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on University Facilities and Administrative Rates”**

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Government Grants for Primary Research: Influences on University Facilities and Administrative Rates

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ABSTRACT

The U.S. government through various agencies funds approximately \$15 billion in primary research each year, most of it performed by principal investigators at colleges and universities around the country. Under government (OMB) guidelines, a portion of each research grant goes to cover facilities and administrative costs (indirect support costs) incurred by the university so that all research costs are covered by the grant. Each university receiving federal grants must periodically negotiate with its cognizant agency to determine its own overhead reimbursement percentage (its F&A rate). These rates vary widely – from 30% to 69% in the sample of 163 schools used in the current study – and because the F&A rate determines how much of the funding goes to the university to cover overhead costs, it means a reduction in the amount available to the principal investigator for the direct costs of the research. The purpose of the current research is to investigate how a college or university receiving federal funding of research grants determines the F&A rate applied to all its federal grants. Specifically the paper seeks to identify the institutional characteristics that may influence the choice of F&A rates. Of the four possible factors identified by Massy and Olson (1994), our research model tests two – the mix of research to instruction at each university and the university's price of research support inputs – with mixed results.

In the United States, unlike most of Europe, primary research is conducted in universities rather than in independent research facilities. Since universities in the US are charged with the dual purpose of conducting research and educating, many facilities and functions support multiple purposes. As early as 1947, the Office of Naval Research recognized a responsibility to reimburse universities for overhead expenses that supported both partnered research and university activities such as teaching. Funding for a vast majority of the research conducted in universities comes from the federal

government, and the governmental agencies recognize that these funded research projects benefit from facilities and administration that also support education. To avoid having the education function subsidize research by bearing all the joint support cost, the grants through which funding is arranged allow for recovery of a portion of these inseparable support or overhead costs. Thus, research grants allow for reimbursement of the direct costs that can be specifically identified with the approved research project. In addition, they allow for overhead as a fixed sum or, more commonly, as a percentage of the project's direct costs.

Despite the fact that the majority of participants agree there should be some reimbursement of overhead, there is tremendous divergence of opinion on the amount and method of repayment. The various parties involved have conflicting viewpoints. Obviously, the federal agencies want to reimburse at a lower rate to allow them to buy more primary research with each dollar spent. With limits on state support to education and the amount of total operating costs recoverable through tuition, the university administration wants to recover as much of the total cost of operation as possible. The researcher, known as primary investigator, in charge of the project recognizes that there is a limit to the total amount of the award and wants to retain as large a percentage of the total under direct control of the project as possible. Questions on how to best accomplish a fair and equitable reimbursement scheme have far outpaced answers, causing several major policy revisions, none of which really pleased all the parties involved. Also, past controversies over facilities and administrative costs, including the highly publicized Stanford University case with its glaring abuses (Hecht, 1991), have spiced the discussion.

The purpose of the current research is to investigate how a college or university recipient of federal funding of research grants determines the overhead reimbursement percentage rate applied to all its federal grants. Specifically the paper seeks to identify the institutional characteristics that may influence such rates. Of the four possible factors identified by Massy and Olson (1994), our research model tests two – the mix of research to instruction at each university and the university's price of research support inputs – with mixed results.

The remainder of the paper appears in the following order. First, a background section provides insight into the development and application of relevant concepts, then the methodology section describes the research project, and finally the results and conclusion section report the outcome of the research.

Background

Development of concepts and present practice

Any university in the United States that submits an application for a US federally funded grant, from any federal agency, must submit a detailed budget as a part of the application. The many cost factors in the budget detail include: personnel, fringe benefits, equipment, materials and supplies, printing, consultants and subcontracts, other miscellaneous charges (i.e. equipment maintenance), and indirect costs.

The United States Office of Management and Budget (OMB) provides cost guidelines for educational institutions under the OMB Circular A-21. The Circular "establishes principles for determining costs applicable to grants, contracts, and other agreements with education institutions. The principles deal with the subject of cost

determination, and make no attempt to identify the circumstances or dictate the extent of agency and institutional participation in the financing of a particular project” (OMB, 2000, ¶ 1). Also, it defines indirect costs as “costs that are incurred for common or joint objectives and therefore cannot be identified readily and specifically with a particular sponsored project, an instructional activity, or any other institutional activity” (OMB, 2000, ¶ 103). Some examples of these costs are: depreciation; maintenance; library costs; interest on debt; general administrative expenses; departmental administrative expenses; sponsored projects administration; and student administration expenses (Case, 2000).

Facilities and Administrative Costs

The term indirect cost was changed to facilities and administrative costs in 1996 under the OMB Circular A-21. For all practical purposes the meanings is identical and the two terms are used interchangeably. According to the OMB Circular A-21 (2000) these costs must be identified and allocated in cost categories to the function that benefits from the cost (i.e., depreciation, library costs, interest on debt) (OMB, 2000, ¶ 107). These costs are split into two areas. The first area is facilities cost which includes: depreciation and/or use allowances for buildings and equipment; interest on debt in relation to certain buildings; equipment and capital improvements; operation and maintenance expenses; and library expenses. The second area is administrative cost which includes: general administration and general expenses; departmental administration; sponsored projects administration; and student administration and services. The OMB Circular A-21 gives guidelines for allocating these costs (OMB, 2000, ¶ 114-162).

Facilities and Administrative Rates

Facilities and administrative costs are applied to the grant through a facilities and administrative cost rate agreement. This agreement is a set of rates that are negotiated between the university and the United States Department of Health and Human Services or the United States Department of Defense and is applied as a percentage of the direct costs that are added to the total grant amount (Case, 2000). Rates are set based on what the institution shows to be actual indirect cost.

