
Comparison Groups

SUMMARY

Like other institutions of higher education, the University of Minnesota compares its faculty and staff compensation with what it considers comparable groups of employers. For faculty, the University uses campus-specific groups consisting of “similar” institutions of higher education. Overall, we found that the University’s comparison groups for the Morris and Twin Cities campuses were appropriate because the groups largely consist of institutions with a similar mission and program mix. However, we were not satisfied with the comparison groups for the Crookston and Duluth campuses, largely because the institutions in each group generally have different missions, measured in part by their commitment to graduate education. We recommend that the University develop alternative comparison groups for these two campuses. Overall, we found that the University has established an appropriate comparison group—Twin Cities metropolitan area employers—for examining salaries of non-academic employees. However, because Minnesota statutes say that salaries of non-academic employees at the University should be comparable to those of similar classified staff in state government, we recommend that the University make direct comparisons of non-academic employee salaries to salaries of these state employees. Finally, the University has not established comparison groups to provide information on the salaries of academic professional and administrative staff. We recommend that the University establish a comparison group or groups for these employees and periodically examine the salaries it pays relative to salaries paid by other employers.

Higher education institutions compare themselves with other colleges and universities on a variety of measures, such as student tuition, faculty compensation, budget, and student graduation rates. Doing so offers several advantages. First, comparison groups provide a set of institutions against which an institution can compare itself at a given point in time and over time. Second, they provide a simple way for institutions to describe and measure themselves in the context of other institutions, which is valuable for communicating with policy makers and the general public. Third, they help institutions identify issues that may need to be addressed and plan for the future.

This chapter addresses two major questions about the University’s use of comparison groups to examine faculty and staff compensation:

- **How did the University of Minnesota determine the comparison groups it uses to examine faculty and staff compensation?**
- **To what extent are the comparison groups that the University uses to report on faculty and staff compensation appropriate?**

To learn more about the University of Minnesota’s comparison groups, we interviewed University staff about the origins of their comparison groups for reporting on faculty and staff compensation. To evaluate the appropriateness of the groups, we reviewed articles on selecting comparison groups. In addition, we collected data from the National Center for Education Statistics—such as number of majors completed by students, levels of degrees awarded, and disciplines of study—for the University of Minnesota campuses and the comparison institutions it uses.

SELECTING AND USING COMPARISON GROUPS

A comparison group allows a higher education institution to present information about itself in a market context.

Higher education institutions select comparison groups in a variety of ways, ranging from informal discussions to the empirical analysis of criteria deemed important. When comparison groups consist of other higher education institutions, these criteria are generally selected from the eight shown in Table 2.1. Comparison groups could also consist of other entities, such as local and state governments, research facilities, or hospitals.

Institutions may select comparison groups based on the work of an outside party. For example, some higher education institutions compare themselves with institutions that have the same “Carnegie classification.” The Carnegie Foundation for the Advancement of Teaching grouped institutions based on their

Table 2.1: Criteria Commonly Used In Selecting Comparison Institutions

- Institution mission (emphasis on research, teaching, or public service)
- Control (public versus private)
- Program mix (types of programs offered)
- Student characteristics (such as class rank or SAT scores)
- Faculty characteristics (such as awards or membership in elite organizations)
- Finances (for example, overall budget or research dollars)
- Reputation (for example, faculty opinions)
- Miscellaneous

SOURCE: Office of the Legislative Auditor.

overall mission and degree-granting activities.¹ Another organization, TheCenter at the University of Florida, annually identifies the higher education institutions with at least \$20 million of federally funded research expenditures and measures them against nine quantitative measures. Based on the number of measures on which the institutions rank among the top 25 institutions nationally, TheCenter groups the institutions into tiers that could be used as a basis for identifying comparison groups.²

Comparison groups may also be based on jurisdiction. For example, institutions with common political or legal jurisdictions may comprise a group (such as higher education institutions in Minnesota). Institutions with membership in an organization, such as the “Big 10,” or entities within a geographic region, such as large employers in the Twin Cities metropolitan area, also could comprise a group.

