

**Archived Information**

**KPMG Peat Marwick LLP**

**Methodology for  
Regulatory Test of Financial  
Responsibility Using Financial Ratios**

**Final Report**

December 2, 1997

Prepared on behalf of:



U.S. Department of Education

December 2, 1997

Ms. Jamiene Studley  
Acting General Counsel  
U.S. Department of Education  
7th and D Streets ROB-3  
Washington, DC 20202

Dear Ms. Studley:

KPMG Peat Marwick LLP (KPMG) is pleased to have had the opportunity to assist the U.S. Department of Education (ED) on this very important project.

The objective of this project was to assist in developing a methodology, using financial ratios and building upon our August 1, 1996 recommendations, that could be used as a regulatory test of financial responsibility. To meet that objective, we compiled data from financial statements of 395 private non-profit institutions and 507 proprietary schools. We analyzed data, reviewed the comments you received during the recent NPRM comment period, and obtained additional input from the higher education community. As a product of those efforts, we formulated recommendations for a methodology that could be employed as a regulatory test of financial responsibility. We have reviewed relevant information from other independent sources such as Dun & Bradstreet, Moody's, and Robert Morris Associates as a further refinement of the results obtained. Throughout the project we assessed results using our professional judgment. Our final recommendations, presented in this report incorporate many of your comments and answer some of the questions you raised.

The report is organized as follows:

- 1. Introduction**
- 2. Recommended Methodology**
- 3. Financial Ratios**
- 4. Strength Factors**
- 5. Ratio Weighting**
- 6. Final Composite Score**
- 7. Other Considerations**

## **8. Appendix**

## **9. Bibliography**

We appreciate the assistance provided by the Department of Education throughout this project and particularly the thoughtful exchange of ideas and concepts that are an integral part of this final report. As always, should you have any questions or comments, please feel free to call Ron Salluzzo at (202) 530-6306, or Larry Huff at (202) 467-3026.

Very truly yours,

KPMG Peat Marwick LLP

# **Executive Summary**

The United States Department of Education (ED or the Department) is charged with ensuring that institutions seeking to participate in the Title IV student assistance programs are financially responsible and able to carry out their duties under the Higher Education Act. The determination of financial suitability for institutional participation in the Title IV programs currently is based on measures that include net worth, operating losses, and assets to liabilities ratios. The Department is interested in improving its analysis of institutional financial responsibility and retained KPMG to develop measures that could be used as a basis for refining their current methodology. This report proposes a method of measuring financial responsibility that utilizes existing data and that recognizes sector differences in institutional financing.

## **Department Objectives**

In satisfying its oversight responsibilities, ED is committed to promulgating regulation which safeguards students and the Federal financial interest, among other things. In protecting against the loss of Federal funds, ED is also committed to minimizing the administrative burden placed on postsecondary educational institutions that participate in Title IV programs. With regard to the financial responsibility standards, and more specifically the ratio test described in this report, ED attempts to minimize two basic risks:

1. The risk that an institution will satisfy the ratio test although it is not financially healthy and later fails to meet the standards of financial responsibility; and
2. The risk that a healthy institution will not satisfy the ratio test even though it meets the standards of financial responsibility.

Some level of risk of the loss of Federal funds is always present, even with the best managed institutions. In the event that these two risks are in contrast, the Department

stated that the second risk was of greater concern to them. The Department prefers to allow some financially weak institutions to participate in federal programs and incur the costs associated with occasional precipitous closures rather than inappropriately prohibit other institutions with sufficient financial resources to operate for another twelve to eighteen months from participating. KPMG's recommendations, described in this report, provide ED with a methodology to rank institutions by financial health so that it can establish a standard which balances these potentially opposing risks.

Although KPMG has worked closely with ED to recommend individual ratios, strength factors, weightings, and overall methodologies to be employed in this report, the ultimate responsibility for setting a standard of financial responsibility in conjunction with the above objectives would necessarily rest with ED. Such a standard must ultimately be based on the level of risk that ED, as a matter of policy, is willing to tolerate. This methodology was not designed to measure financial responsibility of public institutions since we understand that ED is developing alternative regulatory tests of financial responsibility for schools in that business sector.

## **Basis of Engagement**

Throughout this engagement, and in the previous engagement that led to the September 20, 1996 Notice of Proposed Rulemaking (NPRM), KPMG and ED solicited comments and convened public meetings with representatives from the higher education community in an effort to accommodate their concerns. In addition, we devoted considerable resources to reading, understanding, and assisting the Department in responding to written public comments received on the NPRM. We feel confident that the methodology contained in this report reasonably balances the competing interests of the different schools participating in federal financial assistance programs.

KPMG analyzed over 900 financial statements of private non-profit and proprietary schools as part of this engagement. This extensive data analysis enabled us to test the overall reasonableness of our final recommendations and other alternatives considered during the project.

## **Why Financial Ratios?**

Financial ratios offer a capsulated view of key conditions affecting the fundamental elements of financial health and provide answers to certain questions concerning an institution's overall financial condition. Ratios, in their simplest terms, are the relationship between two numbers, a numerator and a denominator, and each ratio's utility lies in its ability to impart greater knowledge than is readily discernible from each of the numbers standing alone. In converting amounts from financial statements to ratios, comparison between different size institutions is made possible. Since individual ratios provide insight into specific elements of financial health, carefully selected ratios, viewed together as a whole, provide an efficient means for assessing any institution's overall financial condition.

# **Financial Responsibility Methodology**

KPMG, in consultation with ED and representatives from the higher education community, selected three ratios to measure the five fundamental elements of financial health; viability, profitability, liquidity, ability to borrow and capital resources. The three ratios selected are the **Primary Reserve Ratio**, the **Equity Ratio**, and the **Net Income Ratio**.

## **Primary Reserve Ratio**

The Primary Reserve Ratio is defined as expendable net assets (expendable equity) divided by total expenses. Since this ratio measures expendable resources in relation to operating size, it provides a measure of an institution's relatively liquid wealth or margin against adversity. The Primary Reserve Ratio provides a direct measure of an institution's viability and indirect measure of its liquidity.

## **Equity Ratio**

The Equity Ratio is defined as net assets (equity) divided by total assets. Net assets or equity represent the residual interest of an entity, i.e. the value of its assets less claims by outside parties. The ratio of equity to total assets can be viewed as the proportion of an institution's assets that are owned 'free and clear' by the institution. By measuring expendable and non-expendable resources, this ratio provides information useful in assessing an institution's ability to borrow and capital resources.

## **Net Income Ratio**

The net income ratio is defined as the excess of revenue over expenses divided by total revenue. In the for-profit sector, it measures the profit or loss experienced by the institution. In the non-profit sector, it measures whether the institution lived within its means during the year. This measure is one of the primary indicators of the underlying causes of a change in an institution's financial condition because of its direct effect on resources reflected in the balance sheet. This ratio provides information useful in assessing an institution's ability to operate within its means (profitability).

## **Composite Scoring (Ranking) Approach**

Using strength factors and weighting percentages, these three ratios are combined into one final composite score. Strength factors are used to place all ratio results on a common scale from negative one to three. Weighting percentages are then applied to reflect the greater relative importance of certain ratios and the fundamental elements of financial health that they measure. Adding the three weighted strength factors together reduces the assessment of an institution's total financial condition down to one final composite score. All institutions' final composite scores can be placed along a continuum or spectrum thereby providing insight into their relative financial condition. Clearly, this represents an improvement over the current regulation where weakness in any one area (e.g. acid test) could potentially result in an inaccurate assessment of a school's overall financial condition.

The methodology is designed to rank institutions by their financial health. ED will have the ability to use this approach, based upon the level of risk which it chooses to tolerate, to determine whether schools exhibit a minimum level of financial health and thereby be deemed financially responsible to administer the Title IV programs.

# **1 Introduction**

## **Chapter Outline**

- Background
- Scope of KPMG's Engagement with the Department of Education
  - Engagement Tasks
  - Risk to the Department
- Available Information
- Intent of Recommended Methodology
  - Comparison to KPMG's prior recommendations
  - Workability (Face Validity) & Simplicity
  - Financial Statements Based

## **Background**

The U.S. Department of Education (ED or the Department) is charged by statute to ensure that institutions participating in the Title IV Student Financial Assistance programs are financially responsible. Under the Act, ED has the on-going responsibility for ensuring that each of approximately 6,300 postsecondary institutions participating in Title IV programs meet established standards. ED engaged KPMG Peat Marwick LLP (KPMG) to assist in developing a methodology that could be used as a regulatory test of financial

responsibility. According to the statute, "...a school is considered financially responsible if it has sufficient resources to:

1. provide the services described in its official publications;
2. provide the administrative resources necessary to comply with Title IV requirements; and
3. meet all of its financial obligations, including repayments to the Secretary."

Elements of financial responsibility standards have existed in statute and regulation since the 1970's. However, as a result of the 1992 amendments to the Act, Title IV participants were required to file an annual financial statement with ED for the first time. The annual financial statement submission must be prepared in accordance with Generally Accepted Accounting Principles (GAAP) and audited by an independent accounting firm. This annual filing provides ED with a basis for determining that each participating institution has the financial resources necessary to provide the educational services for which the students contract and meet all of its financial obligations.

ED's task is complicated by the fact that four different types of institutions participate in Title IV programs. They have different organizational structures and accounting requirements. Recently, the Financial Accounting Standards Board (FASB) changed the reporting requirements for private non-profit institutions. The two new standards, FASB Statement 116, *Accounting for Contributions Received and Contributions Made*, and FASB Statement 117, *Financial Statements of Not-for-Profit Organizations*, significantly redefined the financial accounting and reporting for institutions in this business segment. As a result, these institutions were in a state of transition in complying with these new standards during their 1996 fiscal year (required adoption year for most colleges and universities).

At the same time, ED determined that improvements could be made to the current financial responsibility tests so that they could more adequately take into account an institution's total financial circumstances. One example of an area for potential improvement in the current regulation is the use of the same acid test requirement of 1:1 for private non-profit and for-profit organizations. GAAP does not require private non-profit organizations to prepare financial statements which classify assets and liabilities as current and noncurrent. Moreover, differing cash management and investment strategies (investing excess cash in other than short-term instruments) may result in an institution failing the acid test requirement when sufficient resources are in fact available to support its operations and meet the requirements of the statute.

## **Scope of Engagement**

The U.S. Department of Education (ED) engaged KPMG Peat Marwick LLP (KPMG) to assist in developing a methodology that could be used as a regulatory test of financial responsibility for schools participating in Title IV programs. The test compliments other requirements and would not replace current standards such as the requirement to not have a going-concern opinion on the audited financial statements or to maintain compliance with other administrative requirements in the regulations. The scope of this engagement included establishing a methodology that would employ financial ratios and build upon the screening mechanism that KPMG developed previously. The basis (as required by the Higher Education Act section 498) on which a school is considered financially responsible is whether it has sufficient resources to :

1. provide the services described in its official publications;
2. provide the administrative resources necessary to comply with Title IV requirements; and
3. meet all of its financial obligations, including but not limited to (a) refunds that it is required to make and (b) repayments to the Secretary for liabilities and debts incurred in programs administered by the Secretary.

The regulatory test developed will be based on information contained in the school's audited financial statements and will focus on the minimum level of financial health

necessary for a school to satisfy these conditions for a period of twelve to eighteen months following its fiscal year end. The twelve to eighteen month time frame correlates to the period of time that generally passes before ED receives another financial statement from any particular school. The next financial statement gives ED another observation point, that is, information about improved financial condition or financial problems.

### **Engagement Tasks**

To achieve ED's objectives, the engagement was divided into three phases. During the first phase, KPMG would gather and analyze financial statements and compute ratios for at least 100 non-profit colleges and universities and 100 proprietary institutions. In the second phase, KPMG would make recommendations for a new methodology or modifications to the methodology that ED proposed in its September 20, 1996 Notice of Proposed Rule Making (NPRM). ED requested that KPMG consider responses received from the higher education community during the comment period when developing its recommendations. The purpose of the third and final phase was for KPMG to provide technical assistance to ED officials as they sought and considered comments from the higher education community received during the extended NPRM comment period and as they prepared the final regulation.

### **Department Objectives**

In satisfying its oversight responsibilities over Title IV, HEA Student Financial Assistance programs, ED is committed to promulgating regulation that safeguard the Federal and student interests, among other things. In protecting against the loss of Federal funds, ED is also committed to minimizing the administrative burden placed on postsecondary educational institutions that participate in Title IV programs. With regard to the financial responsibility standards, and more specifically the ratio test described in this report, ED attempts to minimize two basic risks:

1. The risk that an institution will satisfy the ratio test although it is not financially healthy and later fails to meet the standards of financial responsibility; and
2. The risk that a healthy institution will not satisfy the ratio test even though it meets the standards of financial responsibility.

Some level of risk of the loss of Federal funds is always present, even with the best managed institutions. In the event that these two risks are in contrast, the Department stated that the second risk was of greater concern to them. The Department prefers to allow some financially weak institutions to participate in federal programs and incur the costs associated with occasional precipitous closures rather than inappropriately prohibit other institutions with sufficient financial resources to operate for another twelve to eighteen months from participating. KPMG's final recommendations provide the Department with a methodology to rank institutions by financial health so that it can establish a standard which balances these potentially opposing risks.

Although KPMG has worked closely with ED to recommend individual ratios, strength factors, weightings, and overall methodologies to be employed in this report, the ultimate responsibility for setting a standard of financial responsibility in conjunction with the above objectives would necessarily rest with ED. Such a standard must ultimately be based on the level of risk that ED, as a matter of policy, is willing to tolerate.

## **Available Information**

KPMG's recommendations in this report are based, in part, on empirical data gathered during the first phase of this project. The empirical data was gathered from all financial statements available at the Department through December 31, 1996 covering 507 proprietary institutions and 395 private non-profit institutions. These samples represent approximately 20% of the total universe of proprietary institutions participating in Title IV programs, and approximately 18% of the total universe of the private non-profit sector. These samples represent all financial statements available through December 31, 1996 for the private non-profit colleges adopting the new accounting standards and a non-random sample of 1995 financial statements for the proprietary sector.

## **Intent of Recommended Methodology**

In this report, KPMG recommends a methodology that provides a measure of an institution's overall financial health. The methodology is intended to be used solely as a regulatory test of financial responsibility. The focus of the recommended test is to rank institutions by a range of financial health so that ED can set that point (or range of points) above which an institution is deemed to be financially responsible and its objectives are being met. The methodology is limited to financial factors and is not intended to replace ED's reliance on other factors such as default rates, program review results, or compliance audit attestations. Measurement of those factors is beyond the scope of this engagement.

KPMG believes the financial ratios, strength factors, and weighting percentages, taken as a whole, provide reasonable tools for ED to exercise its duty to assess institutional financial responsibility. However, in setting a regulatory standard, KPMG understands that ED may decide to modify particular components of the methodology to better suit the level of risk it deems appropriate.

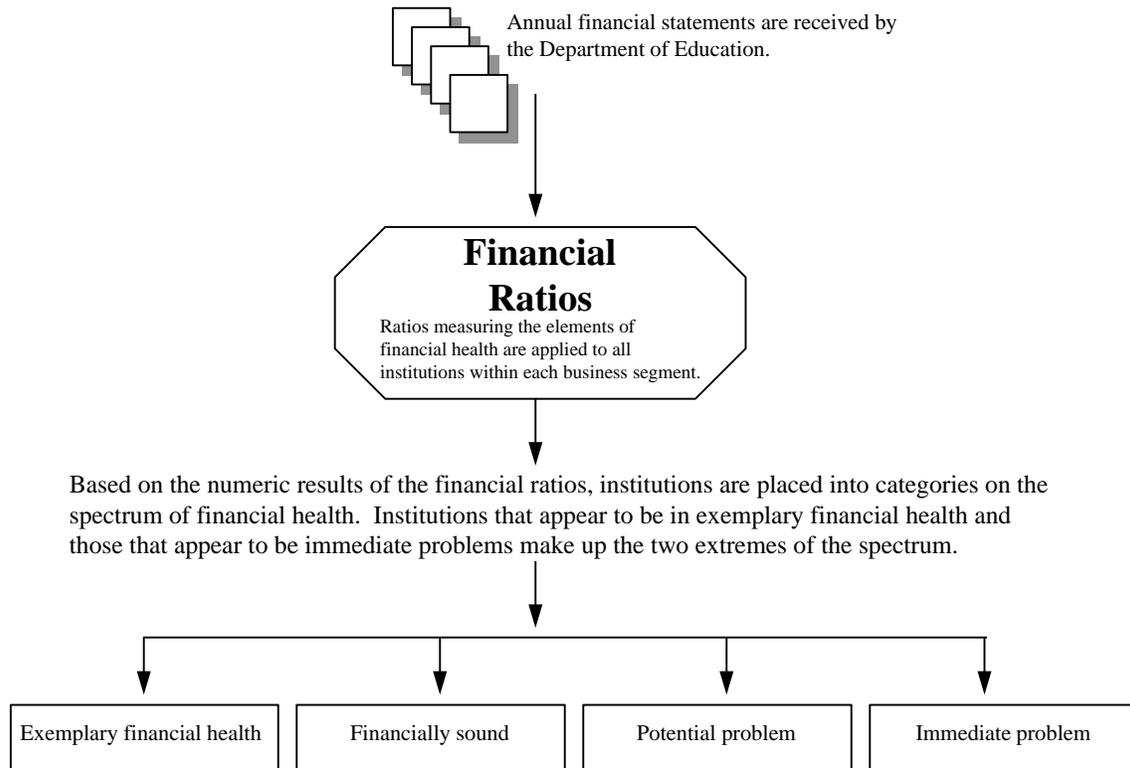
## **Comparison to KPMG's Prior Recommendations**

On August 1, 1996 KPMG delivered a report to ED recommending a methodology using financial ratios that ED could use to efficiently exercise its financial oversight responsibility. That methodology was seen as a way for ED to quickly identify financially weak institutions that merit more extensive review as well as those in exemplary financial condition for whom regulatory relief might be warranted. The methodology employed

three ratios, customized to accommodate accounting and reporting differences between business segments, along with thresholds and a weighting mechanism to place all institutions into four categories of financial health. The four categories were:

- exemplary financial condition;
- financially sound;
- potential problem; and
- immediate problem.

