



C A M B R I D G E A S S O C I A T E S L L C

ASSESSING STRATEGIC STRENGTHS: AN INTRODUCTION

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Background

The concept of “strategic strength” for a college or university is not easy to define nor to measure. Generally speaking, one seeks reassurance that even in adverse circumstances the institution will persist with sufficient strength to provide future generations of students with benefits equivalent to those provided to past generations. One well-developed approach to gaining such reassurance is to formulate a comprehensive and credible long-term projection that encompasses all assets, income and expense flows, financing measures (capital campaigns, debt), and market factors. In keeping with this approach, many colleges and universities have developed a “financial equilibrium” model that is updated annually to provide evidence of continuing strategic strength, as well as to highlight areas requiring some bolstering.¹

An alternative or supplementary approach to assessing strategic strength is to identify and to monitor a set of key “financial indicators” that would suggest whether the college or university is holding its own, increasing its strength, or suffering a gradual or sharp decline. To be effective, such indicators must go beyond an institution’s financial statements and accounting data, to include “operating” parameters such as enrollment levels, staffing levels, and physical plant data. The most effective use of such indicators is to monitor changes over time so that, for example, a steady increase in the relative scale of plant size or staffing level vis à vis enrollment level provides an advance indicator of a (negative) change in the “cost of doing business.” In other words, though its budget may be balanced year after year, an institution can be undergoing a change in its *strategic* position that in no way surfaces in its financial statements or budget process.

Similarly, “financial indicators” can be used to draw comparisons between a given college or university and a group of its “peers” or competitors. In this context, it is worth mentioning that it would be a strategic error to limit one’s comparisons only to one’s peers, for strategic threats are very likely, in today’s environment, to come from competitors who are *not* one’s traditional peers. Distance education and credentialism are only two of the factors that have rearranged the competitive landscape for even the most selective institutions in higher education.

In the pages that follow we describe 12 key financial indicators which, if carefully assessed and then monitored each year, can tell much about an institution’s strategic strength. A decline in these indicators over time should be cause for closer scrutiny or even concern; an increase should be cause for comfort. The indicators are based upon both financial and “operating” information, and they are designed to draw upon data that is more readily available from a broad universe of institutions.² Supplemented by “operating” data, this is the kind of information that provides an understanding of the profound differences among institutions within the higher education “industry.” It is also the kind of information that forms the basis for strategic decisions undertaken in other industries.

¹ A very effective approach, “financial equilibrium” is usually applied to an evaluation of the “base case” (status quo) projection and then used to develop alternative policy scenarios.

² In particular, we use data that virtually all colleges and universities are required to submit annually to the U.S. Department of Education in the Integrated Postsecondary Education Data System (“IPEDS”) survey.

Hence the fundamental logic underlying the 12 Cambridge Financial Indicators (CFI) is that of strategic financial analysis. Strategic analysis calls upon data that is organized quite differently than data for financial reporting purposes (standard ratio analysis, standard financial reports) or even for credit rating purposes. Strategic financial analysis seeks out the financial and operating variables that explain long-term performance and long-term financial health. Examination of an institution in terms of each of the 12 financial indicators sheds considerable light upon that institution's strategic strengths and weaknesses:

- **Because revenues are grouped by “market,” the impact of market changes on the institution’s financial performance can be more readily determined.** For example, revenues from student auxiliary enterprises (room and board) are grouped with net tuition revenues in the “student revenues” category. This captures in one place all the revenue streams that would be adversely affected by a tightening of the student market. Similarly, the “market” for government research funds is shown separately, as is the market for private research funds.
- **Because expenses are grouped by function, differences in cost behavior can be more readily understood and justified.** For example, colleges and universities are ill-advised to group admissions expenses with “student services” (the standard approach) rather than with revenue development expenses. The cost of student admissions, like the cost of fundraising, is clearly a “marketing” cost and, as such, should be subject to evaluations of revenue generation rather than the kinds of cost analysis applied to service costs or support costs.³ Similarly, for the purposes of strategic analysis, it makes sense to group student auxiliary expenses with instruction and counseling expenses, since all such expenses are aimed at providing services to students. In general, service expenses should be justified in terms of the students served (or, in the case of research expenses, in terms of the funding agencies served); revenue development expenses in terms of the revenues generated; and support expenses on a scale basis (i.e., in terms of the size of overall operations).
- **Because service costs are fully accounted for, as are revenue development costs, the representation of support costs is appropriately minimized.** This can correct a long-held misunderstanding, on the part of the public and the press, that universities and colleges have unduly high “overhead” costs. Service costs account for by far the largest share of the expenses: around 80%.