Appropriate comparison groups—and the criteria used to select them—may vary depending on the purpose of the comparison and the measures to be compared. Therefore, it is important that the institution has a clear understanding of the purpose of the comparison.³ For example, if an institution is trying to become a top-25 research university, it might compare itself to the top research universities identified by TheCenter at the University of Florida.⁴ Alternatively, if the institution wants to examine its student completions, it might compare itself to higher education institutions with similar admissions policies and student populations. An institution concerned about its building maintenance costs might identify for comparison other entities with buildings that are similar in size, age, and location and that are used for similar purposes.

It is also important, especially if the institution is using comparisons to communicate with an outside audience, that both the method it uses to select the group and the resulting group seem reasonable and credible.⁵ The final selection of an institution’s comparison group will involve some level of judgment, even if the primary method of selection is based on objective statistical analyses, because

The criteria used to select a comparison group—and the resulting group—need to be reasonable and credible.

¹ The Carnegie classifications include: (1) doctorate/research universities (extensive and intensive), (2) master’s colleges and universities (I and II), (3) baccalaureate colleges (liberal arts, general, and baccalaureate/associate), (4) associate’s colleges, (5) specialized institutions (faith-related; medical schools; other health-related schools; engineering and technology; business and management; art, music and design; law; teaching; and other), and (6) tribal schools. Carnegie Foundation for the Advancement of Teaching, *The Carnegie Classification of Higher Education, 2000 Edition* (Menlo Park, CA, 2001), 1-2; http://www.carnegiefoundation.org/classification/downloads/2000_Classification.pdf; accessed August 2, 2003. The Carnegie classifications were different prior to 2000 and the classification system is currently being significantly revised. The new system, which will be ready for use in 2005, is expected to be more flexible, permitting institutions to be grouped in several different ways.

² The nine measures include total research dollars, federal research dollars, endowment assets, private donations, number of faculty who are National Academy members, number of faculty awards, number of doctorates granted, number of postdoctoral appointees, and median SAT score of the student body. TheCenter at the University of Florida, *The Top American Research Universities* (Gainesville, FL, August 2002); <http://thecenter.ufl.edu/research2003.html>; accessed December 9, 2003.

³ Deborah Teeter and Paul Brinkman, “Chapter 6: Peer Institutions,” in *The Primer for Institutional Research*, ed. William Knight (Tallahassee: Association for Institutional Research, 2003), 111.

⁴ TheCenter, *The Top American Research Universities*.

⁵ Teeter and Brinkman, “Peer Institutions,” 111.

quantitative measures may not adequately capture important qualitative information.⁶ For example, the “quality” of education colleges and universities provide and the types of learning they emphasize are not easily quantified. While statistical analyses may be helpful in narrowing the list of entities from which comparison groups should be chosen, “informed judgment” should influence the final selection.⁷ If an institution chooses a comparison group using criteria that are unclear or invalid, attention may be diverted from the substantive purpose underlying the comparison to methodological concerns.

In the final analysis, the process for selecting comparison groups should be flexible, and, to the extent possible, based on quantitative data that are consistent and reliable. In addition, the resulting groups should be relatively stable to allow for comparisons over time. If these criteria are met, comparison groups can—and should—be used by a higher education institution to help policy makers and the general public understand the institution and the issues that it faces relative to other entities.

UNIVERSITY OF MINNESOTA COMPARISON GROUPS

The University of Minnesota uses comparisons for a variety of purposes, such as setting goals, informing legislators during the budget process, and tracking performance on various measures. For example, the University reports its library resources relative to other libraries and compares its six-year graduation rates to other public institutions in the “Big 10.” For the purposes of our study, we were interested in the groups that the University uses to compare its overall faculty and staff compensation to compensation paid by other employers.

The U of M has developed a separate faculty comparison group for each of its campuses.

Faculty

The University uses campus-specific comparison groups to examine the overall level of its faculty compensation relative to compensation at similar higher education institutions. Although the University has a goal of paying faculty at each campus salaries that are, on average, equal to the average of each campus’s comparison group, it does not use the groups to set individual salaries.⁸ To set individual salaries, departments are more interested in the salaries offered by the institutions with which they are specifically competing for faculty and the group of institutions may vary depending on the department. For example, the University’s English department may generally compete with a different set of higher education institutions than the mechanical engineering department does.