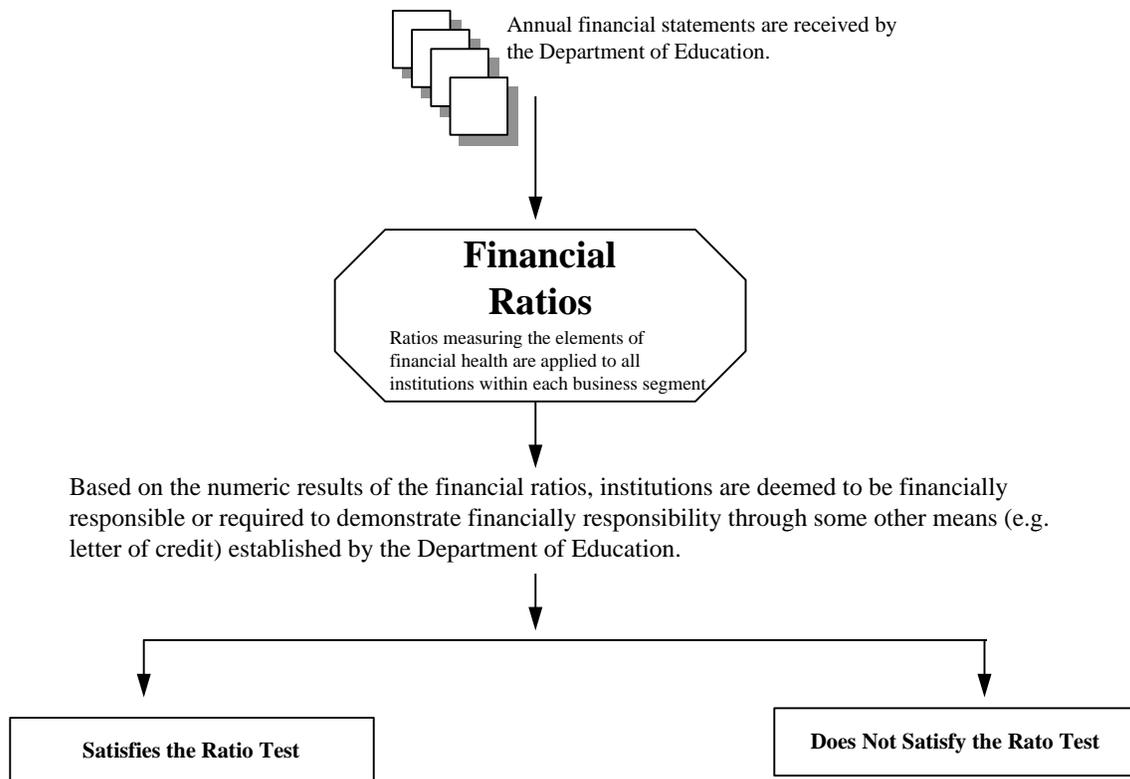
The intent of that methodology is shown graphically below:



The methodology placed institutions into the four categories of financial health. Because the model was to potentially be used for regulatory relief between recertification cycles, certain of the strength factors were set to consider a longer time frame of financial health (two to four years). In this regard, the primary consideration addressed was the risk that a financially weak institution would be categorized as something other than a potential or immediate problem and precipitously close within the next two to four years. ED used KPMG's recommended methodology as a basis for proposing modifications to its financial responsibility regulation and issued a Notice of Proposed Rule Making (NPRM) in September of 1996.

In contrast, the methodology recommended in this report is intended to give insight into establishing a minimum acceptable standard above which institutions are considered to be financially responsible in accordance with the HEA. Accordingly, the four categories in KPMG's original methodology have been replaced by two categories; satisfies the ratio test and does not satisfy ratio test.

The methodology recommended in this report is shown graphically below:



### **Administrative Workability**

Another factor KPMG had to consider in developing the methodology was administrative workability. For the methodology to be acceptable to the higher education community and workable for ED, it had to consider the effect of the methodology on the population of schools participating in Title IV programs. Each year ED makes a determination concerning financial responsibility for approximately 6,300 institutions. A ratio methodology that most of these schools are unable to satisfy would require additional individual institutional follow up and would not provide a workable solution to the Department.

Therefore, the focus in developing this methodology was to provide a mechanism which can be used to properly determine financial responsibility of the participating institutions and at the same time reasonably be administered by the Department. The critical factor for ED is a clear understanding of the risk it assumes from each participant in the Title IV program and a consistent and equitable method of monitoring that risk.

### **Financial Statement Based**

The methodology that KPMG recommends in this report relies on data taken from financial statements prepared in accordance with Generally Accepted Accounting Principles (GAAP). This information is subject to audit by independent accountants and is required to be presented in accordance with a commonly accepted set of standards. Therefore, this approach provides ED with a methodology that measures institutions' total financial condition and that is easily repeatable at a manageable level of effort. Use of other information not subject to such a set of standards was not considered practical or useful for this purpose. Other factors such as default rates or program review compliance history are items which are monitored by other functional units at the Department and used. This useful information is not considered as part of this financial ratio analysis test.

## **2. Recommended Methodology**

### **Chapter Outline**

Recommendations

Description of the Five Step Methodology

Step One - Calculate the Ratios

Step Two - Assign Strength Factors

Step Three - Multiply by Weighting Percentages

Step Four - Sum the Resulting Products

Step Five - Rank Institutions by Final Composite Score

## **Recommendations**

KPMG recommends a five step mechanism using financial ratios for use as a regulatory test of financial responsibility for schools participating in Title IV programs. The methodology is intended solely for use as a regulatory test of financial responsibility within the context of ED's responsibility under the Higher Education Act of 1992. More detailed discussions of each component of this methodology are included in the following chapters.

## **Description of the Five Step Methodology**

KPMG's basic objective was to develop a methodology that ED could use as a primary test of financial responsibility. Again, as required by the Higher Education Act section 498, a school is considered financially responsible is if it has sufficient resources to:

1. provide the services described in its official publications;
2. provide the administrative resources necessary to comply with Title IV requirements; and
3. meet all of its financial obligations, including but not limited to (a) refunds that it is required to make and (b) repayments to the Secretary for liabilities and debts incurred in programs administered by the Secretary.

The regulatory test recommended is based on information contained in the school's audited financial statements and focuses on the minimum level of resources that the school must have to satisfy these conditions for a period of twelve to eighteen months following its fiscal year end.

A description of the steps in the methodology follows:

### **Step One - Calculate the Three Ratios**

In the first step of the methodology, users calculate three financial ratios. The three ratios, customized for each sector to accommodate different accounting and reporting standards, are:

- Primary Reserve Ratio - Expendable resources divided by annual expenses;
- Equity Ratio - Net worth (with adjustments) divided by total assets (with adjustments); and
- Net Income Ratio - Revenue in excess (deficit) of expenses divided by total revenue.

This first step of the methodology is discussed in greater detail in chapter three of this report.

### **Step Two - Assign Strength Factors**

Strength factors allow for comparison between ratios by placing all ratio results on a common scale and allowing arithmetic combination of the ratios in the next step. The combination of the ratios is critical to the process because the three ratios together provide insight into the financial health of the institution based on the fundamental elements of financial health they measure. The tables used for assigning strength factors to ratios were developed specifically for this methodology, and their use is limited to application of this methodology. They are discussed in greater detail in chapter four of this report.

### **Step Three - Multiply Strength Factors by Weighting Percentages**

The ratios and their resultant strength factors are weighted in the third step of the methodology. With weighting percentages, some ratios and the fundamental elements of financial health that they measure, become more important than others. The weighting percentages are customized to accommodate the organizational differences of institutions in different business segments. However, in all business segments, through use of the weighting percentages, the methodology places greater emphasis on the cumulative resources amassed by the institution and available to support its mission (Primary Reserve and Equity Ratios) than on its operating results (Net Income Ratio).

The weighting percentages are discussed in greater detail in chapter five of this report.

#### **Step Four - Sum the Resulting Products**

The numeric results (products) produced by multiplying the weighting percentages by the strength factors are added together to form a composite score in the fourth step of the methodology. By adding the three products together, the methodology quantifies an assessment of an institution's overall financial condition with one number. This step, along with the final composite score, is discussed in greater detail in chapter six of this report.

#### **Step Five - Rank Institutions by Final Composite Score**

Once a final composite score has been determined, a conclusion is formed about the institution's financial responsibility in the fifth and final step of the methodology. The methodology will rank institutions on a range of financial health from negative one to three. Institutions which are financially healthy by design of the test will obtain scores of three. Institutions which are weak financially will fall at the lower end of the scale. If the school's composite score is above a point, or range of points, to be established by ED, the school is considered to be financially responsible (assuming it meets the other regulatory requirements). Schools with composite scores below that point will not satisfy the ratio test.

Establishing the delineating point of financial responsibility requires an overlay of the risk of loss that ED is willing to assume under the Title IV programs. Given the number and nature of factors that must be considered in determining an acceptable level of risk, ED may find it appropriate to establish a range of scores in lieu of one precise point on the final grading scale that defines financial responsibility. A discussion of this final step is discussed in greater detail in Chapter 6 of this report. That section also provides insight into the meaning of various final composite scores and potential financial strengths and weaknesses which can offset each other to obtain those scores.

This methodology is intended to be used to identify institutions that do or do not satisfy the ratio test. Follow-up actions and alternative tests that ED may choose to supply to institutions that do not satisfy the ratio test are beyond the scope of this engagement.

## Graphic Examples

The methodology is shown graphically below using a hypothetical proprietary institution and a hypothetical private non-profit institution as examples:

### Proprietary Institution

<u>Step 1</u>			<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>
Calculate Ratios			Assign Strength Factor	Apply Weighting	Equals a Product
Primary Reserve Ratio	$\frac{\text{Adjusted Equity}}{\text{Total Expenses}}$	= .06	1.20	X 30%	= .36
Equity Ratio	$\frac{\text{Modified Equity}}{\text{Modified Assets}}$	= .27	1.60	X 40%	= .64
Net Income Ratio	$\frac{\text{Net Income}}{\text{Total Revenues}}$	= .029	2.00	X 30%	= .60
<u>Step 5</u> Sum of all products Total					<u><u>1.60</u></u>

### Private Non-Profit Institution

<u>Step 1</u>			<u>Step 2</u>	<u>Step 3</u>	<u>Step 4</u>
Calculate Ratios			Assign Strength Factor	Apply Weighting	Equals a Product
Primary Reserve Ratio	$\frac{\text{Expendable Net Assets}}{\text{Total Expenses}}$	= .02	.20	X 40%	= .08
Equity Ratio	$\frac{\text{Modified Net Assets}}{\text{Modified Assets}}$	= .25	1.50	X 40%	= .60
Net Income Ratio	$\frac{\text{Change in Unrest. Net Assets}}{\text{Total Unrestricted Income}}$	= .01	1.50	X 20%	= .30
<u>Step 5</u> Sum of all products Total					<u><u>.98</u></u>

## 3. Financial Ratios

### Chapter Outline

- Recommendations
  - Why Financial Ratios?
  - Fundamental Elements of Financial Health
- Description of Selected Ratios
  - Primary Reserve Ratio
    - Definition of Components
    - Discussion
  - Equity Ratio
    - Definition of Components
    - Discussion
  - Exclusion of Intangible Assets
  - Exclusion of Related Party Receivables
  - Deferred Marketing and Other Accounting Issues
  - Net Income Ratio
    - Definition of Components
    - Discussion
- Recommendations Customized to Business Segments
  - Proprietary Institutions
  - Private Non-Profit Colleges and Universities
  - Hospitals
- Basis for Recommendations
  - Empirical Evidence
  - Addressing Respondents' Concerns and Suggestions
  - Relationship to ED Objectives

## **Recommendations**

As the first step in the methodology, KPMG recommends calculation of three financial ratios, using data obtained from general purpose financial statements. Using data that is readily obtainable from financial statements prepared in accordance with Generally Accepted Accounting Principles (GAAP) and audited by an independent certified public accountant is critical to ensuring consistency of information obtained from various schools. This approach provides ED with a methodology that can be used with a manageable level of effort. Each individual ratio is designed to measure different fundamental elements of financial health and the three ratios viewed together provide a measure of an institution's overall financial condition. The three ratios recommended for

use in the first step of the methodology are:

- Primary Reserve Ratio;
- Equity Ratio; and
- Net Income Ratio.

In selecting these ratios, KPMG built upon two fundamental concepts. First, financial ratios can be used to make an assessment of an institution's financial condition. Second, the financial condition of institutions in different business sectors can be assessed by measuring the same five fundamental elements of financial health regardless of sector differences in accounting and reporting requirements or organizational differences. The specific components included in the ratios may vary by institution type but the same fundamental elements should be always be measured.

### **Why Financial Ratios?**

General purpose financial statements are an important device for communicating the financial condition and operating results of postsecondary education institutions. Typically they follow principles and standards set forth in various publications of the American Institute of Certified Public Accountants (AICPA) and the Financial Accounting Standards Board (FASB). However, the implications of the financial activities described in these statements are not necessarily understood by all users. Financial ratios offer a capsulated view of key conditions affecting the fundamental elements of financial health and provide answers to certain questions concerning institutions' overall financial condition.

In simplest terms, a ratio is the relationship between two numbers, a numerator and a denominator. Each ratio's utility lies in its ability to impart greater knowledge than is readily discernible from each of the numbers standing alone. In converting amounts from financial statements to ratios on a single scale, comparison between different size institutions is made possible.

Since individual ratios provide insight into specific elements of financial health, carefully selected ratios, viewed together as a whole, provide an efficient means for assessing institutions' overall financial condition. Specifically, they provide insight in answering two fundamental questions:

- Is the institution clearly financially healthy or not as of the reporting date?
- Did the institution live within its means during the year?

The first question is answered from the balance sheet (Primary Reserve and Equity Ratios) which is the most common means of communicating an entity's financial condition at a given time. The second question is answered from the income or activities statement (Net

Income Ratio). A positive answer to these questions is a good indication that the institutional resources are sufficient to support its mission.

KPMG introduced its first edition of *Ratio Analysis in Higher Education* in the 1970s (now in its third edition) to use as a tool to better understand and interpret an institution's financial results. From working with our clients over more than 25 years, we concluded that financial ratio analysis provides a ready means of focusing on a few key elements that indicate how well the institution is performing. Today, rating agencies, investors, accrediting bodies, accountants, and company managers in many industries use ratios from the general purpose financial statements prepared in accordance with GAAP to compare similar institutions' basic financial performance.

### **Fundamental Elements of Financial Health**

KPMG believes the fundamental elements of financial health relevant to ED's objectives in this project are:

- 1. Financial Viability** - The ability of an institution to continue to achieve its operating objectives and fulfill its mission over the long term.
- 2. Profitability** - The determination of whether an institution receives more or less than it spends in an operating cycle. The term profitability may seem inappropriate for the non-profit environment but as defined here, profitability is a fundamental element of any institution's financial health. Any non-profit institution that consistently spends more than it receives will eventually cease to exist.
- 3. Liquidity** - The ability of an institution to satisfy its short term obligations with existing assets.
- 4. Ability to Borrow** - The ability of an institution to assume additional debt.
- 5. Capital Resources** - An institution's financial and physical capital base that supports its operations.

## **Description of Selected Ratios**

### **Primary Reserve Ratio**

### **Expendable Resources**

### **Operating Size**

A ratio that measures expendable resources is an important indicator of financial health and addresses the question - Is an institution financially healthy at a reporting date? The Primary Reserve Ratio is a reasonable measure of financial viability and a broad measure of the liquidity of the institution. Because this ratio measures expendable resources within the context of operating size, it is a measure of relative wealth or wealth against

commitments of the institution. The Primary Reserve Ratio serves as a direct measure of an institution's viability and an indirect measure of its liquidity.

In the short-term, substantial amounts of expendable capital can counter the effects of poor profitability or an inability to borrow. Likewise, insufficient expendable capital is a clear warning sign of poor financial health. Without sufficient expendable capital, an institution will be unable to meet its obligations (salaries, supplies, etc.) and could be forced into bankruptcy.

### **Definition of Components**

Expendable resources include all resources available to an institution in the normal course of business to satisfy ongoing business obligations. For all institutions receiving Title IV funds, this excludes net equity in plant, permanently restricted net assets, unsecured related party receivables and intangible assets.

Operating size is the total of all expenses incurred by the institution in the course of business. This would exclude expenses reflecting the cumulative effect of changes in accounting principles, extraordinary items, and discontinued operations (these represent one-time events and are discussed later in this chapter). Under the new AICPA Audit Guide for Not-For Profit Organizations (paragraph 12.05), most scholarships and other allowances which represent tuition discounts will be reported net of the corresponding revenue. In this regard, revenues from Title IV programs are not considered tuition discounts. A more detailed discussion of the accounting for scholarships and other allowances can be found in a December, 1996 discussion paper published by NACUBO entitled, Accounting and Reporting Scholarship Allowances to Tuition and Other Fee Revenues in Higher Education.

### **Discussion**

The Primary Reserve Ratio provides a measure of a school's expendable or liquid resource base in relation to its overall operating size. It is, in effect, a measure of the institution's margin against adversity.

Measuring expendable resources against operating size is significant because it is an institution specific measure. Operating size is a key financial data element because it is the best way to compare available resources against the impact of increased costs, educational activities, and commitments on current spending patterns. Total expenses is used as the measure of operating size in this ratio as opposed to total assets, revenue, or some other indicator because it represents actual obligations that the institution will likely have to meet again in the coming year. Depreciation expense is considered part of the operating size of an institution because it represents a charge to operations for use of the existing facility for operations. For non-profit colleges and universities, this charge replaces the

actual cash outlays for equipment and repairs reported in the revenues and expense statement under the previous accounting model.

The relationship of expendable resources to operating size could be viewed as the length of time that a school could continue to survive, given current operational needs, without additional revenue or support. For instance, a ratio result of 1.0 or greater indicates that the school has sufficient expendable resources available to continue its operations for a full year without receiving any additional revenue and without selling off or borrowing against any of its infrastructure. It is important to note that this ratio does not assume that no additional resources will be forthcoming. It is only a measure of amounts in reserve in case of an adverse economic event (margin against adversity).

The logic for excluding net investment in plant (net of accumulated depreciation) is twofold. First, plant assets are sunk costs to be used in future years by an institution to fulfill its mission. Plant assets will not normally be sold to produce cash since they will presumably be needed to support on going programs. In some instances, there is a lack of ready market to turn the assets into cash, even if they are not needed for operations. Second, excluding net plant assets is necessary to obtain a reasonable measure of liquid equity available to the institution on relatively short notice.

In addition to excluding net plant assets from the Primary Reserve ratio; intangible assets, permanently restricted net assets, annuity and life income funds, and term endowments are excluded from expendable resources. Intangible assets generally represent amounts that are not readily available to meet obligations. The largest intangible identified in KPMG's empirical testing was goodwill. Clearly there is not an established market for such assets (short of sale) and inclusion of a value for purposes of measuring liquidity would not meet the intended purpose of the test. Permanently restricted net assets (generally represented by endowment or trust agreements) are not expendable except in the event of some legal action, and therefore are not a part of the institution's resources that are available in short order to satisfy obligations. Likewise, annuity funds and term endowment funds meet this same criteria and are not considered expendable. Liabilities related to post employment and post retirement benefits represent obligations that generally will not be due for very long periods of time. Their value has been added back to owner equity (net assets) in arriving at the numerator of the Primary Reserve Ratio since this methodology focuses on a significantly shorter twelve to eighteen month time frame.