Prior to 1966, the government set an upper limit on the rate for overhead reimbursement for all participants and there was no provision for mandatory sharing of indirect costs. The portion of grants funded through the Department of Defense had decreased and the rate-setting agency for the vast majority of schools was some agency of Health Education and Welfare. Partly because of philosophical differences between the two agencies the former outlook of setting a rate as a contract price to procure services gave way to a concept of cost sharing and research subsidization. Although the 1966 changes to A-21 affected only the setting of rates and the sharing of overhead costs, it has led university administrators to take the view that the rules *require full cost* reimbursement less some portion to be shared. Despite the fact that government officials charged with discovering ways to get more research done with fewer dollars do not share this interpretation, rates have continued to escalate and the controversy surrounding the questions of how to share the costs and what costs are eligible for reimbursement resurface regularly (Rosenzweig, 1998).

The current practice of setting individual rates at the university level has support due to the recognized variability of accounting conventions within different universities. The ability to identify those indirect costs that cannot be “readily and specifically”

assigned to a specific project varies for each university and quite likely differs for different projects in the same university. This problem – tracing individual costs to a particular cost object (project) versus collecting common costs as indirect costs and allocating them in some way – plagues all types of services and industries. For instance, each of two universities has identical labs that are devoted entirely to funded research, the power rate is the same and they use the same amount of electricity. If the first university has an electric service and meter specifically for the lab building, then the cost of power for that building can be “readily and specifically” determined and power is a direct cost. If, on the other hand, the other university did not find it feasible to provide a completely different electric service for the lab, then part of the total cost of power for all the buildings that share an electric meter with the lab must be allocated to the lab. In the first example, the power would be a direct cost and, all other things being equal, the indirect cost rate for that university would be lower than in the second example where direct costs were lower and indirect costs were higher, simply because the costs were identified differently. This would be true even if the total cost for both were identical.

Over a decade ago two Stanford University researchers identified four commonly cited reasons for the variation in overhead rates: 1) differences in the structure of the university leading to differences in the scale of research and the mix of research and teaching, 2) differences in the price of the factors that comprise research activities such as building space and power, 3) differences in university policy that lead to different treatments of costs as direct or indirect, and 4) differences in treatment by the different cognizant agencies with which universities set their rates. Their study found that far from explaining differences in rates, had these factors been set to an average norm for each of

the universities studied, rates would have shown even more variation. In addition to failing to isolate the geographic location of the university as a cause of rate differences, the conclusion expressed were possibly limited by being based on the results from only seven universities (Massy & Olson, 1994).

The purpose of the current research is to investigate how a college or university receiving federal funding of research grants determines the overhead reimbursement percentage rate applied to all its federal grants. Specifically the paper seeks to identify the institutional characteristics that may influence such rates. Of the four possible factors identified by Massy and Olson (1994), our research model tests two: the mix of research to instruction at each university and the university's price of research support inputs

Methodology

Sample

The sample consists of 163 U.S. colleges and universities that were identified using an online search with search terms, such as "facilities and administrative costs". The characteristics of the sample are shown in Table 1. Using this sample, we will test two institutional characteristics the have been advanced as influencing a university's F&A rate.

Independent Variables

As previously mentioned, Massy and Olson in a 1994 theoretical paper, offered four possible reasons for variability in F&A rates: 1) differences in the structure of the university leading to differences in the scale of research and the mix of research and teaching, 2) differences in the price of the factors that comprise research activities such as building space and power, 3) differences in university policy that lead to different

treatments of costs as direct or indirect, and 4) differences in treatment by the different cognizant agencies with which universities set their rates.

Of the four possible variables listed above the first two will be investigated and the second two will be omitted. First, the structures of a university and its mix of research to instruction could reasonably be expected to have an impact on its level of investment in research support. The larger the scale of research the greater would be the university's use of facilities and administration for research. Also a university emphasizing research is likely to have a higher volume of research projects over which to spread its investment in an attempt at cost recovery. The Carnegie Classification is the surrogate measure used for the mix-of-research-to-instruction characteristic of the sample universities.

The second factor, the price of physical inputs, is likely dependent on the local cost of general labor, construction, transportation, and other items that are impacted by the economy as a whole. For these costs, one would expect differences based on the cost of living in the region around the university or the degree of urbanization of the campus. The cost of living at each university is measured using the region's Consumer Price Index (CPI) and the degree of urbanization is based on the descriptive number use by Sterling's Best Places (e.g., 4 levels urban area, city neighborhood).

The third potential source of variability, differences in whether individual costs are traced as direct or allocated as indirect, has no good surrogate measure. And the fourth source put forth by Massy and Olson (1994), differences in treatment by the cognizant agency through which the institution sets its rate, does not seem a likely source for variation in rates. Universities may negotiate rates through different agencies, but

each one uses an identical rate setting procedure and there is no reason to believe that the cognizant agency impacts the rate.

Analysis

We used a regression model to test the significance of the impact of the independent variables – a university's mix of research to instruction and its cost of inputs – on the level of a university's F&A rate.

Results and Conclusions

Results of the analysis were mixed. Surprisingly, university's mix of research to instruction (Carnegie classification) did not relate significantly to its F&A rate. There was some support for cost of inputs.

Conclusions

References

Case (2000)

Hecht (1991)

Massy and Olson (1994)

Office of Management and Budget (OMB), Circular A-21 (2000)

Rosenzweig (1998)

Sterling's Best Places, www.bestplaces.net , Neighborhood Profile