⁶ Of course, statistical approaches are not without judgment, as someone must choose the criteria upon which to base the analysis and the emphasis to give each.

⁷ Deborah Teeter and Melodie Christal, “Establishing Peer Groups: A Comparison of Methodologies,” *Planning for Higher Education* 15, no. 2 (1987): 12-13.

⁸ University of Minnesota, *University Plan, Performance, and Accountability Report: 2002-03* (Minneapolis, MN, undated), 6; <http://www.irr.umn.edu/uplan/2002>; accessed June 18, 2003.

The faculty comparison groups for each University of Minnesota campus are shown in Tables 2.2 through 2.5. We assessed the overall appropriateness of these groups based on two criteria that studies indicate are important in explaining faculty salaries: mission and program mix.⁹ To a lesser extent, we also considered institution size, as measured by the number of majors completed by students. We accepted or rejected each group in its entirety, not individual institutions within the groups. Valid comparison groups of “similar” higher education institutions can contain institutions that are “aspirants”—institutions that the home institution aspires to be like. However, comparison groups should not be composed mostly or entirely of aspirants.¹⁰ Overall, we found that:

- **The groups of higher education institutions that the University of Minnesota uses to examine faculty compensation at the Morris and Twin Cities campuses are appropriate, but groups for the Crookston and Duluth campuses are not.**

The University selected the Morris peer group to include 13 small public and private liberal arts colleges. Although most of the institutions are located in Minnesota, the University also included public institutions that provide some geographic diversity.

We think that this group is appropriate for several reasons. First, the institutions appear to share a common mission. The Carnegie Foundation classified 10 of the 13 institutions as “liberal arts baccalaureate” colleges, the same classification as the Morris campus. Two additional institutions were classified as “general

**The 13-
institution
comparison
group for
U of M-Morris
is reasonable.**

Table 2.2: University of Minnesota-Morris Comparison Institutions

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|---|--|
| • <i>Carleton College</i> (MN) | • Ramapo College (NJ) |
| • <i>College of St. Benedict</i> (MN) | • <i>St. John's University</i> (MN) |
| • <i>Concordia College, Moorhead</i> (MN) | • St. Mary's College of Maryland |
| • <i>Gustavus Adolphus College</i> (MN) | • <i>St. Olaf College</i> (MN) |
| • <i>Hamline University</i> (MN) | • University of Maine-Farmington |
| • <i>Macalester College</i> (MN) | • University of North Carolina-Asheville |
| • Mary Washington College (VA) | |

NOTE: Italicized institutions are private.

SOURCE: University of Minnesota, *University Plan, Performance, and Accountability Report: 2002-03* (Minneapolis, MN, undated), 37; <http://www.irr.umn.edu/uplan/2002>; accessed June 18, 2003.

⁹ As we explain in Chapter 3, faculty salaries tend to increase as institutional commitment to graduate education and research increases (mission) and faculty salaries vary considerably by discipline (program mix). Another important criterion is whether an institution is private or public (control). Private higher education institutions tend to have higher faculty salaries than public institutions. We did not use control as a criterion in evaluating the institutions the University uses because institutions that are otherwise similar to the University may be public or private and the University competes with both types.

¹⁰ Some higher education institutions create aspirant groups for comparisons, but aspirant groups should be explicitly identified as such.

baccalaureate” colleges.¹¹ The University included all of the “liberal arts baccalaureate” colleges in Minnesota in Morris’s group. Second, based on the types of subjects in which majors were awarded, the institutions offered a similar mix of programs. Third, although students at almost all of the institutions completed more majors than students at Morris, the institutions were nevertheless “small,” with students at each completing fewer than 900 majors in 2000-01.¹²

The University based the comparison group for the Twin Cities campus on data collected by the National Research Council in 1993. The data measured the “reputation” of more than 3,500 individual programs at 274 research and doctoral institutions based on opinion surveys of faculty nationwide. The University collapsed each institution’s individual program rankings into one composite ranking and selected for its comparison group the institutions (besides the Twin Cities campus) that were ranked among the top 30.¹³

Table 2.3: University of Minnesota-Twin Cities Comparison Institutions

The U of M-Twin Cities comparison group consists of 29 research universities.