### **Equity Ratio**

### **Equity (Net Assets)**

### **Total Assets**

The Equity Ratio measures the amount of total resources that is financed by owners' investments, contributions, or accumulated earnings and how much is subject to claims of third parties. The ratio captures an institution's overall capitalization structure (resources) and by inference, its overall ability to borrow. The ratio provides insight into the ability of the institution to access debt and capital in the marketplace. The ratio also helps answer

the question; Is the institution financially healthy? For example, an institution with small levels of capital may have difficulty obtaining additional financing or handling its existing debt burden.

The Equity Ratio provides a measure of an institution's ability to borrow and its capital resources.

### **Definition of Components**

Equity, for purposes of this ratio, represents the total equity of the institution, excluding intangible assets and unsecured related party receivables. Total assets are the total of all assets of the organization, excluding intangible assets and unsecured related party receivables.

### **Discussion**

The Equity Ratio, by measuring equity as a percentage of total assets, demonstrates the share of assets shown on the school's balance sheet that the school actually owns. Thus, if any school has a large amount of assets but proportionately large amount of liabilities, the actual amount that the school owns is relatively small and the ratio will reflect that fact. Conversely, the ratio will positively reflect an absence, or relatively small amount, of liabilities because in those cases, most or all assets shown on the balance sheet will be available to support the school's mission.

Indirectly the Equity Ratio provides insight into the capital structure of the institution and will indicate whether an institution has acquired a disproportionate amount of its assets utilizing debt. Excessive amounts of debt will adversely affect the ratio (produce a lower ratio result) and little or no debt will have the opposite effect.

It is important to understand when considering the utility of the Equity Ratio that it is not intended to provide a direct measure of the amount of resources or dollars at an institution's disposal to meet obligations. For example, if an institution has what is considered a favorable Equity Ratio of .50 indicating that the value of its assets are twice that of its liabilities, one cannot necessarily conclude from this ratio alone that the institution has sufficient resources to fund its operations. Rather, the ratio provides a high level view of the institution's overall capitalization. A favorable Equity Ratio may be an indication of greater commitment on the owners' part since a greater percentage of their capital is at risk than in the case of a highly leveraged institution. Thus, the Equity Ratio is an effective tool in assessing an institution's ability to borrow and overall financial condition.

While this methodology was being developed, some raised concerns that the relationship expressed by the Equity Ratio could be less than useful if an institution's operating size was disproportionately large in relation to its asset base. The Equity Ratio measures the

proportion of an institution's assets that is not subject to claims by third parties so its utility is not related to operating size. Institutions that have a disproportionately large amount of their assets subject to claims of third parties will generally have to pay a premium when borrowing additional funds because they can't offer collateral that isn't already subject to claim. Private non-profit institutions with proportionately large amounts of permanent endowment funds (a condition measured by the Equity Ratio) have distinct capital resource advantages because these assets will, typically, produce predictable operating support. The Equity Ratio provides useful information in assessing institutions' ability to borrow and capital resources which are fundamental elements of financial health.

In addition, the empirical data shows that institutions' operating size, as measured by total expenses, is generally proportionate to the value of their assets. A hypothetical example was posed where an institution might have revenues, of approximately \$100,000 and little or no assets, say \$500. If this hypothetical institution had no debt, it might have a very favorable Equity Ratio of 1.00 even though it only had limited resources to support its mission. This hypothetical example presents an interesting theoretical discussion but the empirical data demonstrates that this hypothetical example is not realistic. Of the 507 proprietary schools sampled, five had a ten to one relationship of expenses to assets (adjusted for intangibles and unsecured related party receivables) and one additional institution was between eight to one and ten to one. All those schools had total revenues of less than \$500,000. The proportion of expenses to assets for all other proprietary institutions was less than eight to one. In fact, approximately 60% of the proprietary schools had expenses no greater than twice their adjusted assets. In the non-profit sector, there was only one institution with a proportion of expenses to adjusted assets greater than ten to one. There were no other institutions greater than five to one. Over 97% the non-profits had an expenses to assets relationship of two to one or less. The relationships of the size of an institution based upon adjusted assets articulates very well to operating size (as measured by expenses) except in an insignificant number of cases with institutions that have revenues of \$500,000 or less.

Finally, the concern that the Equity Ratio could be rendered useless by extremely large operating sizes provides insight into the way the three ratios, when viewed together, measure total financial condition. A large (measured by total expenses) school that has very limited dollar amounts of equity (net assets) would be unable to achieve a favorable Primary Reserve Ratio result.

### **Exclusion of Intangible Assets From Primary Reserve & Equity Ratios**

Intangible assets are balance sheet items that have been excluded from the numerator of the Primary Reserve Ratio and numerator and denominator of the Equity Ratio because they generally represent amounts that are not readily available to meet obligations. Although this exclusion has a greater impact on institutions in the proprietary business segment since they are more likely to have material intangible assets like goodwill, intangible assets like patents, trademarks, and goodwill may also be found on the balance

sheets of certain non-profit entities. Accounting Principles Board (APB) Opinion No. 17, Intangible Assets, defines intangible assets to specifically include patents, franchises, trademarks, and goodwill. Items such as deferred tax assets and liabilities, deferred direct response advertising costs, deferred enrollment expenses, and prepaid expenses do not meet the definition of an intangible asset in accordance with the APB Opinion No. 17.

The most common intangible asset is goodwill. Goodwill is the common name used to describe the excess of the cost of an acquired enterprise over the sum of identifiable net assets. The first challenge in deciding whether to include or exclude such assets from the ratios deals with valuation. Although some amounts on financial statements are estimates to varying degrees, goodwill valuation is particularly subjective. Since every business is somewhat unique, there is no established market and valuation therefore, is more susceptible to non-objective factors and would not be appropriate to consider for purposes of determining financial condition. Although less common than goodwill, other intangibles noted in our empirical testing like trademarks, franchises, covenants not to compete, and student lists, by their nature pose the same valuation problems.

In addition to the valuation issue one must consider the nature of the asset itself; that is, could schools sell the intangibles on their balance sheets to meet general obligations? In fact, if an institution finds itself in need of liquidating assets during the normal business cycle to meet obligations, an asset such as goodwill is likely to have little or no value at all since the business from which the goodwill arose probably lost its value in the marketplace.

Finally, in reviewing comparable financial responsibility standards from other industries, reduction in intangibles in calculation of regulatory equity is a generally accepted practice. Securities and Exchange Commission (SEC) Rule 15c3-1 specifically excludes the value of intangible assets in computing broker/dealers' net capital.

### **Exclusion of Unsecured Related Party Receivables From Primary Reserve & Equity Ratios**

Unsecured related party receivables are also excluded from the numerator of the Primary Reserve Ratio and the numerator and denominator of the Equity Ratio. Like goodwill, the availability of unsecured related party receivables is subject to a number of factors that substantially decrease ED's potential to recover such assets in administrative proceedings. This issue principally arises in the proprietary sector where schools are often one entity in a commonly-controlled business group. As a result, various intercompany activities, including shifting cash from one entity to another, result in these types of assets. Because collection of such unsecured receivables and payables can be controlled by a group, and the program participation agreement and financial statement submission requirement are with the contracting institution, ED generally has no access to the cash supporting such an asset in the event of the school closing. In fact, ED confirmed to KPMG that they are unaware of any successful attempts to recover such assets. They further indicated that related party receivables are usually unrecoverable in bankruptcy proceedings and quickly

written off by the trustee. If there is no bankruptcy, an unsecured loan to a related party would not be treated as an asset in evaluating whether to file suit against the corporation to recover an ED liability. Inclusion without further analysis increases the risk to the Title IV programs. The type of individual analysis that would be required to assess whether to include or exclude the asset would result in an unmanageable methodology for ED. Accordingly, we recommend excluding such assets in the determination of these ratios.

Again, as is the case with intangible assets, comparable financial responsibility standards in other industries like the securities and banking industries generally exclude the value of unsecured related party receivables.

### **Deferred Marketing and Other Accounting Issues**

During KPMG’s empirical testing, we noted a significant number of other deferred items which significantly impact the quality of the assets reported in the financial statements for purposes of determining financial health. Because approximately 60% of the 507 institutions sampled had total assets of less than \$500,000, these amounts when reported can have a significant impact on the conclusions reached with respect to any regulatory test. Deferred items we noted include deferred marketing costs, start up costs, program / curriculum costs, license costs, accreditation costs, “development” costs, relocation costs, closing costs and capitalized financial aid costs. In addition to its regulatory tests performed on these financial statements, ED should be cognizant of the recording of these assets in the financial statements and should make efforts in cases where assets are significant to determine whether the items meet the spirit of the published accounting literature. As one example, direct response advertising is now subject to criteria in the Accounting Standards Division - Statement of Position 93-7 entitled, *Reporting on Advertising Costs*. The criteria under this SOP are stringent as to the accounting support, in the form of customer logs and links to the advertisement, in order for the deferral to be recorded. Deferred marketing costs are one example of an accounting issue that ED should monitor and consider when making decisions about whether to include or exclude items to from the ratio numerators and denominators.

### **Net Income Ratio**

$$\frac{\text{Net Income}}{\text{Total Revenue}}$$

Profitability is one of the primary indicators of the underlying causes of a change in an institution’s financial condition because of its direct effect on resources reflected in the balance sheet of an organization. Non-profit entities, such as private and public colleges, must, at a minimum, break-even or generate surpluses over time in order to remain financially viable. As investor-owned entities, the primary goal of proprietary institutions is to generate an economic return. This ratio helps answer the question: Did the institution live within its means for the year being measured? Significant operating losses can impair the ability of an institution to continue operations.

The Net Income Ratio provides a direct measure of an institution's profitability or ability to operate within its means. Continued gains or losses measured by the ratio will impact all the other fundamental elements of financial health over time.

### **Definition of Components**

Net Income is the total change in unrestricted net assets for private non-profit institutions and is pre-tax earnings for for-profit institutions. A non-profit's change in unrestricted net assets represents the same element as net income for a for profit entity. Total revenues are all operating and non-operating revenues of the institution, limited to the unrestricted net asset category for private non-profits. Under the new AICPA Audit Guide for Not-For Profit Organizations most scholarships and allowances at private colleges and universities will be treated as discounts from revenue, not as expenses.

The numerator of the Net Income Ratio is calculated on a pre-tax basis to treat all institutions similarly. Non-profit institutions are generally not subject to substantial income taxes and proprietary schools may or may not have income taxes recorded on the income statement depending on their overall tax structure (e.g. subchapter C or S corporations). By calculating net income on a pre-tax basis, the methodology attempts to put all institutions on an equal scale.

Throughout this project, some raised concerns about the different ways owners can take capital out of a business (e.g. dividends, salaries, or management fees) and their effect on the calculation of net income. KPMG rejected the idea of adjusting net income to exclude the effects of owner compensation because such adjustments would add an inappropriate degree of complexity to the methodology. In addition, the necessary adjustments may not be readily obtainable from general purpose financial statements and would be subject to interpretation. Questions like "Do fees paid to a specific related entity constitute owner compensation?" would be difficult to answer uniformly and could make the methodology unnecessarily cumbersome.

In addition, net income for purposes of this ratio excludes the effect of extraordinary gains and losses, effects from any change in accounting principle, and gains or losses from discontinued operations. The methodology does not consider these items when analyzing profitability because they represent one time events and generally do not reflect operating results on an ongoing basis.

### **Discussion**

The Net Income Ratio measures the ability of an institution to live within its means in a given operating cycle. A positive ratio indicates a surplus or profit for the year. Generally speaking, the larger the surplus or profit, the stronger the institution's financial position as a result of the year's operations. A negative ratio indicates a deficit or loss for the year.

Small deficits may not be significant if the institution has large expendable capital, but large deficits or losses are usually a warning signal that major program or operational adjustments should be made. Because of its direct effect on an institution's resources, the Net Income Ratio is an important indicator of the underlying causes of a change in an institution's financial condition.

## **Recommendations Customized to Business Segments**

The methodology's three ratios are designed to measure the same fundamental elements of financial health for each sector of educational institutions, but the numerators and denominators have been customized to accommodate differences in accounting and reporting requirements.

## Ratios for Proprietary Institutions

Institutions in this business segment are investor-owned, for-profit entities, and their financial statements are prepared in accordance with accounting standards promulgated by the Financial Accounting Standards Board (FASB).

<b>Primary Reserve Ratio</b>	<b>Expendable Resources</b>
	<b>Operating Size</b>

Expendable Resources =	Total owner(s) equity
less (-)	Intangible assets
less (-)	Unsecured related party receivables
less (-)	Property, plant & equipment (net of accumulated depreciation) *
plus (+)	All debt obtained for long-term purposes, including short-term portion (up to the amount of net property, plant & equipment) **
plus (+)	Post-employment and retirement liabilities
equals (=)	<b>Expendable Resources</b>

\* Property, plant & equipment (PP&E) includes capitalized lease assets.

\*\* If total debt exceeds net PP&E, add back only the amount of debt that does not exceed the PP&E for this line item adjustment. For example, assuming debt of \$100,000 and net PP&E of \$80,000, add only \$80,000. Note that in the preceding line item, net PP&E is subtracted from owner(s) equity and here the related debt is added back. The effect of these two line items is to eliminate everything related to PP&E, including the related debt, from the numerator. If the debt exceeds net PP&E, as is the case with this example, and all debt were added back, the net effect would be to add \$20,000 even though the debt exceeds the asset amount.

Operating Size =	Total expenses (taken directly from audited income statement) including cost of sales, selling and administrative expenses, depreciation, and other non-operating expenses and losses
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<b>Equity Ratio</b>	<b>Equity</b>
	<hr/> <b>Total Assets</b>

Equity =	Total owner(s) equity (taken directly from audited balance sheet)
	less (-) Intangible assets
	less (-) Unsecured related party receivables
	<b>Total Equity</b>

Total Assets =	Total assets (taken directly from audited balance sheet)
	less (-) Intangible assets
	less (-) Unsecured related party receivables
	<b>Modified Assets</b>

<b>Net Income Ratio</b>	<b>Net Income</b>
	<hr/> <b>Total Revenues</b>

Net Income =	Pre-tax income (taken directly from audited income statement)
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Total Revenues =	Total operating revenues
	plus (+) Net non-operating revenues and gains
	<b>Total Revenues</b>

### **Ratios for Private Non-Profit Colleges & Universities**

Historically, financial statements for institutions in this business segment have been prepared in a fund accounting format in accordance with the standards set forth by the 1973 AICPA Audit Guide for Colleges and Universities. Such financial statements appeared similar in most material respects to the financial statements prepared for public colleges and universities. However, Statements of Financial Accounting Standards (SFAS) Nos. 116 and 117 significantly redefined financial accounting and reporting requirements for these institutions. Now, financial statements in this business segment bear a closer resemblance to those in the proprietary school sector than to those for public colleges and universities, which now follow the pronouncements of the Government Accounting Standards Board (GASB).

Primary Reserve Ratio	<u>Expendable Resources</u> <u>Operating Size</u>
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Expendable Resources =	Unrestricted and temporarily restricted net assets
less (-)	Property, plant & equipment (net of accumulated depreciation) *
plus (+)	Total debt - All debt, including short-term portion, obtained for long-term purposes **
less (-)	Intangible assets
less (-)	Annuity, life income funds and term endowments
less (-)	Unsecured related party receivables
plus (+)	<u>Post-employment and retirement liabilities</u>
equals (=)	<b>Expendable Resources</b>

- \* Property, plant & equipment (PP&E) includes capitalized lease assets.
- \*\* If total debt exceeds PP&E, add back only the amount of debt that does not exceed the PP&E. For example, assuming debt of \$100,000 and net PP&E of \$80,000, add only \$80,000. Note that in the preceding line item, net PP&E is subtracted from net assets and here the related debt is added back. The effect of these two line items is to eliminate everything related to PP&E, including the related debt, from the numerator. If the debt exceeds net PP&E, as is the case with this example, and all debt were added back, the net effect would be to add \$20,000 even though the debt exceeds the asset amount.

Operating Size = Total expenses (taken directly from audited statement of activities)

<b>Equity Ratio</b>	<b>Net Assets</b>
	<b>Total Assets</b>

Net Assets =	Unrestricted, temporarily restricted, and permanently restricted net assets
	less (-) Intangible assets
	less (-) Unsecured related party receivables
equals (=)	<b>Net Assets</b>

Total Assets =	Total assets
	less (-) Intangible assets
	less (-) Unsecured related party receivables
equals (=)	<b>Total Assets</b>

<b>Net Income Ratio</b>	<b>Net Income</b>
	<b>Total Income</b>

Net Income =	Change in unrestricted net assets (taken directly from the statement of activities)
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Total Revenue =	Total unrestricted revenues, gains, and other support
	plus (+) net assets released from restrictions
equals (=)	<b>Total Revenue</b>

### **Ratios for Hospitals**

Accounting and reporting requirements for non-profit hospitals are similar in most regards to the standards applied to private non-profit colleges and universities. The ratios are therefore the same. Likewise, accounting and reporting requirements and therefore the ratios for proprietary hospitals are generally the same as those established for proprietary schools.

### **Basis for Recommendations**

KPMG based its recommendations on its prior experience and professional judgment, empirical evidence, recommendations and questions from the higher education community, and ED's objectives in using the ratios.

