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THE CONSEQUENCES OF FAS 93:
DEPRECIATION IN HIGHER EDUCATION

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The Consequences of FAS 93:
Depreciation in Higher Education

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The Consequences of FAS 93:
Depreciation in Higher Education

[an abstract]

The absence of depreciation accounting in the financial statements of colleges and universities is an issue of relevance to managerial accountants, both professionally and personally. It is of professional relevance not only because of the impact on the financial statements but also because of the impact this has had on management and accounting practices in higher education. It is of personal relevance because of the impact that the adoption of depreciation accounting will have on the cost of higher education to managerial accountants and their families. The convergence of the results of our study of colleges and universities in Virginia, generalized to the United States, and a recent study of deferred maintenance in higher education enforces the conclusion that funded depreciation reserves could have prevented the deferred maintenance problem.

The Consequences of FAS 93:

Depreciation in Higher Education

Do the plant and equipment assets of a college or university depreciate? Managerial (and financial) accountants would probably find this a rhetorical question. All physical assets depreciate. But, colleges and universities do not report depreciation in their financial statements. The Financial Accounting Standards Board (FASB) in its Statement No. 93 (Recognition of Depreciation by Not-For Profit Organizations) determined that there is sufficient reason to require the depreciation of plant and equipment assets in higher education beginning after May 15, 1988. This ruling's effective date has since been extended to January 1, 1990, but the effect is still the same: colleges and universities will begin to report the effects of depreciation very soon.

On the surface this may appear to be just a financial accounting issue. Some segment of society has been incorrectly reporting its financial results, but the FASB has rectified the situation. In fact, it may appear that the FASB has done nothing because depreciation will not appear on the operating (income) statement. However, this seemingly innocuous accounting change could have significant ramifications in the reporting of colleges and universities. Managerial accountants should be interested in this, both professionally and personally (as student, parent or taxpayer).

Consequences of Depreciation

Managerial accountants would correctly argue the irrelevance of depreciation to decision-making in the short run. Decisions should be made

based on the future costs (and/or revenues) that will change in total as a result of a proposed action. Since depreciation is more a function of time than of activity, it is an irrelevant cost in this context. However, in a commercial enterprise, depreciation is determined as a cost of the enterprise, and product pricing takes into account the full costs of the entity before profit is achieved.

In the not-for-profit world of higher education, most colleges and universities have not recorded depreciation and product pricing ignores this legitimate cost of operations. The result is that deferred maintenance is a significant problem. This means that Statement No. 93, while it seems largely to have been ignored, may be an interesting topic for managerial accountants.

Higher education is a big business in today's economy. The most recent figures identify 3,340 colleges and universities in the United States with budgets totaling \$97.62 billion. Of these, about 1,500 are private institutions and, at least these, will come under the Statement No. 93 rules. Overall, not-for-profit organizations in 1985 contributed \$131 billion (3.3%) of the gross national product, and it has been estimated that the aggregate annual operating budgets of nongovernment nonprofits in the United States would constitute the eleventh largest country in the world. These figures indicate a significant influence on the economy.

The Development of Accounting in Higher Education

College and university accounting has developed quite differently than have most other branches of this field. In the corporate arena, the principles and practices of accounting have been proscribed by various accounting boards and agencies of government, such as the FASB, the Securities and Exchange

Commission (SEC) and the Internal Revenue Service (IRS). Governmental accounting has been structured by the National Council on Governmental Accounting (NCGA), the American Institute of Certified Public Accountants (AICPA) and the Governmental Accounting Standards Board (GASB). College and university accounting has only the AICPA's Industry Audit Guide and the guidebook of the National Association of College and University Business Officers (NACUBO), neither of which specifies depreciation accounting.

There is a current controversy between the FASB and the GASB concerning jurisdiction over public higher education that should be settled by the Financial Accounting Foundation (FAF), their parent organization, in the near future. At the present time, private schools are subject to the FASB while public ones take their guidance from the GASB. The "industry" and its lobbyist (NACUBO) have appealed to FAF for consistency in treatment because the similarities between public and private far outweigh the differences caused by funding sources. Remember, it is the FASB that has required depreciation accounting; the GASB is opposed to this accounting methodology for governmental agencies.

Impact of Depreciation Accounting

Because they are not-for-profit organizations, colleges and universities are users of fund accounting, which emphasizes financial stewardship rather than the matching of resources consumed with the services provided. Fund accounting assumes a cash flow approach (perhaps modified to include receivables and payables) to accounting and reporting. Colleges and universities tend to follow a "modified accrual" approach to their accounting in which depreciation, which is a non-fund expense, is not recognized.

