup>22</sup> Calculated using data in Item 7B.7-11 “Doctoral Admissions Data for Workgroup.” Accessed in June 2012.

<sup>23</sup> 2003 and 2004 data for UC Davis obtained from UC Davis Office of Graduate Studies. UCOP data available in June 2012 are either incomplete, or international applicants are incorrectly characterized as domestic non-residents or California residents.

from the early 2000s, the difference in admissions rates between international and domestic applicants persisted through the entire decade.



Source: Prepared using data in Item 7B.7-11 "Doctoral Admissions Data for Workgroup." UC Merced omitted due to small numbers of applicants. UC San Francisco omitted due to small numbers of international applicants 2000-2004. UC Davis data for 2003 and 2004 obtained from UC Davis Office of Graduate Studies.

*Every faculty member of the taskforce confirms that his/her graduate program has reduced the share of international students in the pool of students admitted. When the taskforce solicited comments from colleagues, it became apparent that this is not unusual.*

## **2. NRST absorbs graduate student support funds that could be used for stipends.**

A substantial share of the NRST paid for academic doctoral students comes from the University itself. As is the case for tuition, admitted students focus on the net stipends they are offered when making their enrollment decisions, and do not consider the level of tuition and fees that are paid for them. Currently, substantial amounts of internal fellowship funds are used to pay NRST. For the 2010-11 academic year, UC fellowships paid 53% of all NRST charged for academic doctoral students: \$37.8 million.<sup>24</sup> If NRST were waived for academic doctoral students, then these funds could be used to enhance the competitiveness of net stipends.

Over half of NRST charged for academic doctoral students is paid using internal UC fellowship funds.

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<sup>24</sup> Item 3A.23 “Estimated Impact of Proposals to Eliminate Non-resident Supplemental Tuition.” Accessed in June 2012.

### 3. NRST distorts employment decisions regarding graduate students

NRST for GSRs is generally paid from the same funding source that pays for salary and tuition.<sup>25</sup> This makes non-resident students much more expensive to employ on faculty research projects than resident students. The cost difference is substantial. Thus, there is a clear financial incentive for faculty to favor hiring students for whom NRST is not required.<sup>26</sup>

• A typical Ph.D. student researcher with resident tuition currently costs an NIH-funded faculty member ~\$30,000 for stipend and ~\$15,000 for resident tuition=**\$45,000/year total** .

• NRST raises the total to **\$59,000/year**.

While excessive employment as a GSR can limit the time a student can devote to dissertation research, working as a graduate student researcher provides Ph.D. students with opportunities to enhance their research skills and participate in research projects in addition to their own dissertation work. Some faculty cannot or choose not to

employ students subject to NRST as GSRs.

The available data are insufficient to quantify precisely the extent to which NRST has distorted admission and hiring decisions at the University, disciplinary, or campus levels. But a simple comparison of the relative costs, such as the one above, illustrates that the incentive to favor residents is very compelling for faculty concerned about limited research funding.

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<sup>25</sup> UC Davis is a partial exception. It provides a 25% rebate on both resident tuition and NRST. This approach partially mitigates the effects of the high levels of tuition and NRST. It reduces, but does not eliminate, the price differential.

<sup>26</sup> UC San Diego is an exception. It charges a “blended” tuition rate for all GSRs, regardless of residency status. In total all NRST is paid. This approach eliminates the price differential between resident and non-resident GSRs. It does not mitigate the effects of the high levels of tuition and NRST.

#### 4. NRST has negative effects on the quality of education

In addition to influencing employment decisions and hence students' opportunities to participate in faculty research, NRST affects how students progress through their programs and the quality of their preparation for independent research. While the Regents' decision to exempt Ph.D. students from NRST for the three years after they advance to candidacy has been beneficial in terms of reducing the financial burden, it has created an incentive to rush non-residents through their qualifying examinations to candidacy status. In some cases, programs have chosen to revise academic requirements in order to reduce the financial impact of NRST. By requiring all students to advance to candidacy sooner, programs may be sacrificing students' preparation for undertaking independent dissertation research as a Ph.D. candidate.