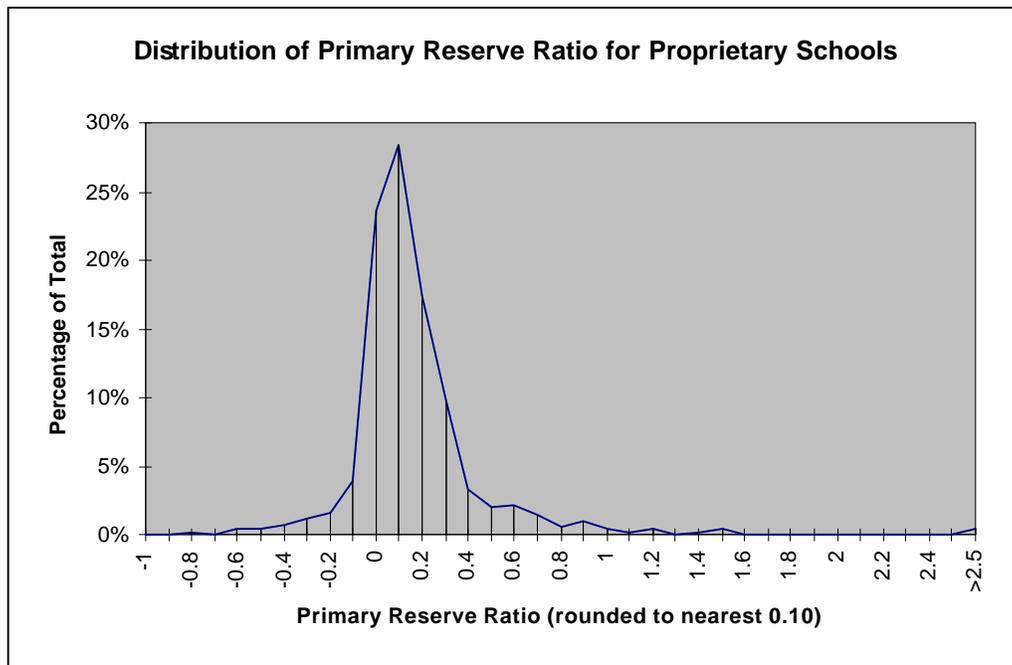
### **Empirical Evidence**

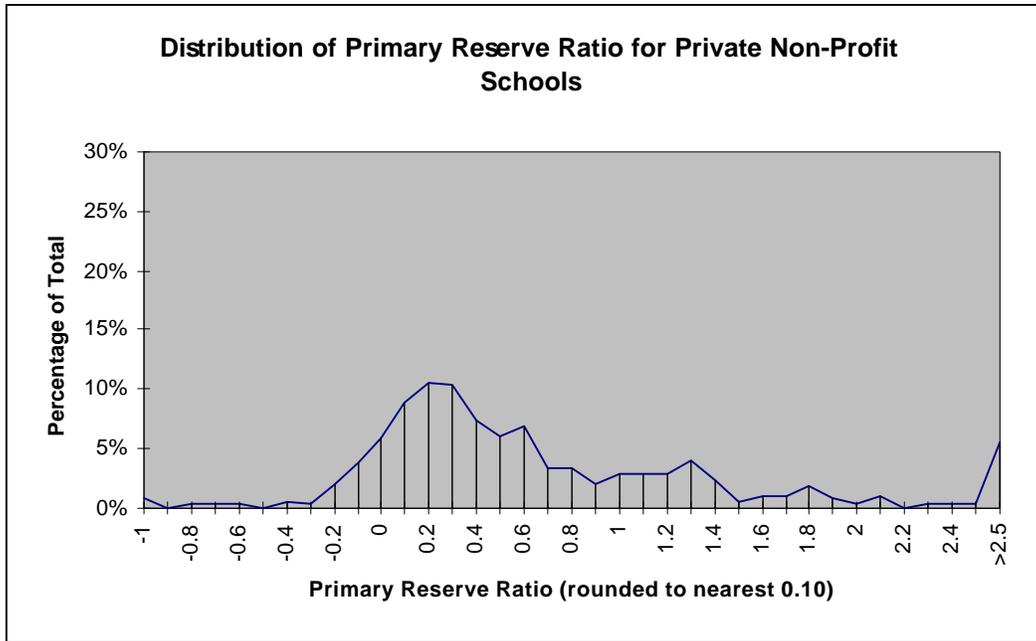
The three ratios tell us much about the population of institutions that participate in federal student financial aid programs. Listed below are summaries of the distribution of each of the suggested ratios for over 900 institutions we sampled in completing the first task of this project. The chart is followed by interpretive comments about the data.

***Primary Reserve Ratio***

<b><u>Ratio Results</u></b>	<b>Sample = 395 <u>Private NFP</u></b>		<b>Sample = 507 <u>Proprietary</u></b>	
	<b>Number (cumulative)</b>	<b>Percentage (cumulative)</b>	<b>Number (cumulative)</b>	<b>Percentage (cumulative)</b>
less than 0	40	10	78	15
less than .10	68	17	244	48
less than .20	107	27	352	69
less than .30	151	38	423	83

Distributions of the Primary Reserve Ratio for institutions in this project’s sample are shown graphically on the following page.





An important component of capital for the private non-profit sector appears to be land, building and equipment and permanently restricted endowment. Accordingly, the issue that ED must consider for this sector does not appear to be the adequacy of capital, but rather its liquidity and the ability of those institutions to convert such capital to cash through debt or sale in times of fiscal crisis or through court proceedings. Additional sources of capital for this sector are more limited, consisting of contributions from donors and any surpluses arising from operations.

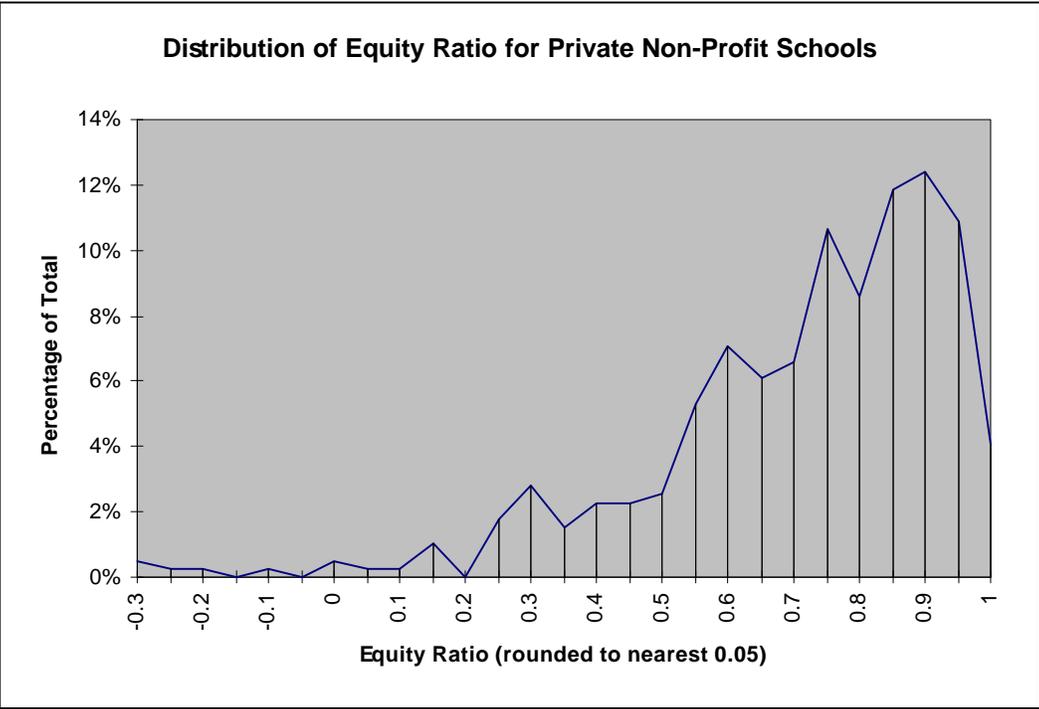
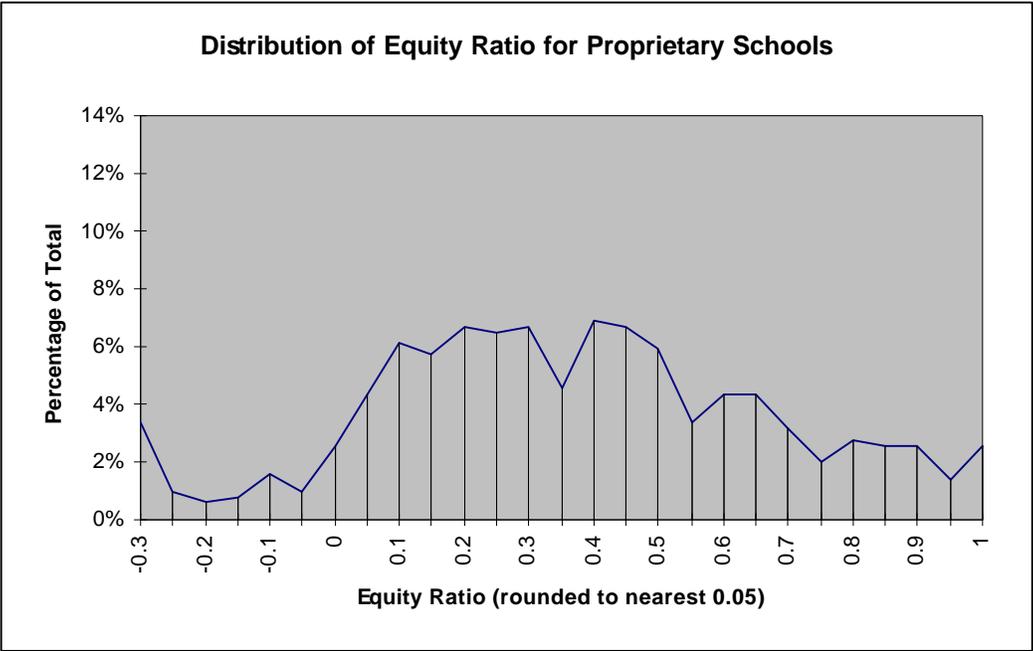
Schools in the proprietary sector appear to be very dependent upon related party receivables and intangible assets. Without them, they have very little capital. In the sample of 507 proprietary institutions, 34% have unsecured related party receivables. For those institutions with unsecured related party receivables, the receivables constituted an average of 34% of total equity. 13% of the proprietary institutions in the sample have some type of intangible such as goodwill. For institutions with intangible assets on their balance sheets, these intangibles averaged approximately 39% of total owners equity. These statistics indicate that ED is at far greater risk with these institutions than would be apparent from a simple perusal of the absolute dollar amount of owners' equity reflected in the institutions' balance sheets. The risk to ED is increased because ED can make no claim on collection of related party receivables and the related party nature of the asset increases the institutional ability to manipulate the cash flow. The intangibles have no cash flow stream associated with them and, in fact, if an institution experiences financial difficulties the value of the asset making up the primary component of the intangibles, goodwill, will generally be impaired. Based on the above analysis, it appears that the issue for this sector that ED must consider is the adequacy of capital to support operations and

deliver appropriate service. Sources of additional capital are additional investments by owners and retention of earnings in the business.

*Equity Ratio*

<b><u>Ratio Results</u></b>	<b>Sample = 395</b>		<b>Sample = 507</b>	
	<b><u>Private NFP</u></b>		<b><u>Proprietary</u></b>	
	<b>Number (cumulative)</b>	<b>Percentage (cumulative)</b>	<b>Number (cumulative)</b>	<b>Percentage (cumulative)</b>
less than 0	5	1	47	9
less than .10	8	2	91	18
less than .20	13	3	157	31
less than .30	24	6	225	44
less than .40	43	11	278	55
less than .50	59	15	348	69

Distributions of the Equity Ratio for institutions in this project's sample are shown graphically on the following page.



The distribution of the Equity Ratio for the two sectors is quite different. For proprietary institutions, the distribution suggests that a large percentage of institutions have low capitalization levels. Almost 10% have negative equity (i.e., they have ratios less than

zero). 18%, or almost 1/5, have ratios of less than 10% meaning that liabilities are nine times greater than equity. These percentages are considered low levels of capitalization and will be explained in a later chapter. Even a larger percentage of institutions are highly leveraged. 31% have ratios of less than 20% meaning that liabilities are four times greater than equity. 44% of the sample is below .30 meaning liabilities are 2.3 times greater than equity. Only 31% of all institutions have ratios greater than .50 meaning equity is greater than liabilities.

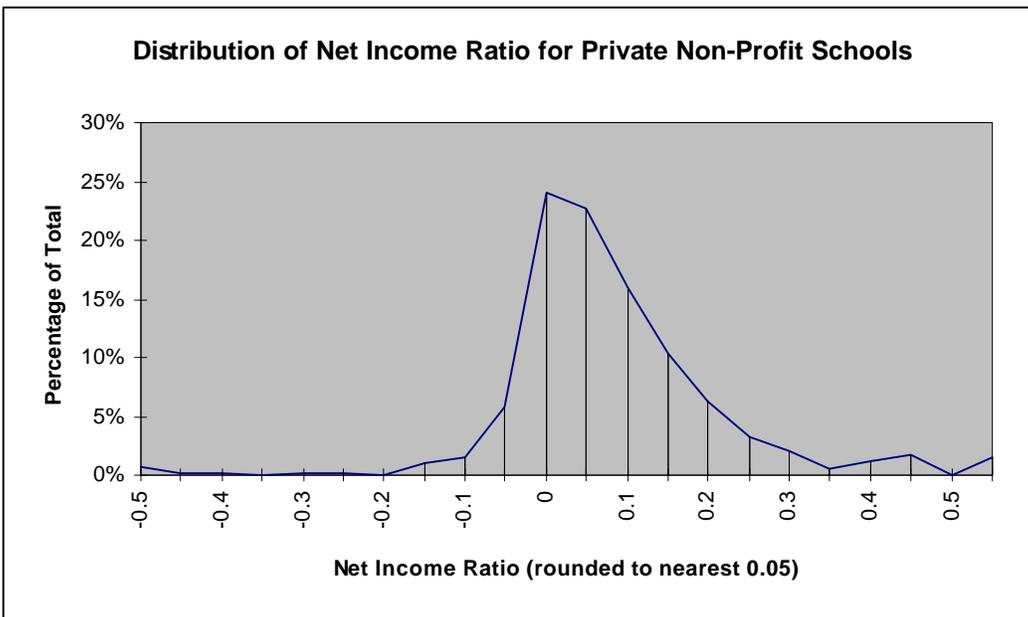
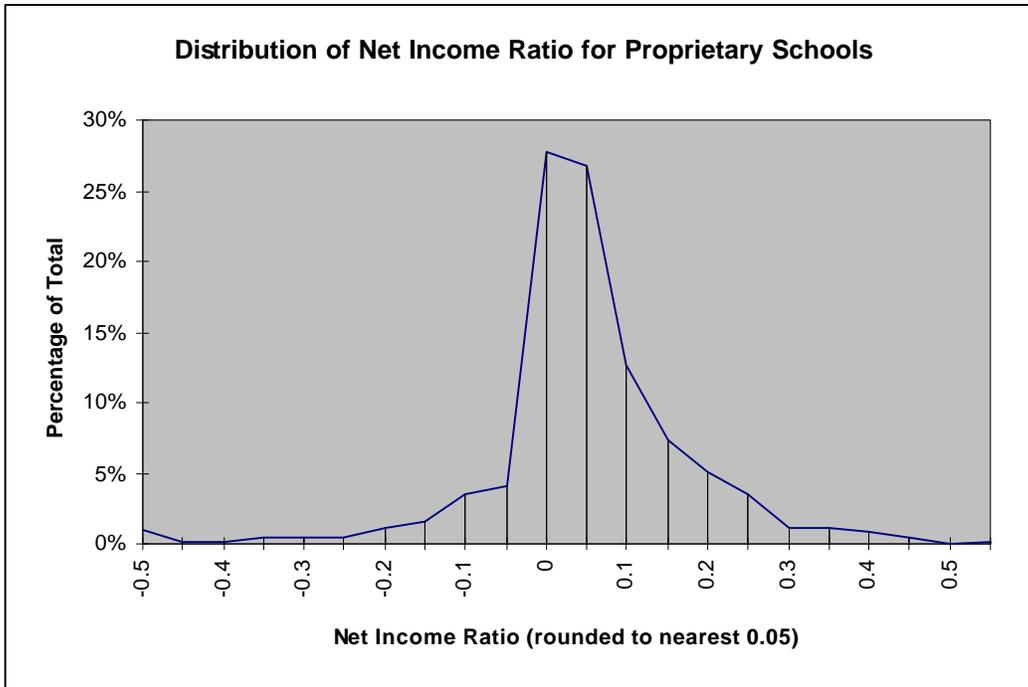
Private non-profit institutions, on the other hand, appear to have much greater equity supporting their operations. Only 1% of these institutions have negative equity. Approximately 6% have ratios below .30. Only approximately 11% have ratios below .40. Over 85% of all institutions have ratios greater than .50 meaning the equity supporting the entity is greater than its liabilities.

Comparing ratios of institutions in different business segments supports the conclusion that the issue for private non-profit institutions lies more in the liquidity of their net assets rather than their overall capitalization and therefore that the Primary Reserve Ratio should be given a greater weight in the non-profit sector than the proprietary sector (see Weighting chapter). Approximately 69% of proprietaries have an Equity Ratio of less than .50 while 59% of them have a Primary Reserve ratio of less than .15. The “healthy” level equates to a strength factor of three described in the Strength Factors chapter. On the other hand, approximately 15% of private non-profit institutions have an Equity Ratio of less than .50, while 38% have a Primary Reserve ratio of less than .30.

***Net Income Ratio***

<b><u>Ratio Results</u></b>	<b>Sample = 395</b>		<b>Sample = 507</b>	
	<b><u>Private NFP</u></b>		<b><u>Proprietary</u></b>	
	<b>Number (cumulative)</b>	<b>Percentage (cumulative)</b>	<b>Number (cumulative)</b>	<b>Percentage (cumulative)</b>
less than 0	69	18	89	18
less than .01	100	25	149	29
less than .02	120	30	190	38
less than .03	145	37	221	44
less than .04	155	39	256	51
less than .05	178	45	289	57

Distributions of the Net Income Ratio for institutions in this project’s sample are shown graphically on the following page.



The distributions of the Net Income Ratio suggest that non-profit institutions appear to be somewhat more profitable than their proprietary counterparts but not by much. The distribution of this ratio is much more similar for the two sectors than the other two ratios. Moreover, the proprietary Net Income Ratios may be lower than the private non-profit ratios because:

- They are pre-tax — a major motivation may be to minimize tax and limit double taxation to owner/employee. Double taxation refers to the taxing of the same income at the corporate level and again at the individual level if distributed in the form of a dividend instead of salary or other compensation.
- They are also after salaries paid to owner/employees so they may not reflect the total return to owners.

The surpluses for non-profit institutions, on the other hand, may be higher, in part, because of the inclusion of both realized and unrealized investment gains. At the lower levels of profitability ( $0 <$ , and  $.01 <$ ), the area of concern in determining whether an institution lived within its means, the results in the two sectors are fairly similar suggesting that operations do not differ substantially between proprietaries and private non-profits at that level.

The new AICPA Audit and Accounting Guide for Non-Profit Organizations (paragraph 12.05) dictates that in the future, tuition discounts will be accounted for as reductions of revenue instead of expenses as is currently the case. In order to anticipate the effect of this accounting change on the ratio methodology, we re-calculated such expenses to reductions of revenue for the 100 non-profit institutions receiving the lowest composite score. We found that the overall effect on the recommended methodology was insignificant for non-profit schools in the sample. The empirical data used in this report does **NOT** reflect the effect of that future accounting change.

### **Addressing Respondents' Concerns and Suggestions**

As part of its project to establish standard measures of financial responsibility for institutions receiving Title IV financial aid, ED published for comments a set of recommendations in the form of a Notice of Proposed Rule Making (NPRM) in September of 1996. This report considers the comments made by the community. Included below are several of the major concerns that the community raised and a discussion of the influence those comments had on this report.