Statement No. 93 requires that not-for-profits inventory their property assets, determine appropriate economic lives, calculate accumulated depreciation as of the financial statement date, and record depreciation expense -- the expense and the accumulated depreciation are not required to be in the operating statement, but it is suggested that this be done in the plant fund accounts. The immediate effect will be negligible. Only those who study the plant funds of colleges and universities (a very small number of people) will even notice the change. Higher education is not complaining about the presentation; it is the immense amount of work (and cost) in the inventorying effort for little benefit that is the reason for resistance.

The AICPA Industry Audit Guide, Audits of Colleges and Universities, carries a publication date of 1973. It is expected that this will be revised in the near future along the model of the guide used for auditing hospitals. Hospitals are required not only to depreciate their plant assets but also to report the depreciation expense in the operating statement. It is this predicted event that brings the depreciation issue to the attention of readers of the financial statements, students, parents, legislators, and managerial accountants, both professionally and personally.

In order to establish a baseline for estimating depreciation, we drew a sample of 208 service companies from the Compact Disclosure database. Measures of central tendency derived the following values (see Figure 1):

1. Depreciation expense was about 5% of net revenue.
2. Depreciation expense was about 8% of gross plant and equipment.
3. Accumulated depreciation was about 5 times depreciation expense.

Applying these percentages to 43 four year colleges and universities and 23 community colleges in Virginia, from data provided by the Council on Higher Education of the Commonwealth of Virginia, yielded the data shown in Table

1. Depreciation expense would be about \$1.9 million per school, on average, if the percent of revenue method is used, but would be about \$3.4 million if based on plant assets. Since the percent of revenue creates the more conservative figure, this approach is used for the remainder of this paper.

Given the 1986-87 national statistics on number of schools and net revenue, it is possible to compare Virginia with the United States and to calculate the accumulated depreciation that would be present under depreciation accounting (see Table 2). On the basis of revenue per school, Virginia schools appear to be a bit larger than average for the country. As a consequence, depreciation (or the lack thereof) should have a greater impact on Virginia. An interesting part of this table is the projection of an accumulated depreciation amount of \$24.4 billion for the United States. A study just completed by NACUBO and the Association of Physical Plant Administrators (APPA) has concluded that the amount of deferred maintenance in national academe is at least \$20 billion. The implication of this convergence is non-trivial. Had depreciation accounting been required of educational institutions, and had depreciation been funded by transfer from the current funds to the plant funds, deferred maintenance could most probably have been eliminated, using available resources. Of course, the revenues of the institutions would have had to have been higher than they were in order to provide this "surplus", but the alternative of undermaintained campuses, loss of student interest in applying, loss of donor support, and general frustration on the parts of students, faculty and administrators could have been virtually eliminated.

Recognizing depreciation expense in the operating statement of Virginia schools would have created only about \$0.9 million of additional expense per

school. [According to presently accepted accounting rules, a mandatory transfer is made from the operating statement for the principal portion of debt repayment. This should, and probably will, be replaced by depreciation accounting, bringing colleges and universities more into comparability with commercial enterprises.] The impact of this effect on Virginia schools is seen in Table 3. The impact on Virginia higher education for 1986-87 would have been about \$56.4 million less operating income if depreciation expense were included but debt principal repayment were excluded. Making the unglamorous assumption that Virginia is representative of the United States, this would translate to about \$1.4 billion in reduced operating income nationally. This would imply a need to have raised revenues throughout the country by about 1.4% if depreciation accounting were to have been implemented in the 1986-87 operating period, in order to maintain equilibrium.

From a cash flow perspective, this is severely understated. In fact, across the nation, tuition revenue would have to climb by at least the five percent used in this study to estimate depreciation expense. Not only would depreciation have to be provided for but the debt repayments would continue regardless of the change in accounting method. Therefore, the ultimate impact on cash flow for an educational institutions will equal whatever depreciation expense is identified for that institution. The operating fund should generate a sufficient surplus each year to allow the repayment of debt principle, after generating a break-even which includes depreciation expense as a cost.

