

and cleanup of databases, and attribution of publications to institutions and broad subject fields. We have been working hard to study all the above-mentioned problems and to improve our ranking.

In addition to the broad subject field ranking, we are surveying the possibilities of providing more diversified ranking lists, particularly rankings based on different types of universities with different functions, disciplinary characteristics, history, size, and budget, as well as other topics. Furthermore, we have been doing theoretical research on ranking in general, seeking to contribute to the understanding of ranking. We have also been actively participating in international societies related to ranking such as the International Ranking Expert Group—International Observatory on Academic Ranking and Excellence (<http://www.ireg-observatory.org>).

CONCLUSION

Any ranking is controversial, and no ranking is absolutely objective. Nevertheless, university rankings have become popular in almost all major countries in the world. Whether universities and other stakeholders agree, ranking systems clearly are here to stay. The key issue then becomes how to improve ranking systems and how to use their results properly. Ranking methodologies should always be examined carefully before looking at any ranking lists, and ranking results should be used with caution.

Author's note: For additional information about the Shanghai higher education rankings, see <http://www.arwu.org>.



The Intricacies of Academic Remuneration

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How can we comprehend academic salaries? Does the sum paid monthly to a professor constitute his or her full remuneration? Our research on international comparisons of academic salaries found major variations among countries. Differences exist as well within countries—by rank, discipline, and other factors. In some countries, salaries are determined by an individual's age, length of employment, rank, and often by civil service rules—without much cognizance of productivi-

ty or academic accomplishment. Indeed, in much of the world, academics are paid on the basis of their length of service and rank alone. In other countries, particularly in some of the newer private universities, salary structures are far from transparent.

The full-time professoriate—probably a global minority of the academic profession overall, since in many countries part-timers dominate the academic system—is divided by role, function, type of institution, and discipline. As interpreted by sociologist Burton Clark, the academic profession is divided by “small worlds, different worlds.” Academics are also divided by salaries. In many countries, faculty in private universities earn more than their counterparts in public institutions. Our research shows significant variations by rank. Not surprisingly, in our study of 15 countries, senior professors earned on average significantly more than junior staff.

PATTERNS

Among most full-time academic staff in North America, Western Europe, much of Asia, and Australia, the salary paid by the university is the bulk of the total income earned. Relatively little extra income is earned through consulting, part-time teaching, or other sources. The salary, particularly if there are two income earners in the family, provides for an adequate if not lavish middle-class lifestyle commensurate with national standards. As our research shows, while academic salaries vary considerably, in the regions mentioned here, full-time academics can survive on their university incomes.

This is not the case in Latin America, most of Africa, or some of the countries of central and eastern Europe and the former Soviet Union. In these countries, full-time academic salaries generally do not provide sufficient income, and academics must earn additional money from other sources. Some hold more than one academic position, as the growing private higher education sector in many countries is staffed largely by “moonlighting” professors from the inadequately paid public universities. Others do consulting, own businesses, and a significant number do private tutoring or other activities that border on corrupt academic practices.

SOME ACADEMICS ARE LESS EQUAL THAN OTHERS

In many countries, academic remuneration from the university is not equivalent to the base salary from the university. There are many reasons for this. Salaries are often nationally stipulated by government authorities or through union contracts or other arrangements. Universities may be unable to differentiate among disciplines, pay anything close to “market rates” to professors who are in high demand in the labor market, or reward highly productive scholars. Faculty members living in high-cost urban areas may earn the same as professors in lower-cost regions.

Most faculty members serve as teachers and possess few if any research expectations or accomplishments. In many parts of the world, particularly in developing countries, a large num-

ber of university teachers hold a bachelor's or master's degree and not a doctorate. For this large proportion of the academic profession, the base salary is the full income provided by the employing university, and in some countries additional income is needed. In others, the base salary is sufficient if not particularly attractive.

FOR OTHER PROFESSORS, MORE IS REQUIRED

For a relatively small minority of the academic profession, the standard salaries offered by most universities are insufficient to keep them in academe or, in some cases, even within their

The full-time professoriate—probably a global minority of the academic profession overall, since in many countries part-timers dominate the academic system—is divided by role, function, type of institution, and discipline.

home country. These academics are research-active faculty members found in all fields but larger numbers in the sciences than the humanities, mostly located at top universities, and in “hot” fields such as management, information technology, or biotechnology, where salaries outside the universities are very high. These academic “stars” form a modest proportion of the academic profession in any country, ranging possibly from 2 to 10 percent of the total professoriate. Indeed, without this group little research would be undertaken and universities would have no chance to succeed in the international rankings.

“Salary progression”—the difference in salary between junior and senior professors—in general appears modest compared to the situation in the professions outside academe. According to our research, for most of the 15 countries in the study, salaries seldom doubled between entry level and senior ranks. The major industrialized countries (including Germany, France, Canada, the United States, and the United Kingdom) stood at the bottom, in terms of variations between junior and senior ranks, and the developing countries (such as China, South Africa, Argentina, and others) at the top. India ranks poorly on both progression and on basic salary. The lack of possibilities for improved salaries is a problem for the profession in general, but it is particularly damaging for the most productive academics. The latter are the most likely to leave academe or to go to countries with higher salaries.

How are these academic highflyers paid in the bureaucratic and rather flat academic salary environment of academe? For a start, in a few countries and frequently in private higher education, salary structures are relatively flexible, and it is possible to pay top professors significantly higher direct salaries than the rank and file. American private universities are the most dramatic examples, where highly productive professors, those in such fields such as law or management, and scholars hold-

ing endowed chairs may obtain salaries possibly double or more than other senior academics earn. In these institutions and in some others in the United States and elsewhere, universities are able to compensate professors based in part on market-rate salaries for fields and individuals in high demand.

Research-active professors often teach less—providing them more time to focus on research and thus compensating them with time instead of salary. It is common for professors to be directly paid by their universities for research production. In some places, professors are paid by their university or a government agency for each article they publish in a prestigious journal. Where professors are able to obtain research grants from external sources they are often paid a part of the grant income. Research-active faculty in some countries can be compensated by government agencies set up to boost incomes, often as members of organizations of researchers. The Mexican Sistema Nacional de Investigadores is an example.

While these and other arrangements create inequalities in compensation among professors and universities within an academic system, they are necessary to reward research-active faculty.

SALARY IS NOT ALWAYS REMUNERATION

For many reasons, the incomes earned by academics do not always coincide with the salary provided by the university. Universities sometimes try to boost compensation to meet high urban living costs and keep professors from leaving the institution for higher paying jobs elsewhere in the economy. Some institutions, as in the case of Makerere University in Uganda, have established extra academic programs for students to let professors earn extra income by teaching additional high-fee-paying students. Many academics earn extra money on their own by consulting, holding appointments in more than one university, or other schemes.

How are these academic highflyers paid in the bureaucratic and rather flat academic salary environment of academe?

It is often difficult to measure nonsalary income. Universities have few ways of tracking income sources. Individual academics, particularly those with creative ways of boosting their incomes, have little incentive to report extra income. Nonsalary income provides, in the cases of research-active professors, a necessary way of rewarding highly productive faculty. Other extra-salary compensation supplements unrealistically low salaries. However, certain forms of such compensation may lead to corruption, unfair advantages, or other problems. Salaries frequently are insufficient to attract or retain the best scholars and scientists, and attractive remuneration is absolutely necessary to reward productive academics in a complex and globalized university. ■