³ Arguably, for those admissions offices that allow tuition revenues to be reduced through a need-blind admissions policy that places greater value on student quality and student diversity, revenue development is a lesser factor and “student service” a greater factor. Nevertheless, there is no doubt that the admissions offices of *all* colleges and universities are very much focused on revenue generation, as witness the growing reliance upon “early decision” freshmen as a source of students requiring (on average) less financial aid.

- **Because revenue development costs are distinguished from support costs, dysfunctional cost minimization is more readily avoided.** Many institutions have attempted to reduce expenses by lowering *all* non-instructional and non-research costs (often because this can be accomplished more readily, since it typically avoids potential faculty opposition). The cost typology in our analysis underscores the different roles played by these costs, and suggests that it is unwise to reduce revenue development costs if that has the effect of hobbling revenue generation.
- **Because revenues from operations are separated from revenues from sources other than operations, the average student subsidy is easily identified.** Colleges with significant support from gifts and endowment provide a substantial “subsidy” to students, inasmuch as their per-student expenditures may vastly outweigh the net tuition and fees paid by the students.
- **The separate treatment of revenues from operations also identifies areas of the institutions that are subject to competitive pressures within the markets for services.** These areas are higher education’s “base business,” the service activities that are part of their mission: education, research, student housing, and the many other services purchased from the college. In contrast, fundraising and endowment management are not ordinarily affected by the markets for services, nor are they part of the mission of the institution.⁴
- **In short, the CFI approach directs attention to the key factors affecting long-term financial performance, thereby facilitating strategic financial planning.** The analysis provided by this approach is based upon approaches commonly used in economic and business analysis. It is readily understandable to informed outsiders as well as to trustees and top officers; manageable in its dimensions; and trenchant in its observations.

The 12 financial indicators are summarized below:

Revenues

1. **Revenue Structure:** Draws a fundamental, though often overlooked, distinction between revenues from operations and revenues from sources other than operations (namely, endowment support and gifts). This is one of the distinguishing characteristics of the higher education industry, as well as a key strategic factor.
2. **Revenue Diversification:** Diversification is desirable because it moderates dependence on a single revenue source.

⁴ This does not mean that the two types of revenues cannot sometimes be affected by the same factors, however. For example, a major capital market correction would likely have a simultaneous negative effect on student revenues, fundraising, and endowment performance.

Revenues (continued)

3. **Market Strength:** For most colleges, market strength is synonymous with student revenue strength. Research universities must also pay close attention to the market for research funding.
4. **Endowment and Gift Strength:** This is a measure of an institution's ability to draw revenue from sources other than operations.

Expenses

5. **Functional Expense Profile:** Expenses are grouped into three categories, by function: service, revenue development, and support. *Service* expenses are outlays directed at providing the services that students seek or the research that funding agencies seek. *Revenue development* expenses are outlays aimed at generating revenue for the college, including development and student admissions. *Support* expenses are those associated with institution-wide activities such as the president's office, financial offices, general counsel, human resources, and so forth.
6. **Support Level:** A measure of the level of support costs in proportion to the number of people (students and faculty) who are being "supported" by the institution.
7. **Staffing Ratio:** The ratio of faculty/employees to students has major implications for the operating economics of colleges and universities. Of course, research universities can be expected to have a significantly higher ratio.
8. **Physical Plant Efficiency:** Two ratios taken together evaluate the efficiency of the plant: plant expenditures per gross square foot, and the number of gross square feet per FTE student, faculty and staff (i.e., those served by the plant). The former shows differences in the cost of running the plant (adjusted for plant size), while the latter shows differences in the size of plant (adjusted for volume of operations). Although physical plant *effectiveness* is not measured (e.g., the data cannot detect the difference between a state-of-the-art science facility and one that is badly outdated), efficiency measures do capture the reasons for the sharp cost differentials among the institutions.

Revenues Linked to Expenses

9. **Ratios of Resources to Operations:** An excellent way to evaluate financial health is to compare the magnitude of a major expense with the amount of resources available to support that expense. We evaluate faculty support ratios and endowment support ratios, all of which help to determine whether resources are of a scale sufficient to support the scale of operations.
10. **Risk Profile:** The three kinds of risks facing a college or university are market risk (variability in the demand for its services), operating risk (fixed costs as a percentage of total costs), and financial risk (amount of debt in relation to revenue base).
11. **Aggregate Productivity Ratios:** These are aggregate measures of productivity, ones that measure in strictly economic terms the amount of *flow* (revenues generated) by comparison with the size of the *stock* (the stock of the institution's resources, specifically staffing level and physical plant). Productivity by these broad measures takes in the whole picture, rather than focusing on one part or another.
12. **Operating Margin and Overall Margin:** In terms of their operations alone, most colleges and universities run at a deficit and therefore show a negative *operating* margin. With the inclusion of revenues from sources other than operations, most show a positive *overall* margin. While neither of these margins should be considered a conclusive "bottom line" as that term is used in business, they nevertheless are very telling measures of overall performance. Moreover, the negative operating margin is a measure of the institution's average student subsidy: the extent to which the institution must use endowment and gifts in order to make its programs and services available to students.⁵ For illustrative purposes, we include a description and graph illustrating this particular financial indicator.