Management Implications

In virtually all environments, pricing policy is designed to cover all costs. In higher education, pricing of the educational service has been

inadequate to the extent that depreciation has been omitted from the cost structure. The apparent assumption that donor support will appear (perhaps miraculously) to repair, upgrade, and replace facilities as they age has not been borne out by time. Deferred maintenance, of colossal proportions, prevents institutions from carrying out their missions in the most efficient and effective manner. Pricing policies which included estimates of depreciation would have generated revenues (and therefore cash) which could have been set aside for the inevitable renewal of facilities. [This funding for renewal is not usually done in commercial enterprises because the earnings from reinvestment of profits exceeds the cost of borrowed money to do the ultimate renovation. Colleges and universities are not so fortunate.]

Asset management is another area affected by the lack of depreciation accounting. If it is not necessary to depreciate individual assets (or groups), it is not necessary to have a good accounting of their locations and costs. Though unproven, it would seem logical that if higher education exercises less control over its assets, more of them disappear, are broken, etc., without knowledge of the organization. It is almost a license to steal; higher education probably doesn't know what it is missing. How is it possible to properly insure assets if quantity, location and cost are unknown?

Preventive maintenance suffers in a climate of poor asset management. Much of the deferred maintenance faced by higher education may either be, or be caused by a lack of, preventive maintenance. In an environment characterized by a lack of tracking of fixed assets, they are repaired when they break but, unless the caretaker of the asset requests preventive maintenance, no one is in a position to monitor this process. Had higher education developed preventive maintenance plans, chances are that the cash

requirements for maintenance could have been spread through time such that \$20 billion of undone maintenance would not exist today.

Conclusion

Though the use of depreciation accounting is often assumed to be ubiquitous, there are pockets of vacuum in the economy. Colleges and universities occupy such a vacuum, but not for long. The FASB has required higher education to adopt depreciation accounting by 1990, and it appears that significant management benefits may flow from an apparent financial accounting issue. The magnitude of the deferred maintenance problem indicates a lack of proper pricing of the educational service, inadequate asset management systems, and a lack of planned preventive maintenance in academe. It appears clear that the cost of higher education will rise, and well it should, because a significant operating cost of colleges and universities has been unreported for many years.

TABLE 1

ESTIMATE OF DEPRECIATION FOR VIRGINIA INSTITUTIONS
(in millions)

	<u>N</u>	<u>Revenue</u>	<u>Est. Depr.</u>	<u>Plant</u>	<u>Est. Depr.</u>
Private	27	\$ 395.8	\$ 19.8	\$ 601.0	\$ 48.1
avg.		\$ 14.7	\$ 0.7	\$ 22.4	\$ 1.8
Public	16	\$1,887.3	\$ 94.4	\$2,030.0	\$162.4
avg.		\$ 118.0	\$ 5.9	\$ 126.9	\$ 10.2
Community					
Colleges	23	\$ 225.9	\$ 11.3	\$ 230.0	\$ 11.3
avg.		\$ 9.8	\$ 0.5	\$ 10.0	\$ 0.8
Total	66	\$2,509.0	\$125.5	\$2,861.0	\$221.8
avg.		\$ 38.0	\$ 1.9	\$ 43.3	\$ 3.4

TABLE 2

1986-87 COMPARISON BETWEEN VIRGINIA AND THE UNITED STATES
(in millions)

	<u>N</u>	<u>Revenue</u>	<u>Est. Depr.</u>	<u>Accum. Depr.</u>
VA	66	\$ 2,509.0	\$ 125.5	\$ 627.3
avg.		\$ 38.0	\$ 1.9	\$ 9.5
USA	3,340	\$97,620.0	\$4,881.0	\$24,405.0
avg.		\$ 29.2	\$ 1.5	\$ 7.3

TABLE 3

1986-87 ANNUAL DEPRECIATION V. DEBT RETIREMENT (IN MILLIONS)

	<u>Number of Schools</u>	<u>Estimated Depreciation Expense</u>	<u>Debt Retirement</u>	<u>Difference</u>
Private	27	\$ 19.8	\$18.8	\$ 1.0
avg.		\$ 0.7	\$ 0.7	\$ 0.0
Public	16	\$ 94.4	\$50.3	\$44.1
avg.		\$ 5.9	\$ 3.1	\$ 2.8
Community Colleges	23	\$ 11.3	\$ 0.0	\$11.3
avg.		\$ 0.5	\$ 0.0	\$ 0.5
VA (total)	--	-----	-----	-----
avg.	66	\$125.5	\$69.1	\$56.4
		\$ 1.9	\$ 1.0	\$ 0.9
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USA	3,340	\$4,881.0	\$3,496.9*	\$1,384.1
avg.		1.5	1.0*	\$ 0.5

* extrapolated from Virginia figures