A Guide to the Methodology of the National Research Council Assessment of Doctorate Programs

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APPENDIX E

List of Variables

VARIABLES USED IN THE RATINGS CALCULATION

Publications per Allocated Faculty,* 2001-2006 (Non-Humanities): Data from the Institute for Scientific Information were used to construct this variable. It is the average over the seven years, 2000-2006, of the number of articles for each allocated faculty member divided by the total number of faculty allocated to the program. Data were obtained by matching faculty lists supplied by the programs to the ISI list of publications.

Number of Published Books and Articles per Allocated Faculty (Humanities): Data from resumes submitted by the humanities faculty were used to construct this variable. This variable is made up of two measures; the number of published books and the number of articles published during the period 1986 to 2006 that were listed on the resume. The calculated measure was the sum of five times the number of books plus the number articles for each allocated faculty member divided by the faculty allocated to the program. In computing the allocated faculty to the program, only the allocations of the faculty who submitted resumes were added to get the allocation.

Average Citations per Publication (Non-Humanities): Data from the Institute for Scientific Information were used to construct this variable. It is the per-year average of the number of allocated citations in the years 2000-2006 to papers published during the period 1981-2006 by program faculty divided by the allocated publications that could contribute to the citations. For example, the number of allocated citations for a faculty member in 2003 is found by taking the 2003 citations to that faculty member’s publications between 1981 and 2003. These counts are summed over the entire faculty in the program and divided by the sum of the allocated publications to the program in 2003.

Percent of Faculty with Grants: Data from the faculty questionnaire were used to construct this variable. The faculty questionnaire asks whether a faculty member’s work is currently supported by an extramural grant of contract (E1). The total of faculty who answered this question in the affirmative was divided by the total respondents in the program and the percentage was calculated.

* Because many faculty members supervise dissertations in more than one program, faculty members were allocated across the programs that they were associated with so that the total, taken across all programs, equaled one.
Percent Interdisciplinary: Data from the program questionnaire were used for this variable. Faculty were identified as either core, new, or associated. Percent interdisciplinary is the ratio of associated to the sum of core, new, and associated faculty. Allocations were not used in the construction of this variable.

Percent Non-Asian Minority Faculty of Core and New Faculty, 2006**: Data from the program questionnaire were used for this variable. For each program the data reported for question B7, the race/ethnicity of core and new faculty in the program, was used to compute the ratio of non-Hispanic Blacks, Hispanic, and American Indians or Alaska Natives to that of non-Hispanic Whites, non-Hispanic Blacks, Hispanic, Asian or Pacific Islanders, and American Indians or Alaska Natives. Faculty with Race/Ethnicity Unknown were excluded from the ratio. Allocations were not used in the construction of this variable.

Percent Female Faculty of Core and New Faculty, 2006: Data from the program questionnaire were used for this variable. For each program the data reported for question B5, the gender of core and new faculty in the program, was used to compute the ratio of core or new female faculty to the total of core and new faculty. Allocations were not used in the construction of this variable.

Awards per Allocated Faculty: Data from a review of 1,393 awards and honors from various scholarly organizations were used for this variable. The awards were identified by the committee as “Highly Prestigious” or “Prestigious” with the former given a weight of 5. The award recipients were matched to the faculty in all programs, and the total awards for a faculty member in a program was the sum of the weighted awards times the faculty member’s allocation to that program. These awards were added across the faculty in a program and divided by the total allocation of the faculty in the program.

Average GRE, 2004-2006 (Verbal Measure for the Humanities, Quantitative Measure for All Other Fields): Data from the program questionnaire were used for this variable. For each program, question D4 reported the average GRE verbal and quantitative scores for the 2003-2004, 2004-2005, and 2005-2006 academic years and the number of individuals who reported their scores. A weighted average was used to compute the average GRE, which was calculated by multiplying the number of individuals reporting scores by the reported average GRE score for each year, adding these three quantities and dividing by the sum of the individuals reporting scores.

Percent Students Receiving Full Support in the First Year (Fall 2005): Data from the program questionnaire were used for this variable. For each program question E8 reported the type of support that full-time graduate students received during the fall term each year of enrollment. For this variable the data for the first year were added for all types of support and divided by the total number of students.