#### **Primary Reserve Ratio**

Some higher education representatives felt that non-cash expenses such as depreciation and amortization should be excluded from the denominator of the Primary Reserve Ratio. If the intent of the Primary Reserve Ratio was limited to predicting the number of days that a school could operate without additional revenue, then the denominator might exclude such non-cash expenses. KPMG rejected that suggestion for two basic reasons. First, although depreciation expense does not represent a cash outlay, it does represent an operating expense that is vitally important in evaluating operating size (commitment) as the denominator is intended to do. Secondly, KPMG tried to limit the amount of additional calculation necessary when obtaining numerators and denominators from the general purpose financial statements. Excluding non-cash items adds a level of complexity and potential ambiguity to the methodology.

### **Viability Ratio**

The Equity Ratio replaces the Viability Ratio in the NPRM methodology. With the original proposed methodology, in the cases where an institution had no debt, the Viability Ratio would be arithmetically impossible to calculate. Also, a school with no debt might consider taking on a small amount of debt in order to earn an unduly high threshold for the Viability Ratio. The original methodology made adjustments for the schools with no debt by redistributing the weighting percentages between the Primary Reserve and Net Income Ratios. To deal with the “gaming” possibility arising from adding a small amount of debt, the methodology set limits on values assigned to the Viability Ratio in such situations, referred to as a “debt patch.”

Many respondents believed the debt patch was unfair to proprietary institutions and that it failed to reward institutions with little or no debt. Some also believed that the fact that a debt patch was necessary at all indicated a fundamental logical flaw in the methodology.

Substituting the Equity Ratio for the Viability Ratio seeks to address these issues. It will be extremely rare to have a zero in the numerator or denominator of the Equity Ratio. Moreover, that ratio provides no incentive to take on an insignificant amount of debt.

KPMG considered replacing the Viability Ratio with a number of other ability to borrow ratios like the traditional Debt to Equity Ratio (debt divided by equity or net assets), the Debt Coverage Ratio (net income or change in net assets divided by debt service), and the Debt Burden Ratio (debt service divided by total expenditures). With those and other ratios, however, the possibility of having a zero in the numerator or denominator still existed and that posed mechanical problems since zero is not divisible by any number and numbers cannot be divided by zero for meaningful results. In addition, those other ratios, when viewed with the Primary Reserve and Net Income ratios, did not provide as thorough or comprehensive analysis of institutions’ overall financial condition. KPMG concluded that the Equity Ratio was the simplest and most appropriate ratio since it measures ability to borrow, considers all resources that an institution owns, and presented no mechanical problems.

### **Plant Assets**

Numerous respondents believed that the original methodology penalized institutions that invested in the future by excluding the value of net plant from the numerator of both balance sheet (Viability and Primary Reserve) ratios. Substituting the Equity Ratio for the Viability Ratio likewise addresses these concerns.

The Equity Ratio considers the value of all assets except intangibles and related party receivables. By retaining the Primary Reserve Ratio in the new methodology and giving it significant weighting, a measure of short-term liquidity is included. Inclusion of an Equity

Ratio enables institutions that have invested expendable resources in plant assets to “get credit” for such investments.

### **Relationship to ED Objectives**

The three ratios, taken together provide a sound basis for determining financial responsibility. The Primary Reserve Ratio functions as a measure of liquid resources which is appropriate given ED’s short time frame (12 to 18 months). The Equity Ratio considers all resources at the institution’s disposal and the Net Income Ratio measures an institution’s ability to operate within its means. The three ratios provide a direct measure of the fundamental elements of financial health and thereby provide insight into an institution’s ability to fulfill its mission.

# **4 Strength Factors**

## **Chapter Outline**

- Recommendations

- Description of the Strength Factors

- Primary Reserve Ratio Strength Factors

- Conclusions Drawn From a Strength Factor of Negative One

- Conclusions Drawn From a Strength Factor of Zero

- Conclusions Drawn From a Strength Factor of One

- Conclusions Drawn From a Strength Factor of Three

- Equity Ratio Strength Factors

- Conclusions Drawn From a Strength Factor of Negative One

- Conclusions Drawn From a Strength Factor of Zero

- Conclusions Drawn From a Strength Factor of One

- Conclusions Drawn From a Strength Factor of Three

- Net Income Ratio Strength Factors

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- Conclusions Drawn From a Strength Factor of Three

- Recommendations Customized to Business Segments

- Proprietary Institutions

- Private Non-Profit Colleges and Universities

- Hospitals

- Basis for Recommendations

- Relationship to ED Objectives

- Empirical Evidence

- Addressing Respondent’s Concerns and Suggestions

## **Recommendations**

In the second step of the recommended methodology, strength factors are assigned to each ratio based on the individual ratio results. Strength factors put the ratio results on a common scale and makes it arithmetically possible to weight and add the results of the three ratios together to arrive at a final composite score for each institution. To find the appropriate strength factor for any particular ratio, institutions can use the tables developed for this methodology and displayed in this section.

To meet ED's objectives for this project a strength factor scale of negative one to positive three was developed to identify and provide maximum differentiation between institutions on the lower end of the spectrum of financial health without differentiating greatly among the clearly financially healthy institutions. In contrast, the NPRM methodology provided for a strength factor scale from one to five and differentiated between institutions at all points along a broader spectrum of financial health, including the lower and upper ends of the scale.

## **Description of Strength Factors**

KPMG employed the following steps in developing the strength factors for each ratio:

- The minimum ratio result that would indicate financial health was established to earn the highest possible strength factor of three. Such a ratio result or higher would therefore generate the maximum number of points toward the final composite score.
- A strength factor of zero was established for the ratio result below which indicates clearly poor financial condition.
- The spectrum of potential strength factors between zero and three was divided into thirty equal increments to establish all other possible strength factors between zero and three.
- The incremental units between zero and three were extended evenly down to the negative one strength factor.

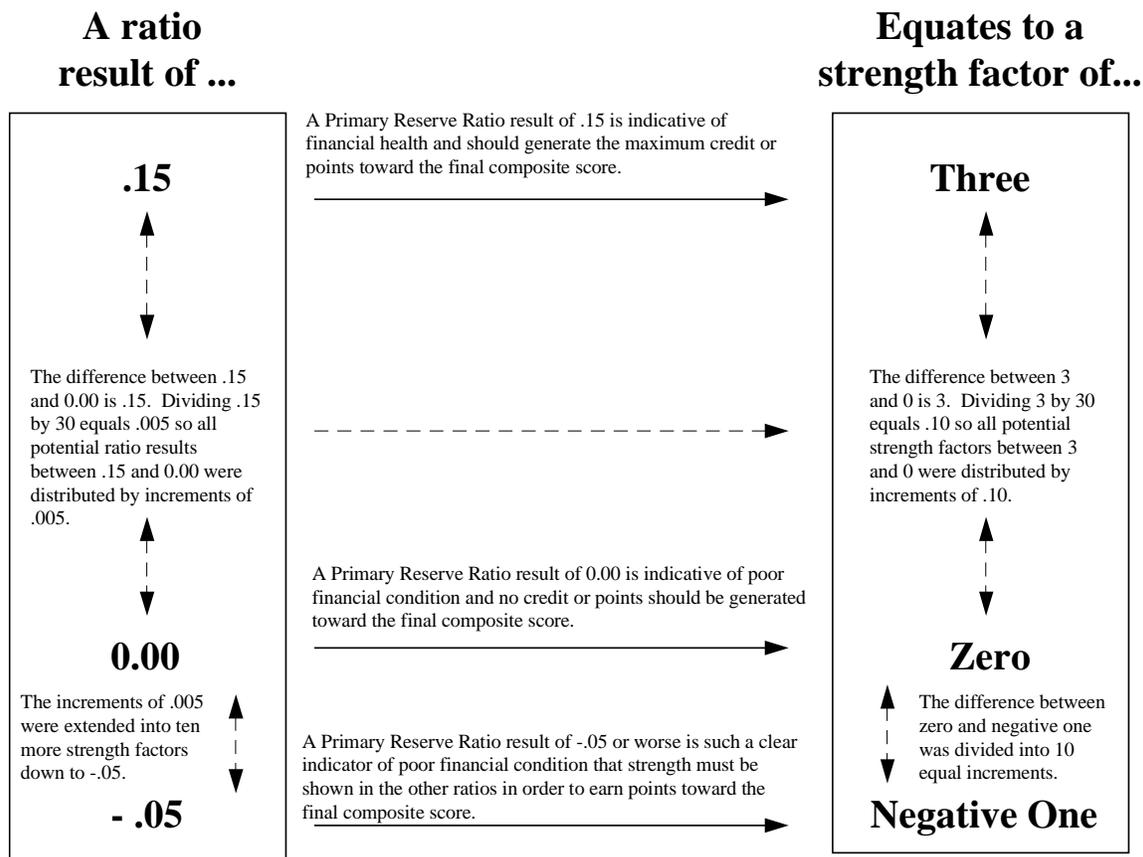
As discussed later in this section, this process was modified slightly in developing the strength factors for the Net Income Ratio.

With the resultant strength factors, relatively favorable ratio results generate the maximum number of weighted points to the final composite score. Unfavorable ratio results equate to a strength factor of zero and generate no points toward the composite score, or generate negative points if the degree of the negative result is severe enough, and detract from the composite score. All other potential ratio results are distributed evenly between these points and the potential strength factors are assigned accordingly.

The spectrum of potential ratio scores is limited to scores that are clearly unfavorable (equated to strength factor of negative one) and minimum scores necessary to conclude that an institution is financially healthy (equated to strength factor of three). The lowest possible strength factor is negative one and the highest possible is three. The strength factors do not distinguish between ratios outside the set range because the methodology was not designed to differentiate between institutions at all points along the spectrum of financial health. The purpose of the methodology, and therefore the strength factors, is limited to differentiating most subtly between institutions on the lower end of the spectrum of financial health.

The process KPMG went through in developing the strength factors for each ratio is

shown graphically below using the Primary Reserve Ratio for proprietary institutions as an example.



In developing the strength factors for each ratio, KPMG considered the ability of institutions to fund the following specific areas, all of which are necessary for institutions to successfully carry on their mission.

- **Technology** - In order to remain competitive today and in the future, institutions must continually replace existing technology with new, more expensive technology.
- **Capital Replacement** - Institutions' physical capital eventually wears out and must generally be replaced with items that are comparably expensive.
- **Human Capital** - Institutions generally need to at least retain existing faculty and staff, and need to re-train them to meet students' changing needs.
- **Program Initiatives** - Seed money is generally necessary to develop the new programs that help institutions to grow.

## Primary Reserve Ratio Strength Factors

As discussed in chapter three of this report, the Primary Reserve Ratio measures the cushion or margin each institution has against adversity. A ratio of less than zero indicates that the institution has a negative amount of expendable resources (liabilities exceed assets that can be readily converted to cash) and must struggle with significant cash flow issues on a routine basis. An unforeseen event would increase the likelihood of institutional failure, absent some other financial strength. It follows therefore that a ratio of zero should not generate any points toward the final composite score since the illiquidity of any equity owned will cause persistent cash flow issues. This would be an institution with no cushion against unforeseen events or other adversity.

On the upper end of the scale, a ratio of .30 indicates that an institution has sufficient expendable resources to continue operations for approximately 110 days without any additional revenue or support. Such reserves are indicative of a financially healthy institution and equate to a strength factor of three for private non-profit colleges and universities. For reasons outlined later in this section, a standard of .15 was established for proprietary schools as the ratio necessary to earn a strength factor of three. The ratio result necessary to earn a strength factor of negative one was established by simply extending the incremental strength factors between zero and three ten more increments below zero.

Moody's, a primary bond rating agency, uses an expendable resources to operations ratio that is similar to the Primary Reserve Ratio in analyzing credit worthiness. KPMG compared the Primary Reserve Ratio strength factors developed for this methodology to the standards set by Moody's for similar ratios as a test of reasonableness. It is important to note when reviewing the following Moody's data, that the data was used strictly as a test of reasonableness. There is no perfect correlation between the standards set by Moody's and the strength factors that this methodology employs. This methodology's strength factors are generally lower and appear to be reasonable when compared to Moody's standards for similar ratios.

For private colleges and universities, the median Moody's ratio for schools with a Baa rating is .669 for small schools and .449 for large schools. The median score for schools with a bond rating of Aa is 4.58 for small schools and 3.28 for large schools. It is noteworthy that the values displayed above represent median scores, not high end scores. Many of the institutions in this project's sample represent what would generally be considered to be sub-investment grade institutions. The Moody's definition of their Baa grade is as follows: "Medium grade obligations, i.e. they are neither highly protected nor poorly secured. They lack outstanding characteristics and in fact have speculative characteristics as well." Institutions in this category represent a reasonable credit risk but absent some other factor or set of circumstances would not be considered financially healthy. As this ratio decreases, the relative financial health of the institution being analyzed decreases.

The methodology's ratio necessary to earn the highest possible strength factor (.30 for private non-profit institutions and .15 for proprietaries) is lower than those of investment grade institutions for two basic reasons. First, ED's horizon is short term in nature, twelve to eighteen months as opposed to lenders or bond purchasers who generally have longer term goals (i.e. the repayment period of the bonds being rated). Secondly, the rating agencies are assessing repayment capabilities in the normal course without abnormal events such as spending endowment funds or liquidating fixed assets.

Specific Primary Reserve Ratio strength factors and the ratio results to which they equate for proprietary institutions are shown on the following page.

## Proprietary Institutions

Primary Reserve Result of		Earns a Strength
At least...	But less than...	Factor of...
<-.045	-.045	-1.00
-.045	-.040	-.90
-.040	-.035	-.80
-.035	-.030	-.70
-.030	-.025	-.60
-.025	-.020	-.50
-.020	-.015	-.40
-.015	-.010	-.30
-.010	-.005	-.20
-.005	0.00	-.10
0.00	.005	0.00
.005	.010	.10
.010	.015	.20
.015	.020	.30
.020	.025	.40
.025	.030	.50
.030	.035	.60
.035	.040	.70
.040	.045	.80
.045	.050	.90
.050	.055	1.00
.055	.060	1.10
.060	.065	1.20
.065	.070	1.30
.070	.075	1.40
.075	.080	1.50
.080	.085	1.60
.085	.090	1.70
.090	.095	1.80
.095	.100	1.90
.100	.105	2.00
.105	.110	2.10
.110	.115	2.20
.115	.120	2.30
.120	.125	2.40
.125	.130	2.50
.130	.135	2.60
.135	.140	2.70
.140	.145	2.80
.145	.150	2.90
.150	>.150	3.0

Specific Primary Reserve Ratio strength factors and the ratio results to which they equate for private non-profit institutions are shown below.

## Private Non-Profit Institutions

Primary Reserve Result of		Earns a Strength
At least...	But less than...	Factor of...
<-.09	-.09	-1.00
-.09	-.08	-.90
-.08	-.07	-.80
-.07	-.06	-.70
-.06	-.05	-.60
-.05	-.04	-.50
-.04	-.03	-.40
-.03	-.02	-.30
-.02	-.01	-.20
-.01	0.00	-.10
0.00	.010	0.00
.010	.020	.10
.020	.030	.20
.030	.040	.30
.040	.050	.40
.050	.060	.50
.060	.070	.60
.070	.080	.70
.080	.090	.80
.090	.100	.90
.100	.110	1.00
.110	.120	1.10
.120	.130	1.20
.130	.140	1.30
.140	.150	1.40
.150	.160	1.50
.160	.170	1.60
.170	.180	1.70
.180	.190	1.80
.190	.200	1.90
.200	.210	2.00
.210	.220	2.10
.220	.230	2.20
.230	.240	2.30
.240	.250	2.40
.250	.260	2.50
.260	.270	2.60
.270	.280	2.70
.280	.290	2.80
.290	.300	2.90
.300	>.300	3.0

## **Primary Reserve Ratio**

### **Conclusions Drawn From a Strength Factor of Negative One**

Proprietary institutions with a Primary Reserve Ratio of  $-.05$  ( $-.10$  for private non-profits) or worse earn a strength factor of negative one. A negative Primary Reserve Ratio reflects a negative amount of expendable resources, that is, the value of their liabilities exceed the value of their assets that can be converted to cash. Institutions with a negative amount of liquid resources will have difficulty satisfying existing obligations and even more difficulty meeting their technology, capital replacement, human capital, and program initiative needs, all of which are necessary for institutions to successfully carry on their educational mission.

Institutions earning a strength factor of negative one must demonstrate strength in other ratios to earn positive points toward the final composite score. Because an institution with a negative strength factor from this ratio is financing its daily operations from another source, the negative score requires an institution to demonstrate the other source (i.e. profitable operations, borrowing capacity).

For both proprietary and non-profit institutions, a Primary Reserve Ratio strength factor of negative one indicates weakness in two out of the five fundamental elements of financial health: viability and liquidity.

## **Primary Reserve Ratio**

### **Conclusions Drawn From a Strength Factor of Zero**

Proprietary and non-profit institutions with Primary Reserve Ratios of  $0.00$  earn a strength factor of zero. For these institutions, the value of their liabilities is equal to the value of their assets that can be converted to cash. These institutions have no cushion against adversity. Institutions in this category will be sensitive to fluctuations in revenues or unexpected losses because they have no expendable resources available to cover operations. They will need to access some expendable resources shortly from revenues, additional borrowing, donations, capital infusion, or conversion of non-expendable resources in order to pay bills incurred in a prior accounting period. Institutions with no liquid resources may be in better financial condition than those with a negative amount but they still will have difficulty meeting their existing or future obligations without additional revenue or external support.

For both proprietary and non-profit institutions, a Primary Reserve Ratio strength factor of zero indicates relative weakness in two out of the five fundamental elements of financial health: viability and liquidity.

## **Primary Reserve Ratio**

## **Conclusions Drawn From a Strength Factor of One**

Proprietary institutions need a Primary Reserve Ratio of .05 to earn a strength factor of one. That ratio indicates that the value of an institution's assets that can be converted to cash exceed the value of its liabilities by an amount equal to five percent of its total expenses. Expressed as a number of days, this institution could continue operations at its current level for approximately eighteen days without additional revenue or support.

Private non-profit institutions need a Primary Reserve Ratio of .10 to earn a strength factor of one. That ratio indicates that the value of the institution's assets that can be converted to cash exceed the value of its short term debt and liabilities by an amount equal to ten percent of its total expenses. Expressed as a number of days, this institution could continue operations at its current level for approximately thirty-six days without additional revenue or support.

On the relative scale of financial health, this ratio result is superior to the ratio that earns a strength factor of zero because it indicates that there is some cushion against adversity, although not a sizable cushion in relation to operating size. Depending on the length of its school terms and assuming the absence of all other negative factors, an institution with a Primary Reserve Ratio strength factor of one could stay in business until the end of the current term without receiving unusual revenue or other support.

Institutions with the small amount of expendable capital necessary to earn a strength factor of one would have difficulty finding resources internally to handle large, unforeseen, negative economic events. Although this level of expendable resources would generally enable institutions to replace existing capital, it would be difficult for them to finance technology upgrades. They should be able to meet their payroll and other existing obligations but institutions with this proportionately small amount of expendable resources will have difficulty funding new program initiatives and upgrading faculty to meet changing student demands.

