

Departmental Demographics – a Case Study at the University of Tennessee, Knoxville

Population ecology deals with the dynamics and structure of a population of organisms and utilizes life-history data on inputs (births, immigration) and outputs (deaths, emigration) to analyze long-term behavior as well as make projections about how changes in the life history parameters would affect the population. The typical structure considered is age for human demography. In a quick literature search, I have not found any cases in which university faculty have been analyzed at department level using a life history approach, though there certainly are many cases in which institutions have been concerned about the age-structure of their faculty and considered implications of hiring practices in this regard.

This study is motivated by remarks made to the UTK Faculty Senate by members of the UT Board of Trustees regarding faculty effectiveness and hiring practices. In particular, concerns were raised that very few faculty receive “low” ratings in annual evaluations, and that very few faculty are not retained, particularly after tenure is awarded. Several faculty pointed out that faculty hiring is generally tremendously competitive, with many highly-qualified candidates for each position. Thus, the level of expertise for faculty is perhaps quite high relative to those hired in many positions in industry and government.

This analysis is motivated by the potential utility of having some data on faculty transitions. Though data on a single department may not be illustrative of the entire university, it doesn't appear feasible to obtain data on the history of individual faculty hiring. The Senate Budget and Planning Committee has done several reports on faculty numbers over time and has noted that for UTK as a whole tenured and tenure track faculty numbers have remained relatively static over the past several decades, while there have been significant increases in non-tenure track faculty.

The Department of Ecology and Evolutionary Biology (EEB) was formed in 1995 with an initial group of 20 professorial faculty, enhanced in 1997 by the move of 4 faculty into the unit from Mathematics and by 6 faculty in 2005 when the Botany Department was closed. The number of faculty has varied over the Department's existence from a low of 18 to the current 29, the largest it has reached. These numbers and those used below include only those with base appointments in EEB. UTK does not maintain a database on the circumstances under which faculty leave the institution prior to retirement, but in the case of EEB we have a complete historical record due to the knowledge base of several senior faculty who have been present since its start. Based on this, we have compiled the following basic information on transitions out of the Department.

Since its start as a Department in 1995:

- (i) 32 total individuals have left the department
- (ii) 14 of these have retired
- (iii) 18 have moved to other positions

Of these 18:

(a) 9 moved prior to tenure

2 of these left due to non-renewal (one moved to Portland State U.,
the other to a non-US university)

4 moved to non-US (mostly European) universities

3 moved to US institutions (Hawaii, Michigan, Yale)

(b) 9 moved after tenure

2 moved to a non-US university (in Europe)

2 moved to non-academic positions (USGS, ORNL)

5 moved to U. Virginia, U. Washington, Columbia, Stony Brook, William and Mary

For most if not all of the individuals who left of their own volition, both those who left prior to tenure and those who left after tenure, there were attempts to try to keep them at UT (e.g. counter-offers).

As these data illustrate, for at least one unit there has been very significant losses of faculty due to movement to other universities, slightly more the losses due to retirement. The fraction of these losses due to non-retention are small (2 out of a total of 18 who have left – or 11%, or 6% of the total transitions of faculty out of the unit). There has been no consistent reason as to why individuals left, though anecdotally we know that some left for family reasons, some to return to their home state, and some to move to a more prestigious institution with supposedly greater resources.

It is not at all clear whether a high loss rate of faculty should be viewed as a positive or a negative in characterizing the strength of a particular unit. EEB is one of the highest rated units at UTK - it is rated #21 in the US among all institutions (public and private) with EEB Departments. The faculty who have left for other universities have, again anecdotally, continued to have strong academic careers (those who left UTK pre-tenure and stayed in the US have all been tenured at their new institution).

Perhaps the most important message from this analysis relative to the Board of Trustees concerns is that at least one unit at UTK has a history of hiring faculty who are in demand elsewhere, and the unit had significant losses to other highly-regarded institutions. Also, the unit has used non-retention to remove a very limited number of faculty.