- *Brown University* (RI)
- *California Institute of Technology*
- *Carnegie Mellon University* (PA)
- *Columbia University* (NY)
- *Cornell University-Endowed* (NY)
- *Duke University* (NC)
- *Harvard University* (MA)
- *Johns Hopkins University* (MD)
- *Massachusetts Institute of Technology*
- *New York University*
- *Northwestern University* (IL)
- *Pennsylvania State University-Main Campus*
- *Princeton University* (NJ)
- *Purdue University-Main Campus* (IN)
- *Stanford University* (CA)
- *State University of New York at Stony Brook*
- *University of California-Berkeley*
- *University of California-Los Angeles*
- *University of California-San Diego*
- *University of California-Santa Barbara*
- *University of Chicago* (IL)
- *University of Illinois at Urbana-Champaign*
- *University of Michigan-Ann Arbor*
- *University of North Carolina-Chapel Hill*
- *University of Pennsylvania*
- *University of Texas-Austin*
- *University of Washington*
- *University of Wisconsin-Madison*
- *Yale University* (CT)

NOTE: Italicized institutions are private.

SOURCE: University of Minnesota, *University Plan, Performance, and Accountability Report: 2002-03* (Minneapolis, MN, undated), 34; <http://www.irr.umn.edu/uplan/2002>; accessed June 18, 2003.

¹¹ Both “liberal arts” and “general” baccalaureate colleges emphasize baccalaureate programs. Liberal arts baccalaureate colleges award at least half of their degrees in liberal arts fields whereas general baccalaureate colleges award less than half of their degrees in liberal arts fields. Carnegie Foundation, *The Carnegie Classification*, 1-2.

¹² National Center for Education Statistics, 2001 Integrated Postsecondary Education Data System (IPEDS) data; <http://nces.ed.gov/ipeds/pas/selectDownloadTable.asp>; accessed August 15, 2003.

¹³ Overall, the Twin Cities campus ranked 20th out of the 30 research-doctoral institutions. University of Minnesota, *University Plan*, 28.

Although we have some concerns about how the Twin Cities comparison group was developed—relying heavily on program reputation to the exclusion of more objective institutional data—we think that the resulting group is appropriate for several reasons. First, all of the institutions in the comparison group share the same Carnegie classification: “doctoral extensive.”¹⁴ Second, other data show that the Twin Cities campus successfully competes with these universities for research funds and is similar to them in its level of research expenditures. For example, in 2002, the University of Minnesota ranked 18th among higher education institutions in total National Institutes of Health dollars awarded; 15 of the Twin Cities campus comparison institutions ranked in the top 30.¹⁵ Third, in 2002, an independent organization, TheCenter at the University of Florida, grouped the Twin Cities campus and 21 of its comparison institutions among the nation’s “Top American Research Universities” when it ranked research universities on nine quantitative measures.¹⁶

As noted earlier, we were not satisfied with the comparison groups for the Crookston and Duluth campuses. For the Crookston campus, the University attempted to locate public campuses that offered polytechnic degrees and would therefore have similar types of faculty. Although these criteria (control and program mix) are acceptable, we have several concerns about the resulting comparison group. First, as indicated by their Carnegie classification, four of the five institutions award master’s degrees, which the Crookston campus does not. Second, the Crookston campus appears to emphasize different subjects than the other institutions; although at most of the institutions (including Crookston) business-related programs were among the top degree-granting programs in

Most of the universities in the U of M-Crookston comparison group award master's degrees, but the Crookston campus does not.

Table 2.4: University of Minnesota-Crookston Comparison Institutions

- Ferris State University (MI)
- Pittsburg State University (KS)
- State University of New York College of Technology at Alfred
- University of Southern Colorado¹
- University of Wisconsin-Stout

NOTE: At one time, the University of Minnesota included the Worcester Institute in this group but no longer does due to data availability.

¹The University of Southern Colorado has been renamed Colorado State University-Pueblo.