Note that we do not propose a single, summary financial indicator. The reason is simple: no such indicator can be free of subjective judgments as to the relative weighting appropriate for the key performance measures. Our aim is to be as objective as possible and to avoid engaging in the type of simplistic and misleading competitive rankings that have produced extraordinarily successful magazine sales even as they have dismayed the colleges and universities that often feel forced to participate. Clearly, colleges and universities must deal with many authentic competitive pressures; thus it is unwise and unhelpful to add inauthentic competition to an already highly pressured situation.

⁵ This assumes that research expenses are fully covered by external funders through direct and indirect cost recovery.

Indicator 12: Operating Margin and Overall Margin

To calculate the *operating margin*, we net revenues from operations against the expenses of providing those services, including related revenue development costs (e.g., student revenue net of admissions and financial aid expenses). On an operating basis alone, many colleges and universities run a deficit—operating shortfalls range as much as 145% of operating revenue—although there are certainly exceptions, including the 22 colleges in this study with a positive operating margin. The *overall margin* adds in the subsidy provided by endowment support and gifts, as well as support expenses and the remaining revenue development costs. When all expenses are netted against all revenue, nearly all the colleges show a positive margin, and some a significant one. Although not a bottom line, calculating the overall margin permits comparisons that demonstrate that ultimately neither the size of the endowment nor, indeed, any one factor accounts for the end result. The result derives from working with the resources available and managing the expenses accordingly.

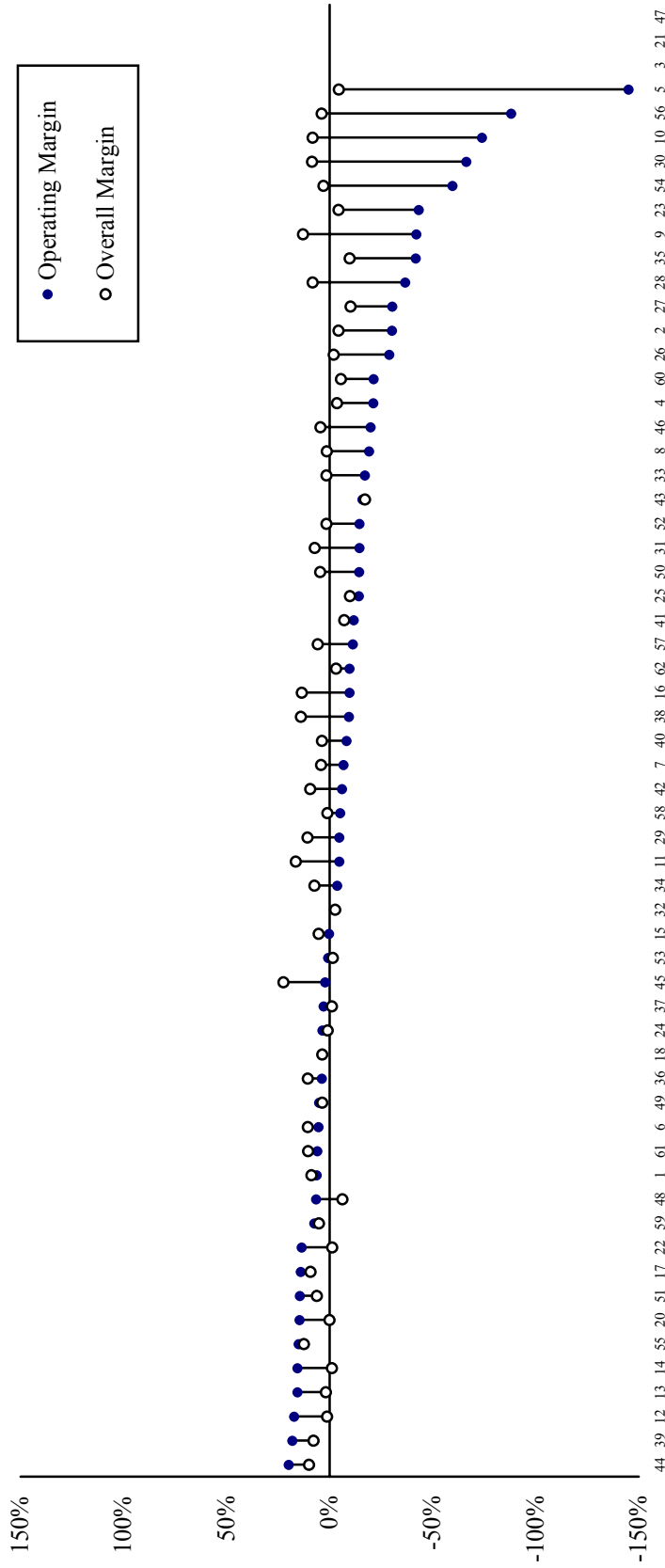
In **Exhibit 1**, for each institution, the difference between the *operating margin* (the solid circle) and the *overall margin* (the open circle) illustrates the level of the subsidy provided by the college for all of its students by virtue of endowment and gift support. The overall margin works usefully in tandem with the operating margin, but alone the overall margin is not necessarily a meaningful “bottom line” measure. For comparative purposes, a meaningful bottom line would require clearer and generally agreed upon distinctions between certain operating events and capital events, particularly involving the treatment of large gifts and endowment, debt service, and plant renewal expenditures and reserves.⁶