## **Primary Reserve Ratio**

### **Conclusions Drawn From a Strength Factor of Three**

Proprietary institutions need a Primary Reserve Ratio of .15 or better to generate the maximum number of points toward the final composite score. This ratio indicates that the value of the institution's relatively liquid assets exceeds the value of its liabilities by an amount equal to fifteen percent of its total expenses. Assuming no other factors, this cushion against adversity implies that the institution could survive for approximately fifty-four days without additional revenue or support. That relative level of expendable resources is the minimum level necessary to form a conclusion of financially healthy institution.

Private non-profit institutions need a Primary Reserve Ratio of .30 or better to generate the maximum number of points toward the final composite score. This ratio indicates that the value of the institution's relatively liquid assets exceeds the value of its short term debt and liabilities by an amount equal to thirty percent of its total expenses. Assuming no other factors, this cushion against adversity implies that the institution could survive for approximately 110 days without additional revenue or support. As with the proprietary sector, this relative level of expendable resources is the minimum level necessary to form a conclusion of financially healthy institution.

Institutions with this level of expendable resources will be better prepared to endure unforeseen large negative economic events than institutions with less expendable resources. These institutions have a greater ability to provide seed money for future programs, invest in new technology, develop human resources, and replace existing capital resources.

A Primary Reserve Ratio strength factor of three is an indication of relative strength in two out of the five fundamental elements of financial health: viability and liquidity.

## **Equity Ratio Strength Factors**

The Equity Ratio measures the amount of total resources that is financed by owners' investments, contributions, or accumulated earnings and how much is subject to claims of third parties. A ratio of 0.00 indicates that an institution's liabilities exceed its assets, an indication of poor financial condition equating to a strength factor of zero. For the upper end of the spectrum, a ratio result of .50 indicates that for every \$2.00 of assets, there is \$1.00 dollar of liabilities. The fact that the value of the assets exceed the value of the liabilities by two-hundred percent is a favorable indicator of financial health.

Robert Morris Associates (RMA) compiles survey data from institutions in various industries and uses a total liabilities to tangible net worth ratio that is similar to this methodology's Equity Ratio. RMA forms no conclusions about entities, it simply compiles ratio data. Using RMA statistics, lending institutions and other investors can see how a particular institution's ratio result compares to industry averages. As with the Moody's data used for the Primary Reserve Ratio, KPMG used the RMA data simply as a test of reasonableness. Again there is no perfect correlation between the Equity Ratio strength factors and the liabilities to tangible net worth ratio results that RMA compiled. However, review of the RMA data supports the overall reasonableness of the Equity Ratio strength factors.

In the RMA 1996 Annual Statement Studies, the median total liabilities to tangible net worth ratio score for colleges and universities (SIC #8221) was generally around .50 depending on their size (ranked by total assets and by total sales) but went as high as 2.7 for very small schools. For SIC #8299, Services-School and Educational Services, the median was around 1.3 and went as high as 2.4. A debt to tangible net worth ratio of .50

indicates that for every \$3.00 of assets, there is \$1.00 in liabilities. The fact that the median RMA scores are significantly stronger for the private non-profits is consistent with the empirical data gathered for this project. That data shows that institutions in the private non-profit business segment have a greater amount of their resources invested in plant and equipment.

The two to one (assets to liabilities) relationship necessary to earn the highest possible strength factor in this methodology (Equity Ratio of .50) is just slightly less than the median score for proprietary schools that the RMA statistics demonstrate. The fact that the strength factor standard is lower than the median score is indicative of the methodology's objectives. The methodology provides differentiation between schools at the lower end of the spectrum and measures a time horizon of twelve to eighteen months, whereas users of RMA statistics, like Moody's ratings, would be attempting to evaluate institutions over a much longer time frame.

Specific Equity Ratio strength factors and the ratio results to which they equate are shown on the following page.

## All Institutions

Equity Ratio Result of At least...	But less than...	Earns a Strength Factor of...
<-.167	-.150	-1.00
-.150	-.133	-.90
-.133	-.117	-.80
-.117	-.100	-.70
-.100	-.083	-.60
-.083	-.067	-.50
-.067	-.050	-.40
-.050	-.033	-.30
-.033	-.017	-.20
-.017	0.00	-.10
0.00	.017	0
.017	.033	.10
.033	.050	.20
.050	.067	.30
.067	.083	.40
.083	.100	.50
.100	.117	.60
.117	.133	.70
.133	.150	.80
.150	.167	.90
.167	.183	1.00
.183	.200	1.10
.200	.217	1.20
.217	.233	1.30
.233	.250	1.40
.250	.267	1.50
.267	.283	1.60
.283	.300	1.70
.300	.317	1.80
.317	.333	1.90
.333	.350	2.00
.350	.367	2.10
.367	.383	2.20
.383	.400	2.30
.400	.417	2.40
.417	.433	2.50
.433	.450	2.60
.450	.467	2.70
.467	.483	2.80
.483	.500	2.90
.500	>.500	3.0

## **Equity Ratio**

### **Conclusions Drawn From a Strength Factor of Negative One**

A negative ratio indicates that an institution's liabilities exceed its assets, a clear indication of financial distress. Institutions with an Equity Ratio of  $-.167$  or worse earn a strength factor of negative one thereby making it necessary for an institution to demonstrate strength with the other ratios. An Equity Ratio of  $-.167$  indicates that for every \$1.00 in assets adjusted for intangibles and related party receivables, the institution has approximately \$1.17 in liabilities. Further, a portion of the assets are likely less liquid than demanded by the liabilities' repayment schedules. Institutions with a negative Equity Ratio are virtually insolvent because the only subtractions made for the calculation are for items that are not convertible to cash.

Institutions with a negative amount of equity will have a diminished ability to borrow money at market terms because they have limited or no resources, not already subject to third party claims, that can be offered as collateral. The fact that these institutions' liabilities exceed the book value of their assets will make it difficult for them to meet their technology needs and capital replacement needs. Furthermore they will be less able to fund new program initiatives.

For both proprietary and non-profit institutions, an Equity Ratio strength factor of negative one indicates relative weakness in three out of the five fundamental elements of financial health: viability, ability to borrow, and capital resources. It may indirectly indicate weakness in a fourth fundamental element, profitability, since continued losses or operating deficits will deplete an institution's resources.

## **Equity Ratio**

### **Conclusions Drawn From a Strength Factor of Zero**

Institutions with Equity Ratio of 0.00 earn a strength factor of zero and generate no points toward the final composite score. A score of 0.00 for this ratio indicates that the value of the institution's assets (adjusted for intangibles and related party receivables) is equal to the value of its liabilities.

In the case of a proprietary school, an absence of equity provides no evidence of owner commitment to the business because there are no accumulated earnings or invested amounts beyond the liabilities that are at risk. For private non-profit institutions, the absence of net assets indicates that there is little or no permanent endowment from which the institution could draw in extreme circumstances.

Similar to institutions with negative ratios, institutions in this category could have difficulty obtaining additional financing because there would be no assets with which it could be secured. For schools with relatively old plant assets that have been fully depreciated, negative or zero equity / net assets imply that the school must rely on

additional revenues, capital infusions, or donations in order to build or invest in the future. Institutions with newer plant assets that have no equity / net assets have stretched their borrowing ability to or beyond a reasonable limit.

For both proprietary and non-profit institutions, an Equity Ratio strength factor of zero indicates relative weakness in three out of the five fundamental elements of financial health: viability, ability to borrow, and capital resources. It may indirectly indicate weakness in a fourth fundamental element, profitability, since continued losses or operating deficits will deplete an institution's resources.

## **Equity Ratio**

### **Conclusions Drawn From a Strength Factor of One**

In contrast to the ratios that earn strength factors of negative one or zero, institutions in this category have assets in excess of their liabilities, although not a great excess. An Equity Ratio of .167 is necessary to earn a strength factor of one for both proprietary and private non-profit institutions. This ratio score indicates that an institution has approximately \$8.33 of liabilities for every \$10.00 of assets. This amount of equity or net assets indicates that a smaller amount of the institution's resources is subject to claims of third parties than is the case with institutions earning strength factors of zero or negative one.

In the case of a proprietary school, the existence of equity may imply a greater commitment to the business on the owners' part since that portion of the institutional resources financed by owner investment, contributions, or accumulated earnings in excess of liabilities has been left in the business. For private non-profit institutions, this small amount of net assets may reflect a permanent endowment which will continue to provide some revenue or may be drawn upon in extreme circumstances.

The small amount of equity necessary to earn a strength factor of one will still make it difficult for such institutions to borrow significant amounts of money at market rates. However, as we move up the spectrum of strength factors from negative one to zero and now to positive one and beyond, the proportional amount of equity in the institutions increases. At the point where a strength factor of one is earned, institutions are just beginning to demonstrate equity (assets in excess of their liabilities). Thus, at this point, they demonstrate a very limited ability to meet their technology and capital replacement needs. These institutions will not have large amounts of capital readily available for funding new program initiatives.

## **Equity Ratio**

### **Conclusions Drawn From a Strength Factor of Three**

To earn the highest possible strength factor of three, institutions must have Equity Ratios of at least .50. This ratio indicates that for every \$2.00 in assets, the institution has \$1.00 in liabilities. The fact that the value of this institution's assets is two-hundred percent of its liabilities indicates a significantly greater proportion of the institution's resources is not subject to claims of third parties.

Again, with the proprietary schools, this proportionately increased amount of equity may indicate greater commitment to the business on the owners' part.

The amount of equity or net assets necessary to earn a strength factor of three make it more likely that an institution will have the financial resources necessary to borrow significant amounts of money at market rates. The fact that these institutions have a proportionately smaller amount of their assets subject to third party claims implies an increased ability to replace existing technology with improved more expensive technology. It follows that these institutions will be able to replace physical capital as needed and will be able to provide seed money internally for new program initiatives.

A strength factor of three for the Equity Ratio indicates financial strength in three fundamental elements of financial health: viability, ability to borrow, and capital resources. Indirectly, it may signal strength in the element of profitability since continued operating surpluses will increase an institution's resources.

## **Net Income Ratio Strength Factors**

The Net Income Ratio measures the ability of an institution to live within its means during a given operating cycle. A ratio of less than zero indicates a deficit or loss for the year. Operating losses or deficits will consume an institution's resources over time and therefore have a direct impact on its overall financial condition. Likewise, continued surpluses add to an institution's wealth and margin against adversity.

The process followed in establishing the strength factors for the Net Income Ratio are as follows.

**Strength Factor of One** - The ratio result that shows an institution just broke even for the year (ratio result of 0.00) was established to earn a strength factor of one.

**Strength Factor of Zero** - Empirical data gathered for this project shows that, on average, approximately three percent of proprietary institutions' expenses relate to non-cash items such as depreciation or amortization. For private non-profit institutions, the amount is approximately four percent. So within the context of a twelve to eighteen month time frame, proprietary and private non-profit institutions could generally endure

three or four percent losses, respectively, before being forced to sell off any of their infrastructure or raise additional capital to continue operations. That depreciation approximation set the point where a strength factor of zero is earned, providing no points toward the final composite score.

Although some institutions had significantly greater amounts of depreciation, the median for larger institutions approximated these amounts. In addition, limiting the depreciation estimate to these percentages adds a degree of conservatism to the methodology. If higher percentages were used, institutions would be able to incur larger operating losses that may include cash losses before earning negative strength factors. In addition, institutions that are incurring little or no depreciation may have technological or physical obsolescence and, if the depreciation percentages were assumed to be higher, these institutions would in fact be rewarded by the methodology since they would be able to incur sizable operating losses before earning negative strength factors, even though there were no non-cash expenses.

**Strength Factor of Negative One** - The incremental points created between the strength factors of zero and one was extended down to negative one. This is slightly different than what was done for the Primary Reserve and Equity Ratios. For those ratios, the ratio necessary to earn a strength factor of three was set, then the ratio necessary for a strength factor of zero was set, and the increments were extended down to negative one. For the Net Income Ratio there are equal sized increments between strength factors of negative one and positive one. There are also equal increments between one and three. If plotting the potential Net Income Ratio strength factors against the ratios necessary to earn them on a graph, you would notice a change in slope, or “kink” in the line at the point representing a strength factor of one. This “kink” simply provides for a better assignment of strength factors at all points along the spectrum. Without it, the ratio necessary to earn the highest possible or lowest possible strength factor might not be reasonable, depending on the other points that were set.

**Strength Factor of Three** - For each business segment, the minimum ratio result necessary to conclude financially healthy was set to earn a strength factor of three. For proprietary institutions, this equated to a ratio of .06; for private non-profit institutions, .04. These ratios are based on a number of factors. First, representatives from the proprietary business segment indicated that a six percent pre-tax return on revenue was generally considered good. Review of certain closed school data provided some support for the idea that returns in excess of six percent may be an indication that an institution is not providing adequate service to its students although the lack of complete data precluded KPMG from drawing an absolute conclusion. Some schools in the year before they went out of business posted returns far in excess of six percent. These factors lead KPMG to conclude that the ratios necessary to earn a strength factor of three should not be significantly higher than .04/.06.

*Industry Norms and Key Business Ratios*, published by Dun & Bradstreet, indicates that the return on sales ratio (net profit after taxes divided by annual sales) for the middle

quartile of comparable industries (SIC codes 82, 8243, 8244, and 8299) is three or four percent. The *Almanac of Business and Industrial Financial Ratios*, authored by Leo Troy, Ph.D., shows that similar industries' typical pre-tax profit as a percentage of net sales between two and seven percent. As with the Moody's and RMA data discussed earlier, this information published by Dun & Bradstreet and Leo Troy is used as a test of reasonableness. It does not necessarily correlate perfectly to this methodology's strength factors. Finally, a six percent return on revenues indicates that an institution is not only living within its means, it is covering all non-cash expenditures and has the ability to reinvest in itself.

Moody's uses a return on unrestricted net assets ratio, and their literature shows median results for small non-profit institutions to be .043, which is very close to the .04 necessary to earn the highest possible strength factor in this methodology. For large non-profit institutions, the median result is .052. The median score for small institutions receiving a bond rating of Aa is as high as .081, while for small institutions receiving a Baa rating, the median is .024. The median score for large institutions receiving an Aa rating is .05 and .023 for large institutions receiving a rating of Baa. It should be noted that the ratio that Moody's uses excludes investment gains so it is not perfectly comparable to our Net Income Ratio. Had we used Moody's ratio, the numeric results of schools in our sample would decrease due to the investment gains that were achieved in the sample period. In addition, Moody's measures net income as a percentage of net assets, not total revenue.

The combination of all these factors lead KPMG to establish a ratio result of .06 for proprietaries and .04 for non-profits as the result necessary to earn a strength factor of three. Again, we have established the standard for this ratio at a lower level than might be indicated by outside reviewing agencies because of the more narrow scope of the methodology we are recommending.

**All Other Strength Factors** - The range of potential strength factors between three and one was divided evenly into twenty equal increments.

Specific Net Income Ratio strength factors for proprietary institutions and the ratio results to which they equate for are shown on the following page.

## Proprietary Institutions

Net Income Ratio At least...	Result of But less than...	Earns a Strength Factor of...
<-.058	-.058	-1.00
-.058	-.055	-.90
-.055	-.052	-.80
-.052	-.049	-.70
-.049	-.046	-.60
-.046	-.043	-.50
-.043	-.040	-.40
-.040	-.037	-.30
-.037	-.034	-.20
-.034	-.031	-.10
-.031	-.028	0
-.028	-.025	.10
-.025	-.022	.20
-.022	-.019	.30
-.019	-.016	.40
-.016	-.013	.50
-.013	-.010	.60
-.010	-.007	.70
-.007	-.004	.80
-.004	-.001	.90
-.001	.002	1.00
.002	.005	1.10
.005	.008	1.20
.008	.011	1.30
.011	.014	1.40
.014	.017	1.50
.017	.020	1.60
.020	.023	1.70
.023	.026	1.80
.026	.029	1.90
.029	.032	2.00
.032	.035	2.10
.035	.038	2.20
.038	.041	2.30
.041	.045	2.40
.045	.048	2.50
.048	.051	2.60
.051	.054	2.70
.054	.057	2.80
.057	.060	2.90
.060	>.060	3.0

Specific Net Income Ratio strength factors for private non-profit institutions and the ratio results to which they equate for are shown on the following page.

## Private Non-Profit Institutions

Net Income Ratio At least...	Result of But less than...	Earns a Strength Factor of...
<-.076	-.076	-1.00
-.076	-.072	-.90
-.072	-.068	-.80
-.068	-.064	-.70
-.064	-.060	-.60
-.060	-.056	-.50
-.056	-.052	-.40
-.052	-.048	-.30
-.048	-.044	-.20
-.044	-.040	-.10
-.040	-.036	0
-.036	-.032	.10
-.032	-.028	.20
-.028	-.024	.30
-.024	-.020	.40
-.020	-.016	.50
-.016	-.012	.60
-.012	-.008	.70
-.008	-.004	.80
-.004	0.00	.90
0.00	.002	1.00
.002	.004	1.10
.004	.006	1.20
.006	.008	1.30
.008	.010	1.40
.010	.012	1.50
.012	.014	1.60
.014	.016	1.70
.016	.018	1.80
.018	.020	1.90
.020	.022	2.00
.022	.024	2.10
.024	.026	2.20
.026	.028	2.30
.028	.030	2.40
.030	.032	2.50
.032	.034	2.60
.034	.036	2.70
.036	.038	2.80
.038	.04	2.90
.04	>.04	3.0

## **Net Income Ratio**

### **Conclusions Drawn From a Strength Factor of Negative One**

For proprietary institutions, a Net Income Ratio of  $-.06$  earns a strength factor of negative one. For private non-profit institutions, a ratio of  $-.08$  is necessary for the negative one strength factor. These ratios indicate that the institutions incurred losses or operating deficits equal to six/eight percent of their total revenues, respectively.

Institutions earning negative one strength factors did not live within their means during the year, that is, their expenses surpassed their revenue. Their losses generally exceeded non-cash expenses like depreciation so their operations would generally produce a negative amount of cash flow for the year as well. These institutions will have decreased any margin against adversity they had before the losses. Continued losses or deficits will negatively impact institutions' financial health because existing resources must be spent to cover those losses. Institutions incurring losses fail to add to their wealth and are not even funding capital replacement costs. With a negative strength factor between  $-1.00$  and  $-.10$ , an institution must demonstrate strength in another ratio to increase its overall score. This follows the concept that the cash loss must be financed from a source other than operations.

A Net Income Ratio of negative one indicates relative weakness in one fundamental element of financial health: profitability. Continued weakness in profitability will impact all other fundamental elements over time.