SOURCE: University of Minnesota, *University Plan, Performance, and Accountability Report: 2002-03* (Minneapolis, MN, undated), 36; <http://www.irr.umn.edu/uplan/2002>; accessed June 18, 2003.

¹⁴ “Doctoral extensive” means that, although they offer a wide range of baccalaureate programs, the institutions are committed to graduate education through the doctorate—awarding at least five doctoral degrees per year in at least 15 disciplines. Carnegie Foundation, *The Carnegie Classification*, 1-2.

¹⁵ “NIH Awards to all Institutions by Rank: Fiscal Year 2002”; <http://grant2nih.gov/grant/award/trends/rnk02all1to100.htm>; accessed July 31, 2003. The Twin Cities campus ranked 12th in the nation in terms of total research expenditures in 2000; 17 of the 30 highest spending institutions are in the Twin Cities campus comparison group. TheCenter, *The Top American Research Universities*, 116.

¹⁶ See page 17 for a discussion of TheCenter’s process.

2000-01, Crookston also awarded many degrees in programs related to agriculture and natural resources, which the other institutions did not. Third, the Crookston campus is significantly smaller than the other institutions in the group. In 2000-01, students at the Crookston campus completed 211 majors whereas students at the other institutions completed from 762 to 2,207 majors.¹⁷

The major criterion the Duluth campus used to establish its comparison group was discipline or program mix. A second criterion was institutions that offered master's degrees in a state that also had a "Research I" institution.¹⁸ Our main concern with the Duluth comparison group is that most of the 16 institutions in it are more heavily focused on graduate education than the Duluth campus is. Whereas the Carnegie Foundation classified the University of Minnesota-Duluth as a master's institution, only 3 of the institutions in the comparison group were similarly classified; the other 13 were classified as doctoral institutions. Of these 13, 6 were further classified as "extensive" doctoral/research institutions, the same classification as the Twin Cities campus. Although the University of Minnesota-Duluth employs faculty who teach graduate students and are involved with some of the University's doctoral programs, it does not award doctoral degrees.¹⁹

Although U of M-Duluth is considered a master's institution, most of the universities in its comparison group are doctoral institutions.

Table 2.5: University of Minnesota-Duluth Comparison Institutions

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|------------------------------------|--|
| • Cleveland State University (OH) | • University of Massachusetts-Dartmouth |
| • Florida Atlantic University | • University of Nevada-Las Vegas |
| • <i>Marquette University</i> (WI) | • University of Nevada-Reno |
| • Oakland University (MI) | • University of New Hampshire |
| • Old Dominion University (VA) | • University of North Carolina-Charlotte |
| • University of Central Florida | • University of Wisconsin-Milwaukee |
| • University of Colorado-Denver | • <i>Villanova University</i> (PA) |
| • University of Maine-Orono | |

NOTE: Italicized institutions are private.

SOURCE: University of Minnesota, *University Plan, Performance, and Accountability Report: 2002-03* (Minneapolis, MN, undated), 38; <http://www.irr.umn.edu/uplan/2002>; accessed June 18, 2003.

¹⁷ National Center for Education Statistics, 2001 IPEDS data.

¹⁸ "Research I" was a 1994 Carnegie classification that included institutions that offered "a full range of baccalaureate programs, [were] committed to graduate education through the doctorate degree, and [gave] high priority to research." This was measured by number of doctoral degrees awarded annually (at least 50) and annual federal support of at least \$40 million. Carnegie Foundation, *The Carnegie Classification*, 12.

¹⁹ According to the University, there were 21 doctoral students on the Duluth campus in 2004. When they have completed their degree requirements, their degrees will be awarded through the Twin Cities campus. Peter Zetterberg, "Comments on Summary – Chapter 2" (January 6, 2004), electronic mail attachment to jo.vos@state.mn.us and carrie.meyerhoff@state.mn.us.

RECOMMENDATION

The University of Minnesota should develop comparison groups for the Crookston and Duluth campuses that include higher education institutions that more closely resemble the campuses than the institutions in the current comparison groups do.