⁶ The FASB reporting standards contain an attempt to force a bottom line (the “change in net assets”). Unfortunately, this formulation does not distinguish between operating events and capital events, such as endowment market value appreciation, and so it is not useful either for measuring the operating health of colleges and universities.

Indicator 12: Operating Margin and Overall Margin

Exhibit 1

OPERATING MARGIN AND OVERALL MARGIN
(Showing Level of Subsidy)



Using the 12 Financial Indicators: One Example

Using the 12 financial indicators described above, a college recently undertook to assess its financial strength. Its first step was to assess how it registered with respect to each of the indicators: the profiles, proportions, and ratios that were generated by these indicators. Its second step was to replicate these analyses for the past five years. *This revealed a number of very interesting trends*, some of them reasonably disturbing and others reassuring. A number of the analyses required the college to regard its financial situation in a new light; for example, it observed that its “base business” (operations) had been under increasing pressure and its overall margin increasingly dependent upon endowment performance. Reviewing the recent history of the related financial indicators, within the context of a serious concern about the continued duration of the recent bull market, the college concluded that it had little choice but to reverse the downward trend of net tuition per student (which it had previously permitted for competitive reasons and because it had been relying upon “internal” funding from the portion of its endowment dedicated to financial aid). It then undertook to change its admissions, pricing, and financial aid policies in order to accomplish this goal.

The third step taken by the college was to draw upon the data of five other institutions that it considered to be its peers, and four institutions it considered to be non-peer competitors (i.e., competing for the same students although with a very different institutional profile). It produced the CFI analyses for the group of ten institutions, including itself, generating graphs with considerably fewer bars and data points than are in the CFI report. From these comparative graphs it became apparent that the college was well above average in its staffing ratio. Moreover, while plant operating efficiency was relatively good, plant use efficiency was very low (i.e., an unusually large physical plant, given the number of students, faculty and staff served by the plant). These observations suggested additional courses of action: a new policy to discourage additional hiring, and a decision to revisit the issue of whether to build an additional, new athletic facility or to upgrade significantly its current facility. In the case of the reduced hiring policy, the college found it very helpful to be able to use the comparative data as a way of explaining its reasons for the new policy, both to faculty and to trustees.

Finally, the college decided to monitor routinely and annually its performance on each of the financial indicators, as a way to ensure that it would spot important internal trends. Further, it recognized that the data collected for these purposes would be useful for additional management reports and studies of its own devising. The data on other colleges and universities would provide it with a sense of the trends among the broader group of higher education institutions, as well as evidence to support new policy directions; but much of the value gained was in the study of its own internal trends.⁷

⁷ For reasons of confidentiality, the case described here is actually an amalgam of analyses at more than one college.

Summary

Use of the 12 Cambridge Financial Indicators provides a concise assessment of strategic strength. This approach is intended to be used by top officers and trustees first and foremost as an *institutional self-evaluation*: an effective analytical approach to understanding the financial structure of your institution, including an appraisal of such critical factors as market strength, revenue sources, expenditure levels, staffing levels, physical plant efficiency, aggregate productivity, and operating margin. An evaluation of your institution in terms of each of the 12 financial indicators provides a reasonably comprehensive assessment of the major factors contributing to, or detracting from, financial health. A more detailed assessment can be made to supplement each of the 12 indicators. For example, the “market strength” indicator can be supplemented by more detailed analyses of admissions data.

A second purpose is to provide data for *comparative analysis*, through participation in Cambridge Associates’ annual survey of colleges and universities.⁸ By design, the survey is not limited to the “peer” institutions of any given college or university. However, because the data are available electronically as well as in the annual confidential report, any given institution can readily select those institutions with which it wishes to conduct a comparative study. As noted earlier, however, there is much to be learned from developments at non-peer institutions as well as peer institutions. Indeed any industry trend analysis would be based on this type of broader study, and top officers and trustees are expected to be aware of such broader developments in the higher education industry.

⁸ For information on participation in the annual survey, please contact Grant Steele at 703-536-8500 or gsteele@cambridgeassociates.com