"The high NRT recently caused us to change our program so that students making normal progress take the oral qualifying exam earlier. This change has an adverse effect on the research of students who would benefit from taking the exam at a later date." *UC faculty member*

"I have served on two Ph.D. qualifying exam committees in which the graduate students were placed under unusual pressure to attempt to pass their qualifying exam in order to advance to candidacy and no longer require NRST. In both cases, the students took their qualifying exams about six months earlier than would usually be expected. This had a negative impact on the quality of their education since they had to deal with the typical course-load in addition to writing a qualifying exam proposal and working hard to generate data in the lab. The need to relieve a PI of paying NRST should not be what determines when a student takes his or her qualifying exam." *UC faculty member*

Data provided by UCOP Institutional Research show that international students took a shorter time to advance to candidacy than domestic students in both the 2000 and 2006 entering cohorts. International students advanced to candidacy in two to three years, while domestic students advanced to candidacy in three to three and a half years. In addition, changes in time to advancement to candidacy between the two cohorts varied by residency status. Time to candidacy increased slightly for students who entered as California residents and domestic non-residents. Time to candidacy for entering international students decreased.<sup>27</sup>

While it is conceivable that international students in the 2006 entering cohort were better prepared for dissertation research than those in the 2000 cohort, it seems more plausible that at least some programs are rushing these students to advance to candidacy as soon as possible so that they no longer pay NRST. Three years later, the same programs can be expected to be rushing students to completion of their degrees,

<sup>27</sup> Item 3A.8. "Figure 6. Mean Academic Years to advancement to Candidacy for Doctoral Students by Entering Residency, Fall 2000 and Fall 2006 Cohorts." UC Merced had only a 2006 cohort. Accessed in June 2012.

as the three-year window expires; the quality of the students' first academic job placement, which is critical to their long-run career success, can be adversely affected by finishing the dissertation too soon. In short, financial considerations increasingly drive academic decisions about students' preparation to engage in dissertation research and about what constitutes research that is adequate to justify awarding the degree.

**5. Competing public universities don't charge NRST to research grants**

The University of California is one of very few American public research universities that charge the full amount of NRST to research grants. UC's competitors recognize the negative effects of doing so. Among the 27 non-UC public research universities that are members of the AAU and were surveyed by UCOP regarding their tuition remission policies, 20 do not charge any NRST to research grants. Regardless of the graduate student researcher's residency status, the faculty member employing the GSR pays only the resident tuition. An additional four institutions charge a flat rate for all graduate student researchers. The flat rate is less than the resident tuition at two of these institutions, and between resident and non-resident tuition at the other two. Only three institutions charge the entire amount of NRST to research grants. Of those three, one, University of Texas at Austin, waives non-resident tuition for about 40% of its graduate students. Table 1 presents the full set of institutions and their tuition remission policies for graduate student researchers.

**Table 1. AAU Public Research Universities: Policies Regarding Charging Graduate Student Researcher Tuition to Grants**

<b>Flat rate less than resident tuition (2)</b>	<b>Resident tuition (20)</b>	<b>Flat rate between resident and non-resident tuition (2)</b>	<b>Non-resident tuition when applicable (3)</b>
The Pennsylvania State University	U. Arizona	U. Illinois at Urbana-Champaign	Indiana University
U. Wisconsin-Madison	U. Colorado at Boulder	State University New York-Buffalo	Rutgers University*
	U. Florida		U. Texas at Austin**
	Georgia Institute of Technology		
	Purdue University		
	Iowa State University		
	U. Iowa		
	U. Kansas		
	U. Maryland at College Park		
	U. Michigan		
	Michigan State University		
	U. Minnesota, Twin Cities		
	U. Missouri-Columbia		
	State University of New York-Stony Brook		
	U. North Carolina at Chapel Hill		
	The Ohio State University		
	U. Oregon		
	Texas A&M University		
	U. Virginia		
	U. Washington		

\*Policy currently under review.

