

Economics, University Budgets, and Astronomers

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At our local town hall discussion yesterday, concerns about the state of our profession revolved around the traditional issues: the availability of permanent (some said “real”) jobs; the need for diversity; the personal sacrifices demanded by multiple postdoctoral positions; building and maintaining a workforce to support astronomical activity. These issues certainly need discussion in the survey.

However, we need to be careful not to focus exclusively on the traditional issues when there is a new threat to our profession. The normal expectation would be that impending retirements would open up positions to allow promotion from postdoctoral positions and renewal of our field. The demographics of many astronomy departments suggest that a large number of positions will become available soon. However, under extreme budgetary pressure, many universities are looking at more “efficient” teaching models. One example would be a large-scale switch from the current prototypical research/teaching dual appointments to hiring into purely teaching positions, with the expectation that those faculty would assume far larger teaching loads. Another is to increase class size dramatically, perhaps to 500 or more. In either case, the goal is to meet budget challenges by not filling open faculty positions.

Such measures are extremely threatening both to the quality of the overall educational experience and to the field of astronomy. With regard to the first area, the contemplated severe reduction in faculties will reduce experimentation and innovation in teaching methods. Extremely large classes will make it impossible to apply many educational approaches that have been proven to be very effective. The lack of contact with faculty actively engaged in scientific research will depersonalize and weaken the students’ view of science and its value to society.

These issues are general, but there is a specific threat to astronomy. Because of the widespread appreciation of astronomy by the general public, general astronomy courses are very popular as ways to achieve an introduction to scientific methods, often under the rubric of “general education” requirements. The faculty sizes and funding to astronomy departments are in part justified by the popularity of these courses and the resulting large demand for teaching them. Our profession will therefore bear a disproportionate share of the impact of the ongoing budget cuts to universities.

The decadal survey needs to take notice of this situation and comment on the consequences for the technical literacy of our population and the potential loss of our contributions to enhancing it.