

**RAND**

*A Framework for Linking Resources to  
Mission in Higher Education*

*Roger Benjamin, Stephen Carroll*

DRU-1623-IET

*January 1997*

*Prepared for the California Education Roundtable and  
the Council for Aid to Education*

***Institute on Education and Training***

---

The RAND unrestricted draft series is intended to transmit preliminary results of RAND research. Unrestricted drafts have not been formally reviewed or edited. The views and conclusions expressed are tentative. A draft should not be cited or quoted without permission of the author, unless the preface grants such permission.

*RAND is a nonprofit institution that seeks to improve public policy through research and analysis.  
RAND's publications and drafts do not necessarily reflect the opinions or policies of its research sponsors.*



One of higher education's most fundamental goals is to provide access to postsecondary education and training for all Americans who can benefit from it. The challenge now before higher education decision makers is to identify a set of policies that will allow the sector to achieve this goal in the face of a rapidly changing environment. Specifically, growing demands on federal, state, and local governments make it impossible for public support to higher education to increase fast enough to keep pace with rapid increases in the number of students to be served. At the same time, there are growing concerns about the quality of undergraduate education and a likely decline in federal support for research. How can higher education meet the access challenge while retaining, much less improving, the quality of both education and research?

### ASSESSING TRADEOFFS

We have designed a framework for identifying the fundamental structuring questions that must be addressed in devising an answer to that basic question and for structuring the debate on the relative merits of the options. Figure 1 identifies the tradeoffs that must be considered.

Federal, state, and local governments provide funds to the nation's higher education sector. Colleges and universities also receive funds from students and their families through tuition and fees. The funds are used to purchase/hire the various resources—faculty, materials, facilities, etc.—needed to produce educational and other outcomes. The resources obtained by the sector and the ways in which they are used determine the number of students that can be served and the quality of the education they receive. We use the term *productivity* as shorthand for the ways in which the sector employs resources to produce educational and other outcomes.

Figure 1 emphasizes the relationships between financing and productivity alternatives and the tradeoffs between quality and access concerns. That is, given a financing system—the funds governments provide to higher education and the tuition and fees students are charged—the sector's productivity determines how many students can be served and at what level of quality. Given the funding arrangements and the sector's productivities, improvements in quality can come only at the expense of access, and vice versa.

Suppose the population is growing, so more students must be served to provide the same relative level of access. Also suppose that governmental funding cannot be increased in proportion to increases in the demand for access. In this situation, the higher education sector has four basic alternatives: increase tuition (which adversely affects the access of low-income populations), improve productivity, sacrifice quality, or limit access. The sector will necessarily adopt some

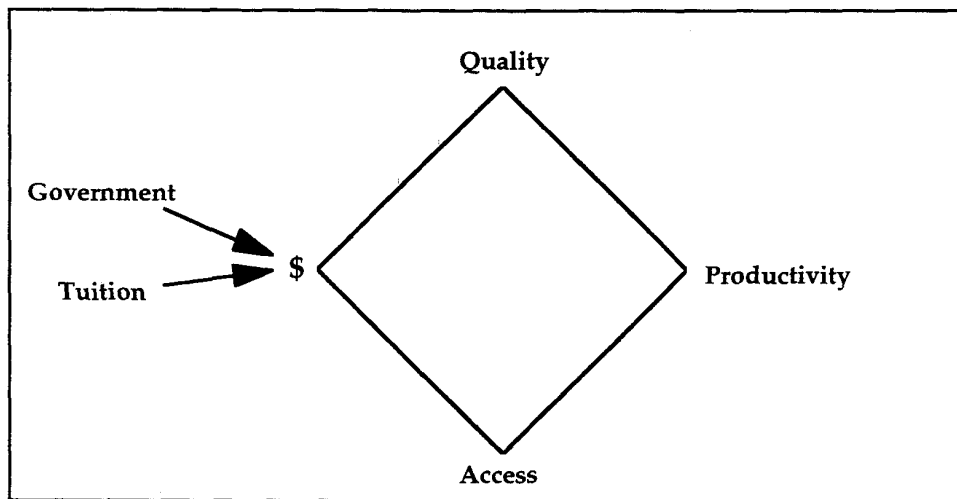


Figure 1—Tradeoff Space for Policy Decisions in Higher Education

combination of these strategies, either by deliberate choice or as an inadvertent consequence of decisions made on other grounds.

Generally, productivity improvements determine the extent to which quality and access can be maintained when demands are increasing faster than government contributions to higher education's support. There are limits on how rapidly productivity can be improved. These limits, in turn, constrain higher education's ability to respond to growing demands with limited resources.

Figure 1 does not imply any particular response to funding limitations. Rather, it emphasizes that if funding fails to grow rapidly enough to keep pace with demographic changes, something has to give: the sector must develop ways to improve productivity or must accept access deficits; otherwise, the quality of the education and research it provides to society will decrease.