## **Net Income Ratio**

### **Conclusions Drawn From a Strength Factor of Zero**

Net Income Ratio results of  $-.03$  equate to strength factors of zero for proprietary institutions. For non-profit institutions, a ratio of  $-.04$  earns the strength factor of zero. Depreciation expenses are generally equal to three / four percent of proprietary/non-profit institution's total revenues respectively. If income were measured on a cash basis, empirical data shows that institutions with this ratio score may have broken even. That is, even though they incurred a loss on an accrual basis, they may still have generated sufficient cash to meet all cash expenses. Since the methodology is intended for a twelve to eighteen month horizon, a neutral position on cash generation may be acceptable if the institution can demonstrate sufficient retained equity in measuring its financial health.

Net Income Ratio strength factors of zero indicate that an institution did not live within its means during the year and even if the loss related in part to non-cash expenses, it shows that the institution cannot continue indefinitely without changes. Non-cash expenses represent legitimate operating expenses and must be met for institutions to survive. Depreciation expenses can be seen as the funding mechanism for capital replacements so if an institution's operations do not fund those costs, its ability to replace aging resources will be diminished.

A Net Income Ratio strength factor of zero indicates relative weakness in one fundamental element of financial health: profitability. Continued losses or operating deficits will eventually impact all other fundamental elements of financial health as well.

## **Net Income Ratio**

### **Conclusions Drawn From a Strength Factor of One**

To earn a Net Income Ratio strength factor of one, an institution must break even. An institution that does not incur operating losses nor add to its wealth with operating gains or surpluses should not be in materially better or worse financial condition than it was at the beginning of the reporting period. It didn't add to its wealth nor detract from it. An institution with this ratio just barely lived within its means during the year.

For institutions to be successful over time, they generally need to generate operating surpluses because it is one of only two sources of additional resources, the other being equity infusions or borrowings. However, net income is the source that is more subject to management control. Institutions that consistently earn this strength factor for the Net Income Ratio never grow their margin against adversity unless received from other sources.

An institution earning a strength factor of one was able to cover its cash and non-cash expenses during the year so it was able to fund their basic capital replacement needs. However, it did not add to the resources that might be available to meet technology needs, human resource capital investments or new program initiatives. In even a modestly inflationary period however, capturing only historical depreciation through operations could be insufficient to meet capital replacement requirements since prices of existing equipment would be increasing and would clearly not be the source for acquiring technologically advanced replacements.

## **Net Income Ratio**

### **Conclusions Drawn From a Strength Factor of Three**

To earn the highest possible strength factor of three, a proprietary institution needs a Net Income Ratio of at least .06 and a private non-profit institution needs a ratio of .04. These ratio results demonstrate that institutions not only lived within their means during the year but added to their overall wealth.

For proprietary schools, the existence of operating profits indicate that the institution is fulfilling one of its primary missions, to provide an economic return to its owners. Owners have an economic motivation to continue to invest in an institution that generates operating profits. In the non-profit sector, favorable ratio results may be an indicator that

endowment funds were invested wisely or that the institution simply operated within its means, both positive indicators of financial health.

Institutions earning strength factors of three on the Net Income Ratio increased their margin against adversity during the year. Institutions that continually generate operating surpluses improve their ability to meet their technology needs since the additional resources enable them to purchase improved, more expensive new technology. These institutions' revenues exceed their expenses, including the non-cash expenses so they are continually funding their capital replacements. Operating surpluses also provide resources for funding new program initiatives and investments in human resources.

A Net Income Ratio strength factor of three represents relative strength in one fundamental element of financial health: profitability. Over time, continued profitability will favorably impact all other fundamental elements of financial health.

## **Recommendations Customized to Business Segments**

We have concluded that the strength factors for the Primary Reserve and Net Income ratios should be customized for all business segments. Strength factors for the Equity Ratio are uniform between business segments. In developing the strength factors, KPMG considered the accounting and reporting requirements and the environment affecting institutions in the different business segments. In addition, the input received from representatives of each sector and the empirical data detailed elsewhere in this report shaped our final recommendations.

### **Strength Factors for Proprietary Institutions**

Strength factors for the Primary Reserve and Net Income Ratios have been customized for the proprietary and private non-profit business segments.

For the Primary Reserve Ratio in the proprietary business segment, a .15 ratio result is necessary to earn a strength factor of three in contrast to the .30 ratio result necessary in the private non-profit business segment. The reasons for this differentiation are several. Proprietary institutions should generally be able to obtain additional capital quicker than private non-profit institutions. Because these institutions are private businesses, owners are free to invest cash to support operations at required levels. In addition, these owners can choose to leave earnings in the institution thus increasing expendable resources. Private non-profit institutions, on the other hand, are dependent on contributions from donors as the primary alternative to earnings as a source of capital.

Proprietary institutions also generally have shorter business cycles. While a private non-profit institution generally has a maximum of three or four semesters or quarters per year, a proprietary institution may have new sessions starting at much shorter intervals. The shorter business cycles enable proprietary institutions to rely more on tuition revenues for

necessary liquidity and less on the reserves of liquid assets measured by the Primary Reserve Ratio.

For the Net Income Ratio, proprietary institutions are held to a slightly higher standard on both ends of the spectrum. To earn a strength factor of three, a proprietary institution needs a Net Income Ratio of .06 as opposed to .04 necessary for non-profit institutions. For a strength factor of negative one, a proprietary institution needs a Net Income Ratio of -.06 or worse whereas a private non-profit institution can incur operating deficits up to -.08 before receiving the lowest possible strength factor. Finally, differences in depreciation expenses between the business segments dictate that a proprietary school with a Net Income Ratio of -.03 receive a strength factor of zero. Non-profit institutions earn the zero strength factor with a ratio of -.04.

The Net Income Ratio measures the fundamental element of profitability. Proprietary institutions, by their nature are profit driven, that is, one of their primary missions, if not their sole mission, is to provide an economic return to their owners. It follows therefore that proprietary institutions be held to a higher standard because operating profits provide an indication that a school is fulfilling its basic mission in addition to simply adding resources. On the lower end of the scale, owners of proprietary institutions will often be less willing to incur continuing operating losses whereas a non-profit institution may accept operating deficits as a cost of fulfilling its mission.

The methodology is designed to capture the particular conditions and business realities of each sector. Although the Net Income Ratio strength factors are more stringent for the proprietary business segment, the standards for the Primary Reserve Ratio are less so. In viewing the methodology as a whole, the different standards offset each other to some extent, thereby keeping it equitable to all institutions regardless of business segment.

### **Strength Factors for Private Non-Profit Institutions**

For private non-profit colleges and universities, the Primary Reserve Ratio necessary to earn a strength factor of three is .30. Throughout KPMG's experience with private non-profit colleges and universities, the .30 ratio result has traditionally been held as a minimum standard for judging financial health. The business cycle for colleges and universities is generally based on two or three semesters or quarters per year. Since there is a longer period of time between receipt of new revenue for institutions in this business segment, they must maintain greater amounts of liquid resources to fund short term operations.

Although the Primary Reserve Ratio necessary for a private non-profit institution to earn a strength factor of three is twice that of the proprietary school standard, 62% of the colleges and universities in our sample have ratios in excess of .30. Although the distributions are not used as the sole basis for setting the strength factors, they do support the overall reasonableness. The empirical evidence compiled for this project shows a

greater amount of fixed assets in the private non-profit business segment so for those institutions, the amount of expendable resources on hand takes on greater importance.

For the Net Income Ratio, non-profit institutions need a .04 to earn the highest possible strength factor of three. Proprietaries need a .06 for the same strength factor. Non-profit institutions are not created for the purpose of generating economic returns for its owners. In fact, very stringent tax rules apply to preclude any private “inurement” to trustees, management, or employees of non-profit institutions. In recent years, stock market returns have been very good so institutions included in this project’s sample may have inflated Net Income Ratios as a result of investment gains from their permanent endowments. In future years, if stock market returns decrease, the methodology’s strength factors for non-profit institutions should still be appropriate.

### **Strength Factors for Hospitals**

Accounting and reporting requirements for non-profit hospitals are similar in most regards to the standards set applied to private non-profit colleges and universities. The strength factors are therefore the same. Likewise, strength factors for profit seeking hospitals are the same as those set for proprietary institutions.

## **Basis for Recommendations**

### **Relationship to ED Objectives**

ED’s objectives for this project were paramount in the development of the strength factors. With the original methodology, the objective was to categorize institutions along the spectrum of financial health to help ED efficiently exercise its regulatory responsibilities. With the methodology recommended in this document, the focus is on differentiating institutions on the lower end of the spectrum while providing a more general standard of financial health. Given the new objective, we based our recommendations on input from the higher education community, empirical data, evidence of factors leading to closed schools, KPMG experience and judgment, and discussions with ED personnel.

### **Empirical Evidence**

The empirical data obtained during this project demonstrates a few key issues. First, a large proportion of institutions in the proprietary business segment appear to be very thinly capitalized. Almost 10% have negative equity. Private non-profit institutions, on the other hand, appear to have much greater equity supporting their operations and a significant component of that equity appears to be land, building, and equipment.

Using the recommended strength factors, Primary Reserve Ratio results are distributed as follows:

Strength Factors	Sample Size = 395 Private Non-Profits		Sample Size = 507 Proprietaries	
	Number	Percentage	Number	Percentage
-1.00 - -.01	40	10%	74	15%
0.00 - .99	28	7%	101	20%
1.00 - 1.99	39	10%	143	28%
2.00 - 3.00	288	73%	189	37%

Using the recommended strength factors, Equity Ratio results are distributed as follows:

Strength Factors	Sample Size = 395 Private Non-Profits		Sample Size = 507 Proprietaries	
	Number	Percentage	Number	Percentage
-1.00 - -.01	6	1%	46	9%
0.00 - .99	7	2%	92	18%
1.00 - 1.99	18	5%	104	21%
2.00 - 3.00	364	92%	265	52%

Using the recommended strength factors, Net Income Ratio results are distributed as follows:

Strength Factors	Sample Size = 395 Private Non-Profits		Sample Size = 507 Proprietaries	
	Number	Percentage	Number	Percentage
-1.00 - -.01	32	8%	9	2%
0.00 - .99	37	9%%	89	18%
1.00 - 1.99	83	21%	118	23%
2.00 - 3.00	243	62%	291	57%

### **Addressing Respondents' Concerns and Suggestions**

In formulating the strength factors recommended for this methodology we addressed a number of major concerns raised by the higher education community during the NPRM comment period. First, in the NPRM methodology there were five thresholds, or what are now called strength factors. Every ratio result produced one of five strength factors (1, 2, 3, 4, or 5), with no possible strength factors between them. Many commenters believed that five strength factors were insufficient to adequately differentiate between institutions. For example, for any particular ratio, the difference between an institution that barely earned a factor of three and an institution that almost earned a factor of three was very

small but there was a 20% difference in the strength factors they earned. By creating forty incremental thresholds, the new strength factors address this concern of respondents to the NPRM.

Many commenters felt that many of the former thresholds were generally too high. Specifically, in order to earn a Net Income Ratio threshold of five (highest possible) under the original methodology, a proprietary school needed a Net Income Ratio result of at least .12. Some commenters believed that by requiring such high profitability, the methodology gave schools an incentive to maintain high profits at the expense of program quality. They also argued that most proprietary institutions did not earn that high a profit. The empirical data collected in this project seems to support that argument. It shows that over 50% of the institutions in the sample have a net income ratio of less than .05. With the new methodology, a proprietary school only needs a ratio result of .06 to earn the highest possible strength factor. In addition, the new methodology allows proprietary institutions to incur minor losses yet still earn points toward their final composite score.

Representatives from the proprietary business segment generally felt that the thresholds for the Primary Reserve Ratio were too high as well. Some even felt that existing tax regulations concerning the accumulated earnings tax would penalize proprietary institutions for retaining enough liquid capital necessary to be classified as financially healthy by the methodology. Results of the new empirical data, the methodology's new regulatory objective, and reduced time horizon led KPMG to reduce these strength factors. With this methodology, a proprietary school with a Primary Reserve Ratio result of .15 earns the highest possible strength factor whereas with the original methodology, a school needed a result of .30 to earn a threshold factor in the middle of the range. Lowering the strength factors is consistent with the community's responses.

As for the private non-profit business segment, strength factors for the Net Income Ratio have been modified allowing institutions to incur minor losses yet still earn points toward their final composite score. Empirical data showing that on average, depreciation is equal to four percent of a non-profit institution's revenues supports this modification.

Many representatives from the private non-profit sector objected to the former methodology's strength factors being set higher for institutions whose financial statements were prepared based on the new FASB Statements No. 116/117 standards than for those using traditional fund accounting. In the original methodology, a school whose financial statements were prepared in accordance with FASB Statements No. 116/117 needed a Primary Reserve Ratio of .50 to receive a "financially healthy" strength factor whereas a ratio of .30 sufficed for schools employing the traditional fund accounting model. For the institutions that ED wants to focus on with this new methodology, i.e. those in financial distress, there is no evidence to suggest that the new accounting rules for recognizing investment gains incorporated in SFAS Nos. 116/117 have a material impact. This, in conjunction with input from the community, contributed to our decision to set a Primary Reserve Ratio of .30 as the result necessary to earn the highest possible strength factor.

Some commenters felt that the difference in strength factors between business segments caused the methodology to treat those in the proprietary business segment unfairly. Strength factors for one of the three ratios, the Equity Ratio, are identical between business segments. Net Income Ratio strength factors are more demanding for proprietary institutions but the standards for the Primary Reserve Ratio are less stringent than those set for the private non-profit business segment. These differences tend to offset each other so the strength factors together impose appropriate and comparably stringent overall standards to each business segment.

# 5 Ratio Weighting

## Chapter Outline

- Recommendations
  - Description of the Weighting Percentages
  - Recommendations Customized to Business Segments
    - Weighting Percentages for Proprietary Institutions
    - Weighting Percentages for Private Non-Profit Colleges and Universities
    - Weighting Percentages for Hospitals
  - Basis for Recommendations
    - Alternative Weighting Percentages Analyzed
      - Proprietary Institutions
      - Private Non-Profit Institutions

## Recommendations

In the third step of the recommended methodology, the strength factors for each ratio are multiplied by weighting percentages. With the weighting percentages, the methodology make some ratios, and the fundamental elements of financial health that they measure, more important than others. As with the ratios and strength factors, the weighting percentages are customized to accommodate structural differences found in each business segment.

The recommended weighting percentages are as follows:

	<b>Proprietary Institutions</b>	<b>Private Non-Profit Institutions</b>
<b>Primary Reserve Ratio</b>	30%	40%
<b>Equity Ratio</b>	40%	40%
<b>Net Income Ratio</b>	30%	20%

## **Description of Weighting Percentages**

Strength factors allow for comparison between ratios by placing all ratio results on a common scale. Weighting percentages, on the other hand, make possible the comparison of institutions in different business segments by recognizing the relative importance of particular fundamental elements of financial health. The Final Composite Score chapter will describe in full detail the meaning of the score based upon the combination of strength factors and weightings for each business segment.

Financial responsibility, as required by statute, is measured annually and is based on the audited financial statements submitted in accordance with GAAP. In reviewing a financial statement, the most important question to be answered is: Was the institution healthy as of the balance sheet date? The reason why this is the most important question is that the balance sheet captures a cumulative snap shot of all resources amassed by an institution that will be available in the future to support its mission. Therefore, the two ratios (Primary Reserve and Equity) which directly answer this question and which measure four of the five fundamental elements of financial health have been weighted higher than the profitability indicator, the Net Income ratio. In the proprietary business segment, these two ratios combined receive 70% of the weighting. In the private non-profit business segment, their combined weighting is even greater, 80%.

## **Recommendations Customized to Business Segments**

Strength factors, discussed in the preceding section, do not differ substantially between business segments and the weighting percentages are substantially the same as well. However, the weighting percentages have been customized to accommodate some fundamental institutional differences.

Profitability, a fundamental element of financial health is more important to schools in the proprietary segment since one of their (if not their sole) primary missions is to generate an economic return to their owners. Therefore, the Net Income Ratio has a 30% weighting for proprietary schools as compared to 20% for private non-profit colleges and universities. Likewise, expendable capital as measured by the Primary Reserve Ratio is more important to private non-profit colleges and universities. Schools in this business segment do not have access to the same capital markets as their proprietary counterparts and must rely on operating surpluses or donor contributions for operating capital. In addition, their operating cycles are generally tied to a limited number of terms or semesters which are longer than a month or two. Thus, the Primary Reserve Ratio has a 40% weighting for private non-profits and 30% for proprietary institutions. The Equity Ratio receives the same 40% weighting in both business segments.

### **Weighting Percentages for Proprietary Institutions**

For proprietary schools, the weighting percentages are:

	<b>Recommended for this Methodology</b>	<b>NPRM Methodology</b>
Primary Reserve Ratio	30%	20%
Equity Ratio	40%	30% (Viability Ratio)
Net Income Ratio	30%	50%

These weightings are different from the weightings proposed in the NPRM methodology. Most importantly, the new weighting represents a shift from considering net income as the single most important factor to focusing on equity (balance sheet strength) as the key element. This concept was confirmed by various representatives of the proprietary business sector who voiced concern that the Net Income Ratio weighting was too high. They believed that placing such emphasis on profitability would encourage proprietary institutions to cut back on educational expenses, thus shortchanging students and lowering the quality of education. In fact, the financial reviews of accrediting agencies such as the Accrediting Council for Independent Colleges and Schools (ACICS) and the Accrediting Commission of Career Schools and Colleges of Technology (ACCSCT) focus first, and foremost, on equity and on profitability second. This observation reinforced our own view gleaned from our review of the empirical data reviewed in chapter three that balance sheet strength, as measured by the Primary Reserve and Equity ratios, is the most important factor in selecting the weighting percentages.

In order for the combination of the Primary Reserve and Equity ratios (measure of four fundamental elements of financial health) to have significance, their relative importance was increased from 50% in the NPRM to 70% in this methodology. The 70% was then allocated between the two ratios as follows: (1) Primary Reserve ratio (30%) and (2) Equity ratio (40%). Because of their ability to obtain capital for their business and generally shorter business cycles, we determined that the Equity Ratio should have more importance than the Primary Reserve ratio for schools in the Proprietary sector.

### **Weighting Percentages for Private Non-Profit Colleges and Universities**

For private non-profit institutions, the weighting percentages are:

	<b>Recommended for this Methodology</b>	<b>NPRM Methodology</b>
Primary Reserve Ratio	40%	55%
Equity Ratio	40%	35% (Viability Ratio)
Net Income Ratio	20%	10%

These weighting percentages place less emphasis on the Primary Reserve Ratio and more on the Net Income Ratio than the percentages used in the NPRM methodology.

