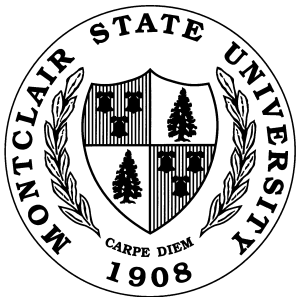

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Economic Criteria
For
Higher Education Finance

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Abstract:

Economic growth depends as much on factor productivity as it does on increases in the stock of resources. Investment in education is one key to improvement in total factor productivity. The choice of an optimal level of investment in higher education, and how such investment is to be financed, is thus a critical issue in achieving sustainable economic growth.

Selection of an optimal level of investment depends on the presence of efficient markets. In education, markets are incomplete not just in terms of the degree of competition, but also in terms of the level and distribution of information, and in terms of the presence of external benefits. While the presence of external benefits traditionally has been used to justify public sector support for education, subsidies by themselves produce varying effects on the underlying technical efficiency of institutions, depending on the specific mode of finance.

Although proposals for the reform of university finance may begin in the first instance as a response to political pressure, it is important to examine the economic impact of alternative financial incentives. In this paper, we outline how different financial incentives may produce alternative educational outcomes. Any proposal to alter the method of university finance thus should proceed in the first instance on a clear understanding of the effects of various economic incentives.

Economic Criteria for Higher Education Finance

For most countries, university finance is often a major policy issue. Its importance derives not just because education contributes to an economy's stock of knowledge and to the productivity of its labor force, but also because universities represent a significant proportion of national income and claim an important share of public sector expenditures. In this paper, we review recent findings on university finance and examine how economic criteria can be applied to the implementation of university financial reforms.

Consider a university, or university system, as an educational production function. Output, consisting of graduates, dropouts, and external knowledge, is a function of the level and efficiency of inputs. Inputs consist of land (the physical location of a university campus, along with energy, paper, and consumable material supplies), labor (student, teaching, administrative, and staff resources), capital (classrooms, laboratories, libraries, dormitories, dining facilities, computers, and other physical capital resources), along with any entrepreneurial resources its administration and faculty may possess. If the input to output proportions are relatively constant, one then can derive a predicted rate of output from the system for any given intake of students, along with the associated budget necessary to support any level of enrollments over a specified time horizon (LeBel, 1992). Other things equal, changes in the quantity of finance without any change in its composition thus produce proportional changes in the level of output. We can think of this as the standard model.

In many countries, the standard model of financing university education depends largely on public sector expenditures along with some combination of tuition and fees, loans, grants, auxiliary services, and donations by corporations and alumni. As countries experience increasing pressure for fiscal compression arising out of market driven reforms, pressure for reform of university financing has grown accordingly. As a result, the public share of university financing seems headed downward, while the tuition and fee share, along with external private funding shares, are on the rise. As pressures for financial reform have grown, they have forced universities to rethink their mission, while at the same time, requiring them to look at how alternative sources of finance will change the ways in which they go about the production of skills and knowledge for society at large.

Market forces play an important role in allocating resources to their most productive uses. The more information that is embodied in market prices, the more efficient market forces can be in allocating resources to their most productive uses. Where investment decisions are concerned, market prices often are incomplete since the outcomes of investment lie largely in the future. The question, then, is the extent to which market forces provide a superior allocation of investment in comparison to any other alternative.

The principal alternative to a market allocation of investment resources is government intervention. Governments traditionally have provided some degree of support, in the form of budgetary outlays and tax expenditures, to institutions engaged in the process of investment decisions. Such support is most concentrated in the area of research and development expenditures for which markets may be relatively incomplete at the time when such expenditures are being made.

When we look at the United States experience, we find a mixed pattern of public support for research and development expenditures, with most public support going for basic research, leaving a greater role to the market in the area of applied research expenditures. To the extent that the United States experience is typical, public support for research and development then turns largely on the extent to which market signals exist to provide sufficient guidance to private decision-makers regarding new products and processes through ongoing investment flows.

While incomplete information provides a standard justification for public support for research and development expenditures, this leaves open the question of what is the optimal degree of public support for such initiatives. Ultimately, the degree of public support for research and development expenditures must be viewed in terms of the adverse effects of the public tax and borrowing that must be undertaken in comparison to the positive effects that research and development expenditures produce on a country's rate of economic growth and development.

Table of Contents

List of Figures

List of Tables

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