The ways in which state funding is provided influence how the sector responds to the productivity, quality, and access tradeoffs. Figure 2 lays out factors that must be addressed in assessing these tradeoffs. The basic teaching and research activities of higher learning are set out against the potential funding strategies available. In principle, institutions can choose to use any combination of these funding strategies to support any one of the listed activities. For example, a state could provide block grants to its public university system for undergraduate, degree-credit education in an amount designed to cover a certain percentage of the cost of providing that education, at the same time setting that system's tuition levels such that students and their parents provide the remainder of the funding needed to achieve the desired quality level, given the system's productivity. Simultaneously, the state could fund the system's remedial activities on a per capita basis, offering a specific amount for each student enrolled in a remedial course.

The impact that a specified level of state support for higher education has on access and quality may differ depending on the funding strategy. In fact, different percentages may be determined for each funding column to make up the total commitment to undergraduate education. For example, students and their families might be asked to provide 30 percent of the cost of an undergraduate degree, while vouchers (i.e., student financial aid) for individual tuition provide 30 percent and block grants provide the other 40 percent. Each activity listed can be subjected to an analysis involving alternative-percentage funding scenarios, each of which can be compared to the others to determine its impact on access and quality.

The dollars available, most of which come from state government and students and their families who pay tuition, are one major factor in determining both the level of access to postsecondary education and the quality of education provided. The remaining factor is productivity. Adjustments in dollars affect quality and access; changes in productivity also affect quality and access. There is no way out of Figure 1's box: the need to make tradeoffs must be made clear to policymakers as well as higher education leaders and faculty.

## QUESTIONS FOR RESTRUCTURING DECISIONS

With these parameters in mind, decision makers should consider the following questions about access and mission differentiation when restructuring.

### I. Access

- Given projections of increased demand for higher education, can the sector continue to maintain historic levels of access?
- There are three possible options in response to projected enrollment demands and limited public funding:
  1. Take more students within existing resource levels, permitting the quality of education and research programs to decline as required.
  2. Take more students, increasing state funding or improving productivity in order to maintain the quality of the education and research programs.

Funding Strategy	Undergraduate Credits/Degree	Graduate Education	Professional Education	Research	Workforce Preparation and Transition to Work	Adult Education	Remedial Education	ESL, Literacy, Citizenship
Block Grant								
Capitation Grant								
Vouchers (Financial Aid)								
Private Sector (Voluntary Giving), University-Industry Partnerships								
Students and Families								
Productivity								
Yield Access Quality								

Figure 2—Proposed Framework for Identifying Alternative Funding Strategies

- Are adequate funding resources available?
- i. Increased funding for education improves human capital base and may pay for itself.
- ii. Increased student fees.
  - o Should national policy move toward greater shared responsibility on the part of students for the cost of education?
  - o Should higher education develop a balanced revenue policy typ- ing fees and public support to enrollment growth and changes in personal income?
- Can increased enrollment be supported by productivity increases?<sup>1</sup>
- Is it possible to increase productivity in the teaching program without decreasing it in the research program?
- 3. Decrease the proportion of high school graduates eligible for admission into four-year colleges and universities.
  - Can increased demand be accommodated by redirecting lower-division undergraduate students to community colleges?
    - i. What is the impact on the quality and ethnicity of the students who will come to the community colleges?
    - ii. Would the change require limitations on access to community college systems?
  - Expansion of private institutions may be a way to accommodate enrollment growth.
    - i. Can and will the independent colleges expand to meet some of the enrollment growth?
    - ii. Is it desirable to design a financial aid model that gives students a choice between public and private institutions?

## II. Mission differentiation

- The university is the principal research institution. Its unique mission focus is research and education programs leading to Ph.D. and other professional degrees.
- The four-year college is dedicated to excellence in teaching. The public four-year college is the publicly funded gateway into participation in the educated workforce.
- The community colleges offer a level of postsecondary education and training (academic and vocational) to every high school graduate and others who can benefit.
  - 1. Is the dual focus—on academic and vocational education for high school graduates and continuing education for adults—the right mix for the commu- nity colleges?

---

<sup>1</sup>See Susan Gates and Ann Stone, *Understanding Productivity in Higher Education*, DRU-1596-IET, RAND, Santa Monica, CA, February 1997; and David McArthur and Matthew Lewis, *Untangling the Web: Applications of the Internet and Other Information Technologies to Higher Education*, DRU-1401-IET, RAND, Santa Monica, CA, January 1997.

2. Should the community colleges be available to any person for any range of courses? Or should they enroll only students pursuing structured degree or certificate programs?
- Is a state well served by a blurring of the distinctive missions of its universities and colleges?
  - Should the university focus more on graduate education while the state college expands to provide the access needed to meet the undergraduate enrollment demands of the future?
  - Should the growth of joint Ph.D. programs be encouraged? Or is the joint production of such degrees devaluing the Ph.D.?