** “Core” faculty are those whose primary appointment is in the doctoral program. “New” faculty are those with tenure track appointments who were appointed in 2003-2006.
Percent First-Year Students with External Funding, 2005: Data from the program questionnaire were used for this variable. For each program question E8 reported the type of support full-time graduate students received during fall term each year of enrollment. For this variable the data for the first year were added for support by externally funded fellowships and combinations of external fellowships and other internal support and then divided by the total number of students.

Percent Non-Asian Minority Students, 2005: Data from the program questionnaire were used for this variable. Question C9c reported the race/ethnicity of graduate students in the program. This was used to compute the ratio of non-Hispanic Blacks, Hispanics, and American Indians or Alaska Natives to that of non-Hispanic Whites, non-Hispanic Blacks, Hispanics, Asian or Pacific Islanders, and American Indians or Alaska Natives. Data with Race/Ethnicity Unknown were excluded from the ratio.

Percent Female Students, 2005: Data from the program questionnaire were used for this variable. Question C9 reported the gender of graduate students in the program. This was used to compute the percentage by taking the number of female graduate students divided by the total number of graduate students.

Percent International Students, 2006: Data from the program questionnaire were used for this variable. Question C9b reported the citizenship of graduate students in the program. These data were used to compute the percentage of international graduate students by taking the number with temporary visas and dividing it by the number of graduate students with known citizenship status.

Average Annual Ph.D.’s Graduated 2002-2006: Data from the program questionnaire were used for this variable. Question C1 reported the number of doctoral degrees awarded each academic year from 2001-2002 to 2005-2006. The average of these numbers was used for this variable. If no data were provided for a particular year, the average was taken over the years for which there were data.

Average Completions (8-Year Completion Percentage for Humanities Fields, 6 Years for Other Fields): Data from the program questionnaire were used for this variable. Questions C16 and C17 reported for males and females separately the number of graduate students who entered in different cohorts from 1996-1997 to 2005-2006 and the number in each cohort who completed in 3 years or less, in their 4th, 5th, 6th, 7th, 8th, 9th years, and in 10 or more years. To compute the completion rate, the number of doctoral students for a given entering cohort who completed their doctorate in 3 years or less and in their 4th, 5th, 6th years were totaled and the total was divided by the entering students in that cohort. This computation was made for each cohort that entered from 1996-1997 to 1998-1999 for the humanities and 1996-1997 to 2000-2001 for the other fields. Cohorts beyond these years were not considered, since the students could complete in a year that was after the final year 2005-2006 for which data were collected. To compute the average completion rate, an average was taken over 3 cohorts for the humanities and over 5 cohorts for other fields.
Time to Degree (for Full- and Part-Time Graduates): Data from the program questionnaire were used for this variable. Question C2 reported the median time to degree for full-time and part-time students. That reported number was used for this variable.

Percent Ph.D.’s with Definite Plans for an Academic Position, 2001-2005: Data from the National Science Foundation 2005 Doctorate Records File (DRF) were used for this variable. A crosswalk was generated between the DRF Specialty Fields of Study and the fields in the study taxonomy. Data from the DRF for 5 years (2001-2005) were matched by field and institution to the programs in the research-doctorate study. The percentage was computed by taking the number of individuals who have a signed contract or are negotiating a contract for a position at an educational institution and dividing by the number of doctorates in those years. Positions included employment and postdoctoral fellowships.

Student Work Space: Data from the program questionnaire were used for this variable. Question D12 reported the percentage of graduate students who have work space for their exclusive use. If reported percentage was 100 percent, then a value of 1 was given to this variable. Otherwise the value was -1.

Health Insurance: Data from the institutional questionnaire were used for this variable. Question A1 reported whether or not the institution provided health care insurance for its graduate students. If the response to this question was yes, then a value of 1 was given to this variable. If it was no, then the value was -1.

Student Activities: Data from the program questionnaire were used for this variable. Question D8 listed 18 different kinds of support for doctoral students or doctoral education. This variable is a count of the number of support mechanisms proved by the program or the institution.