\*\* Approximately 40.5% of graduate students receive out-of-state tuition waivers.

Source: Reproduces Item 3A.22 Remission survey summary.pdf, abbreviating University. Accessed in June 2012.





## IV. Recommendations

The University of California's historical commitment to excellence in graduate education and research has been a core driver of its success as the leading public research university in the nation and the world. Today, the Board of Regents can reconfirm its systemwide commitment to graduate education by reducing the impacts of NRST on doctoral education to enhance UC's competitiveness in today's global marketplace. The taskforce offers four specific recommendations for consideration.

### 1. Reduce the financial impact of NRST

In 2006, the Academic Senate of the University of California adopted a Memorial to the Board of Regents recommending that the UC Regents structure and advocate a budget for the University that waives non-resident tuition for academic graduate students.<sup>28</sup> NRST and its effects on graduate education were a concern for the Board of Regents at that time as well. The Regents chose to waive NRST for up to three years after advancement to candidacy. While this action provided significant relief, NRST continues to be a substantial burden. The taskforce recognizes that in this difficult budgetary time, investing in maintaining the competitiveness of graduate education may prove difficult for the University. Thus, this recommendation includes two alternatives.

**1A. Waive NRST for Ph.D. students.** As stated in the 2006 Memorial to the Board of Regents from the Academic Senate:

“Non-resident tuition is a serious impediment to recruitment of graduate students from outside of the State of California, and, most particularly, graduate students from outside of the United States.”

The 2006 Competitive Graduate Student Financial Support Advisory Committee, a joint administration-Academic Senate group, recommended that NRST be eliminated for academic doctoral students, contingent on development of a funding plan.<sup>29</sup> As that group noted, however, doing so directly would require a change in the State's non-resident tuition policy as currently codified in statute. If that approach is not feasible, they recommended implementing a return-to-aid policy on non-resident supplemental tuition that would provide an off-setting benefit to the funding unit.

The cost of waiving NRST for academic doctoral students is rather small. Based on costs and enrollments in the 2010-11 academic year, UCOP estimates the lost non-UC funds from abolishing NRST for Ph.D. students to be roughly 3.4% percent of the total funds

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<sup>28</sup> See “*The Academic Senate Memorial to The Regents on Non-Resident Tuition for Graduate Students*,” <http://www.universityofcalifornia.edu/senate/assembly/may2006/nrtmemorial.0506.pdf>.

<sup>29</sup> “2006 Final Committee Report and Recommendations to the Provost,” Competitive Graduate Student Financial Support Advisory Committee, June, 2006. University of California Office of the President. <http://www.ucop.edu/sas/sfs/docs/gradcommittee2006.pdf>

that the University expends on graduate student support.<sup>30</sup> Leveling the playing field between international and domestic Ph.D. students in admission and financial support is critical to maintaining and enhancing the quality of research at UC.

**1B. Increase the number of years NRST is waived for international doctoral students.**

Domestic non-resident Ph.D. students must pay NRST during their first year of enrollment, after which they are able to qualify for California residency. The Board of Regents could waive NRST for international non-resident doctoral students after their first year of enrollment, thus equalizing the financial treatment of all non-residents. The cost of leveling the playing field in this manner is quite small. Based on estimates provided by UCOP the estimated cost would be about 2.1% percent of total graduate student support expenditures.<sup>31</sup> A relatively small financial investment will bring large dividends in terms of enhancing the University's competitiveness in graduate education. Programs will be able to admit students based purely on their potential as researchers and teachers, without regard to country of origin.

**1C. Reduce the cost differential due to NRST over time by forgoing future increases in tuition from international academic doctoral students.** As tuition rises, reduce the amount of NRST to approximate the amount of State funds provided for each resident academic graduate student. This recommendation would not require any of the University's current resources to be redirected to graduate education. Rather, it would direct new resources as they become available.