We think that the University provides useful information to policy makers and the public when it compares overall faculty salaries and compensation at the University of Minnesota with other institutions. However, we think the information would be more useful if the University's comparison institutions for the Duluth and Crookston campuses more closely resembled those campuses. If the University develops new comparison groups for the Duluth and Crookston campuses, it should be explicit about the methods and criteria it uses to identify "similar" institutions. In addition, the University should periodically review the comparison institutions in all of its groups to help insure that they generally continue to be "similar."

Staff

We also looked at comparison groups that the University uses for academic staff and non-academic employees. We found that:

- **The University of Minnesota has not established comparison groups for examining its compensation for academic staff relative to other employers.**

As noted earlier, comparison groups serve a variety of useful purposes, including public information. Given the rapid growth in the overall number and percentage of academic staff at the University in recent years, we think that the University should provide more information on overall salaries for these staff.

RECOMMENDATION

The University of Minnesota should develop an appropriate comparison group or groups for academic professional and administrative staff at each campus so that periodically it can examine their salaries and benefits relative to those paid by other employers.

We recognize that it may be more difficult to develop a comparison group or groups for academic staff as compared with faculty, due largely to the wide variety of staff positions and the extent to which other employers have the same types of positions. However, as we discuss in Chapter 4, the University participates in various salary surveys that focus on the most commonly used staff positions. These surveys could be a useful starting point for the University.

Developing comparison groups for academic staff is complicated by the variety of staff positions that different institutions use.

The University of Minnesota has established a comparison group to report on the salaries and benefits for non-academic employees (employees governed by civil service or collective bargaining agreements). Unlike the comparison groups used for faculty, however, the University does not choose specific employers to include in its comparison group for non-academic employees. Rather, the University generally makes comparisons using the results of salary surveys in which it and public and private employers participate. In addition, the University makes comparisons for specific positions rather than for groups of positions with similar responsibilities.

We found that:

- **The University of Minnesota has an appropriate comparison group—Twin Cities metropolitan area employers—to use in examining the overall compensation for non-academic employees at all campuses.**

Twin Cities area employers comprise a good comparison group for non-academic employees partly because most of these employees work at the U of M-Twin Cities.

We found this to be the appropriate comparison group for all campuses for two major reasons. First, the Twin Cities campus employs the majority of the University's non-academic staff and workforce issues in the Twin Cities metropolitan area drive the system-wide collective bargaining agreements and civil service arrangements into which the University enters. Second, Minnesota statutes require that salaries for non-academic employees be comparable to salaries for similar classified staff in Minnesota state government, and state government largely uses Twin Cities metropolitan area salaries to gauge its salaries throughout the state.²⁰

We noted that:

- **The University of Minnesota does not directly compare the overall salaries of its non-academic employees with the salaries of similar employees in state government.**

Although some of the salary surveys that the University uses include salary data from the State of Minnesota, these data are not always reported separately. The University does look at State of Minnesota salary ranges for some of its collectively bargained positions, mostly clerical ones, to prepare for contract negotiations, but these data cover a limited range of positions and do not include average salary information.

RECOMMENDATION

For non-academic employees, the University of Minnesota should use the State of Minnesota as a separate comparison group.

We recommend this because statutes require that salaries for non-academic employees at the University be comparable to salaries for classified State of Minnesota employees. However, we recognize that such comparisons will not give a complete picture of University salaries relative to State salaries. First,

²⁰ *Minn. Stat.* (2003), §137.02, subd. 4.

positions that the University classifies as academic would not be included in comparisons even though some of the positions may have responsibilities similar to those of non-academic positions. Second, managerial, supervisory, and professional positions that the University considers academic would not be included even though some have responsibilities similar to those of classified positions in State service. Therefore, while the comparisons would reflect similar non-academic and classified positions, many positions that could be compared would not be. Nevertheless, we think that using the State as a comparison group would provide useful information to state and University policy makers.

In the following chapters, we provide information on salaries and benefits of faculty and staff at the University of Minnesota, following the recommendations we made in this chapter. In Chapter 3, we create alternative comparison groups for the Crookston and Duluth campuses and make salary and compensation comparisons for those campuses, as well as for the Morris and Twin Cities campuses. In Chapter 4, we examine salaries of academic and non-academic staff at the University of Minnesota relative to salaries paid by various comparison groups of employers.