

Review of: *University Funding Systems: Impact on Research and Teaching*, by John Beath, Joanna Poyago-Theotky, and David Ulph
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This is a nice paper exploring an important issue for higher education systems, namely how institutions - given the constraints and incentives they face - make choices between teaching and research in their overall mix of activities.

The model developed to explore this question has the merit of simplicity and tractability, enabling the authors to find strong, clear results in a paper that remains easy to understand. Of course, one always wants to know how robust the results would be under different model specifications, since to be convincing for policy analysis or advice one always needs to know more than the bare bones analysis offered in the paper. However, it seems to me that the paper offers a powerful and interesting starting point for what could easily be a whole series of papers on the economics of higher education.

Naturally enough, other commentators on this paper have already highlighted some of the key assumptions, notably the focus on a single institution. There are actually lots of universities in the model, but there is no competition between them in any real sense and all the analysis is only about one university. Universities are distinguished by the parameter, ω , which determines the relative weight placed on research as against teaching. This parameter is exogenous, making the claim in the abstract that 'university culture' is an endogenous feature of the analysis not completely correct.

In a later paper, it would actually be interesting to see a more fully worked out model of a university system, rather than an individual institution, in which we might either hope to learn something about what factors lie behind the parameter, ω , or speculate about its likely distribution across the university system (either a discrete distribution for a finite set of universities, or perhaps a continuum of universities) and hence estimate the proportions of institutions that are of the various types examined in the model in a system-wide equilibrium. Such a model could be even more compelling if some aspects of inter-institutional competition could be incorporated too, such as competition for research funding and/or students. This would make the model technically a fair bit harder, but it ought to be manageable with a sufficiently cunning model design. Without too much difficulty I suspect one could also compute various system properties for a range of parameter values, which would aid general understanding of their meaning.

Meanwhile, let me return to the basic story set out in the present paper. Figure 2 (p12) is the key diagram that shows why/how we can often get two types of university, the research elite, and the rest that focus far more on teaching. No institutions are to be found in the open interval $(\underline{q}^0, \bar{q}^0)$, and the diagram makes that interval look quite wide. However, one could easily imagine parameters (and check by direct calculation) where even with the present model specification, the interval would be very narrow; and if the institutional objective were more general - convex to the origin rather than linear - then it would be even narrower. Hence in practice that sharp result obtained in the paper might turn out to be rather less dramatic.

As far as I can see, the formal analysis in the paper appears to be technically correct, a good base for future work.