**2. Do not charge NRST to research grants**

If principal investigators do not need to pay NRST when employing non-resident students, then their choice of which students to employ will not be affected by differences in cost. This will enable equal consideration of students based on their interests and abilities. It will make it more likely that a prospective non-resident student will be offered employment as a GSR, enhancing competitiveness for those students. As noted above, UC is one of only a few public universities in the AAU that charges the full amount of NRST to research grants, with only 3 of 27 institutions surveyed doing so.<sup>32</sup>

Eliminating the requirement that grants must pay NRST for non-resident GSRs would eliminate the cost difference between resident and non-resident GSRs, and between UC and most of its competitors, thereby promoting equal access to research opportunities. In 2010-11, federal and external agencies paid 14% of total NRST as a result of funding

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<sup>30</sup> \$29.3 million in lost non-UC funds (NRST net revenue, item 5A.1 "Est. Funds Covering Academic Doctoral Non-Resident Tuition by Campus, 2010-11"), \$874.5 million in total graduate student support (item 3A.7 "Expenses Covered by Award and Source"). Accessed in June 2012.

<sup>31</sup> \$18.5 M in in lost non-UC funds (item 5A.2 "Est. Non-Resident Tuition Eliminated Under Proposals and Current NRT Coverage by Campus, 2010-11")." \$874.5 million total graduate student support (item 3A.7 "Expenses Covered by Award and Source"). Accessed in June 2012.

<sup>32</sup> Item 3A.22 "Competing Public Research Universities and Policy Regarding Charging Tuition to Grants." Accessed in June 2012.

tuition remissions for GSRs: \$7.5 million.<sup>33</sup> NRST is not subject to return-to-aid, so there are no direct implications for graduate student funding specifically.

Eliminating this charge to research grants could reduce general revenues by the same amount. On the other hand, faculty members can use grant funds no longer used to pay NRST to employ more graduate student researchers or for other research activities that contribute indirect cost returns to general revenues. This would aid in offsetting revenue losses, so it is not apparent that forgiving NRST for students employed as graduate student researchers will have substantial negative financial effects on the University. The maximum cost is a very small fraction of UC's current graduate student support budget: 0.9%.<sup>34</sup>

### **3. Eliminate the systemwide time limits on GSI employment**

Given the variation in normative time to degree across disciplines, there is no evident justification for a uniform systemwide restriction on the total number of quarters of employment as a GSI. Programs and campuses can implement their own employment limits if appropriate for their needs. Lifting the systemwide limit on quarters of employment has no obvious financial implication. It provides programs with greater flexibility in Ph.D. student funding. Programs could choose to have a smaller number of students with a larger amount of financial support per student.

### **4. Allocate additional resources for net stipends for academic doctoral student support**

Increasing net stipends for academic doctoral students to competitive levels is an investment that must be made in order to protect and enhance the academic excellence of the University. UCOP estimates that it would cost approximately \$63 million to raise net stipends for all academic doctoral students to the levels offered by competing institutions.<sup>35</sup> (These estimates are for all students, including those with external funding, so they represent the upper bounds.) As with faculty salaries, this investment could be made gradually over the next several years.

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<sup>33</sup> Item 3A.23 "Estimated Impact of Proposals to Eliminate Non-Resident Supplemental Tuition." Accessed in June 2012.

<sup>34</sup> \$7.5 million in lost non-UC funds (Fed/OA GSR Tuition/Fee Remissions in Item 3A.23 "Estimated Impact of Proposals to Eliminate Non-Resident Supplemental Tuition"), \$874.5 million in total graduate student support (item 3A.7 "Expenses Covered by Award and Source"). Accessed in June 2012.

<sup>35</sup> Item 1A.7 "Stipend Gap." Originally prepared for Regents in response to a question regarding September 2011 Regents Item E2. Taking the higher cost of living into account would require approximately \$116 million, according to this source.