Numerous concerns were expressed by representatives of private non-profit institutions that a 55% weighting for the Primary Reserve Ratio was too high. They argued that such a weighting would produce a disincentive to invest internal funds in plant, even if the assets were revenue producing assets, such as dormitories. The empirical data in the Financial Ratios chapter confirms that much of the capital of this sector appears to be land, building, equipment and permanently restricted endowment. Therefore, the combined weighting for the two balance sheet ratios in this methodology is 80% (40% each). This weighting scheme reflects the importance expendable capital, measured by the Primary Reserve Ratio, while acknowledging the value of less liquid assets measured by the Equity Ratio.

Ten percent additional weighting was given to the Net Income ratio from the methodology to give credit in the methodology to those institutions who had smaller amounts of balance sheet resources, yet were generating surpluses from operations.

### **Weighting Percentages for Hospitals**

The accounting and reporting requirements for non-profit hospitals are substantially the same as for non-profit colleges and universities. Their overall structure and mission is also similar in most regards so the weighting percentages for non-profit hospitals are the same as for non-profit colleges and universities. Likewise, weighting percentages for profit seeking hospitals are the same as those established for proprietary schools.

### **Basis for Recommendations**

As indicated above, KPMG relied heavily on its own experience, professional judgment, and comments received from professionals in the higher education community in developing these weighting percentages. In addition, we used the empirical data obtained during this project to test the reasonableness of our conclusions. The fact that 5% fluctuations in weighting percentages produced insignificant differences in schools' final composite scores seems to confirm or corroborate their overall reasonableness.

## **6 Final Composite Score**

### **Chapter Outline**

Recommendations

Description of the Final Composite Score

Returning to the Fundamental Elements of Financial Health

Recommendations Uniform Between Business Segments

Different Ways to Earn a Similar Composite Score

Satisfying the Ratio Test  
Not Satisfying the Ratio Test (Alternatives)  
One Composite Score Versus a Range of Composite Scores  
Conclusions Drawn From Composite Scores  
Institutions With Final Composite Scores Around .90 or Below  
Institutions With Final Composite Scores Around 1.00  
Institutions With Final Composite Scores of 1.50 or Above

## **Recommendations**

In the fourth and fifth steps of the methodology, the products derived from multiplying the strength factors by the weighting percentages are added together to form a composite score. Comparing that composite score to the regulatory standard that ED establishes will determine the institution's position relative to the financial responsibility standards.

## **Description of the Final Composite Score**

The methodology provides ED with a mechanism that measures institutions' overall financial condition and can be used to set a regulatory standard, or minimum of financial health. KPMG has recommended financial ratios, strength factors, weighting percentages, and a methodology for combining all elements into one composite score. The final determination point or range of points at which the Secretary deems institutions to be financially responsible must be based on the amount of risk that ED wishes to bear. No other judgment can be substituted for that ultimate appetite for risk because ultimately ED will bear the sole burden of the decision on risk assumption.

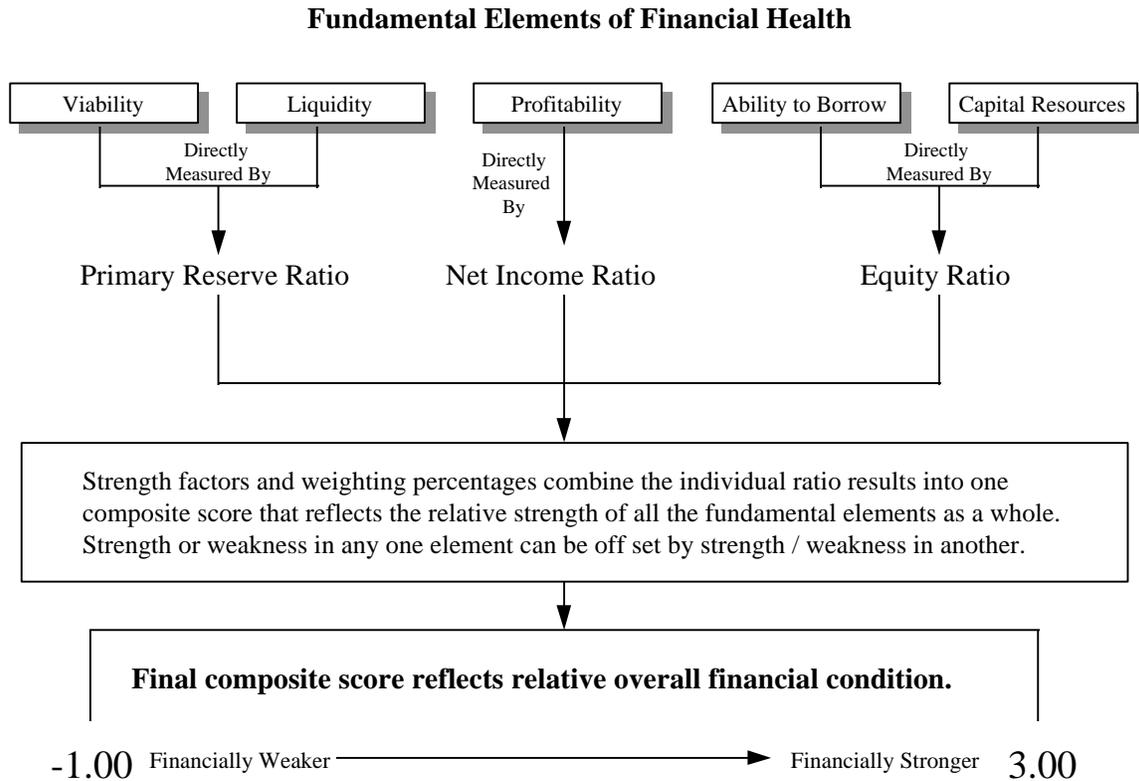
The methodology delineates institutions, in relation to each other, by assigning an overall score from negative one to three to each one. Schools that earn a composite score of greater than 2.00 pose a negligible risk of precipitous closure, inability to deliver educational services, or inability to handle administrative responsibilities. Institutions earning a composite score of less than .50 represent a clear risk of all three, absent other factors such as capital infusions from another source.

It is important to note that, regardless of where or how ED ultimately decides to set the regulatory test of financial responsibility, there will probably be some institutions that pass the financial responsibility test yet will not be able to meet the statutory standard or will precipitously close in the following twelve to eighteen months. Some institutions that fail the ratio test may in fact be capable of delivering quality educational services to students for another eighteen months and beyond. No methodology is capable of being perfectly predictive because there are individual factors creating circumstances in specific institutions that cannot be accounted for entirely. For these and other reasons, ED may decide to establish a range of composite scores rather than one precise point for determining financial responsibility. A range of intermediate scores could provide for

greater differentiation between those schools that clearly satisfy the ratio test and those that do not. The methodology fits the needs of ED well because it provides a scale of relative health, gives a systematic measure, and is reliable across a wide range of institutions.

### **Returning to the Fundamental Elements of Financial Health**

In the first step of the methodology, ratios designed to measure fundamental elements of financial health are calculated. The subsequent steps of the methodology, strength factors, weighting percentages, and composite scores, are arithmetic tools that enable the individual ratio scores to be added together into one final composite score. Thus, the final composite score can be viewed as a measure of all the fundamental elements of financial health taken as a whole. Relative strength in any one element may be offset by weakness in others so the overall financial health of an institution is reflected in, or reduced to, one composite score. This idea is shown graphically on the following page.



### **Recommendations Uniform Between Business Segments**

The fourth and fifth steps of the recommended methodology are uniform between the business segments. In these steps, strength factors are multiplied by weighting percentages and added together to form a final composite score. The mechanics of these steps and the range of final composite scores are the same for all business segments.

## Different Ways to Earn a Similar Composite Score

The methodology is designed to measure institutions' overall financial condition. Institutions participating in Title IV programs vary greatly in operating size, mission, ownership structure, and operating environment, so overall financial health can therefore be demonstrated in a variety of different ways. The methodology allows for institutions to offset relative weakness in particular ratios (and therefore fundamental elements of financial health) with strength in other ratios.

Consider the following three hypothetical institutions with significant structural differences between them but all of whom receive a similar final composite score. For illustrative purposes, we have selected a final composite score around 1.00 to demonstrate the interaction of the ratios.

### **Institution A: Private Non-Profit Institution**

<b>Ratio</b>	<b>Result</b>	<b>Strength Factor</b>	<b>Weighting Percentage</b>	<b>Product</b>
Primary Reserve	.10	1.00	40%	.40
Equity	.167	1.00	40%	.30
Net Income	0.00	1.00	20%	.20
<b>Final Composite Score</b>				<b>1.00</b>

With this first hypothetical example, Institution A's ratio results all generated strength factors of 1.00 and it is a matter of arithmetic therefore that their weighted products will add up to 1.00. This institution's expendable resources measured by the Primary Reserve Ratio indicate that the institution could continue operations for approximately 38 days without additional revenue or support. The Equity Ratio result of .167 shows that for every \$10.00 of assets, there are approximately \$8.33 in liabilities so the value of the institution's assets exceeds its liabilities but not by a large margin. The Net Income Ratio of 0.00 shows that the institution lived within its means during the year but that it did not add substantially to its margin against adversity.

### **Institution B: Proprietary Institution**

<b>Ratio</b>	<b>Result</b>	<b>Strength Factor</b>	<b>Weighting Percentage</b>	<b>Product</b>
Primary Reserve	-.003	-.10	30%	-.03
Equity	.076	.40	40%	.16
Net Income	.058	2.90	30%	.87
<b>Final Composite Score</b>				<b>1.00</b>

In this second example, Institution B's balance sheet ratios (Primary Reserve and Equity) are materially weaker than those of Institution A. However, the Net Income Ratio of .058

indicates relative strength in the area of profitability and the resultant strength factor of 2.90 offsets the lower strength factors for the Primary Reserve and Equity ratios. Although this institution's margin against adversity is proportionately less than Institution A's, its operations generated a surplus during the year and added to the institution's wealth. If this institution continues to operate this way, it will improve its balance sheet ratios because it will be continually adding to its own wealth. The profits generated by institution B also provide a motivation for its owners to invest additional capital or make other commitments to its success.

**Institution C: Proprietary Institution**

<b>Ratio</b>	<b>Result</b>	<b>Strength Factor</b>	<b>Weighting Percentage</b>	<b>Product</b>
Primary Reserve	.068	1.30	30%	.39
Equity	.312	1.80	40%	.72
Net Income	-.038	-.30	30%	-.09
<b>Final Composite Score</b>				<b>1.02</b>

In this third and final example, Institution C has not lived within its means during the year and therefore earned a negative strength factor for the Net Income Ratio. However, its two balance sheet ratios generated higher strength factors than those for Institutions A&B. The combined weighting for those two ratios, 70%, make the effect of incremental changes in them greater than for the Net Income Ratio which is only weighted 30%. This institution did not live within its means during the year but has a slightly greater margin against adversity built up.

All three of the examples above represent institutions that fall very near each other on the spectrum of financial health even though they are in different business segments. The examples are intended solely to demonstrate how relative weakness in one component of financial health can be offset by strength in another.

**Satisfying the Ratio Test**

The recommended methodology is intended to be used in such a way that institutions earning a particular composite score set by ED may be deemed to be in compliance with ED's financial responsibility standards assuming the absence of all other exceptional circumstances, e.g. qualified auditor opinion, excessive program review liabilities, etc.

**Not Satisfying the Ratio Test (Alternatives)**

Using the recommended methodology, institutions earning a final composite score of less than the particular composite score set by ED would be expected to demonstrate financial responsibility through some other means. Historically, schools that failed the test(s) of financial responsibility were required to post a letter of credit and the recent NPRM raised the possibility of personal or corporate guarantees. KPMG makes no recommendations concerning these potential other means of demonstrating financial responsibility because they are beyond the scope of this engagement.

## **One Composite Score Versus a Range of Composite Scores**

In the August 1, 1996 report, KPMG recommended a methodology using financial ratios that ED could use to efficiently exercise its financial oversight responsibility. That methodology placed all institutions into four categories:

- exemplary financial condition;
- financially sound;
- potential problem; and
- immediate problem.

Schools deemed to be in exemplary financial condition were separated from those deemed to be immediate problems by a wide range of scores and two intermediate categories, financially sound and potential problem.

In using this methodology as a basis for new financial responsibility regulations, ED may choose to set one particular composite score, above which a school would be deemed to be in compliance with financial responsibility standards. ED might also select a composite score, below which a school would be expected to demonstrate financial responsibility through some other means. Those two points might be the same point or they could be separated by a range of composite scores. The financial health of schools with composite scores within that range would be uncertain. A range of scores would provide greater differentiation between schools that satisfy the ratio test and those that do not, but it could also impose additional administrative responsibilities on ED. Just as the final determination point must be based on the amount of risk that ED wishes to bear, the responsibility for deciding whether to set one particular composite score or a range of composite scores also rests with ED. KPMG makes no recommendations concerning the selection of a particular composite score or range of composite scores.

## **Conclusions Drawn From Composite Scores**

An institution's final composite score is an arithmetic reflection of its overall financial condition on a scale from negative one to positive three. Schools earning composite scores toward the lower end of the scale pose a greater risk of precipitous closure or inability to deliver educational services than schools at the opposite end of the scale. Thus, in forming conclusions about any particular school's overall financial condition, it is important to understand that the composite scores reflect general areas on the spectrum of financial health.

As with the strength factors and weighting percentages that are integral components of each composite score, the use of estimates, professional judgment, and the subjective nature of financial statements prohibits an answer to a question such as "What's the difference between a final composite score of 1.25 and 1.26?" However, as the difference between their composite scores become greater, answers to such questions become

clearer. The rest of this section is devoted to answering questions like what are the general characteristics of schools with composite scores below .90 and those with composite scores above 1.50? What are the general characteristics of institutions receiving a composite scores around 1.00?

### **Institutions With Final Composite Scores of .90 or Below**

The characteristics of proprietary and non-profit colleges and universities included in the sample with composite scores of .90 or less are as follows:

	<b>Proprietary institutions</b>	<b>Private Non- Profit Institutions</b>
No. of schools at .90 or lower	100	23
No. of schools with negative expendable resources	67	20
No. of schools with negative equity (adjusted for Equity Ratio)	47	5
No. of schools with no net income or a loss	50	19

Of the 100 proprietary institutions listed above, 29 were negative on one ratio, 36 were negative on two ratios, and 18 were negative on all three ratios.

The profile of the 23 non-profit institutions indicates that 6 were negative on one ratio, 13 were negative on two ratios, and 3 were negative on all three ratios.

These institutions have not demonstrated an ability to consistently earn money and/or retain any earnings in the institution. Generally they have illiquid balance sheets, which is demonstrated by not only considering acid test type assets, but all expendable resources, which will generally be a better test of liquidity because it acknowledges that management intervention can bring these assets into play if necessary. This includes items that could, in some short period, be converted to cash.

The following case studies represent actual schools included in the sample and are presented to further clarify the general characteristics of schools with composite scores of .90 or less. Note that in computing the final composite score for all institutions in the appendix, KPMG used an algorithm that approximates the strength factor tables. That algorithm produced some rounding differences so the final composite scores may vary slightly.

#### **Proprietary Institution #54**

Ratio	Result	Strength Factor	Weighting Percentage	Product
Primary Reserve	-.08	-1.00	30%	-.30
Equity	.08	.40	40%	.16
Net Income	.02	1.70	30%	.51
<b>Final Composite Score</b>				<b>.37</b>

This institution has nearly \$12,000,000 in total assets and approximately \$11,000,000 in liabilities so it has a proportionately small amount of equity as shown by the Equity Ratio. The Primary Reserve Ratio is negative because the small amount of equity the institution does have is invested in plant assets. The school's shortage of equity will make it difficult to borrow additional money at market terms (i.e. a debt to equity ratio of 11 to 1 is well above the RMA means). This institution has no cushion against adversity and although it lived within its means during the year, its operations are not profitable enough to make up for the lack of resources.

The ratios indicate relative weakness in all fundamental elements of financial health except profitability. The institutional ability to continually earn profits will be reflected in the balance sheet ratios in future years.

#### Proprietary Institution #73

Ratio	Result	Strength Factor	Weighting Percentage	Product
Primary Reserve	.01	.20	30%	.06
Equity	.03	.10	40%	.04
Net Income	.02	1.70	30%	.51
<b>Final Composite Score</b>				<b>.61</b>

This institution is significantly smaller than the first with approximately \$1,000,000 in total assets. The school has just \$89,000 in total equity, \$40,000 of which is comprised of goodwill and \$23,000 in related party receivables. Thus, a negligible amount of its assets are not subject to claims of third parties. The Primary Reserve Ratio indicates that the school has sufficient liquid resources to cover four days of operations. As with the previous institution, this institution has a negligible margin against adversity and its operating profits are not enough to compensate.

Again, the ratios indicate relative weakness in all fundamental elements of financial health except profitability.

### **Proprietary Institution #97**

<b>Ratio</b>	<b>Result</b>	<b>Strength Factor</b>	<b>Weighting Percentage</b>	<b>Product</b>
Primary Reserve	.03	.60	30%	.18
Equity	.066	.30	40%	.12
Net Income	.03	2.00	30%	.60
<b>Final Composite Score</b>				<b>.90</b>

This school has total assets of around \$850,000 and, as its composite score reflects, it is in relatively better financial condition than the first two proprietary institutions discussed here. However, the ratio results indicate a similar (although not as severe) relative shortage of expendable resources and equity. Its Primary Reserve Ratio indicates that it has sufficient liquid assets to fund operations for about eleven days without additional revenue or support. As is the case with the first two schools, this institution's lack of equity may make it difficult to borrow additional funds at market rates. Although the school lived within its means during the year, its operations did not generate sufficient resources to compensate for its balance sheet weakness.

This institution's ratios indicate relative weakness in all fundamental elements of financial health except profitability.

### **Private Non-Profit Institution #19**

<b>Ratio</b>	<b>Result</b>	<b>Strength Factor</b>	<b>Weighting Percentage</b>	<b>Product</b>
Primary Reserve	-.06	-.10	40%	-.04
Equity	.39	2.30	40%	.92
Net Income	-.017	.50	20%	-.10
<b>Final Composite Score</b>				<b>.78</b>

Two out of this institution's three ratios are negative indicating relative weakness in three out of five fundamental elements of financial health; viability, liquidity, and profitability. This institution has net plant assets of \$820,000 which is greater than the value of its unrestricted net assets. The institution has less than \$200,000 in permanent endowment. Although the school has some equity in its plant assets as reflected by the Equity Ratio, it has a negative amount of expendable resources. If this institution had lived within its means and added just slightly to its wealth, the combined strength of the Net Income Ratio and Equity Ratio may have been sufficient to offset its unfavorable Primary Reserve Ratio.

The ratios for this institution demonstrate relative weakness in three out of the five fundamental elements of financial health, viability, liquidity, and profitability. Its relative strength in the other fundamental elements, ability to borrow and capital resources, does not materially offset the other weaknesses.

### **Institutions With Final Composite Scores Around 1.00**

As discussed earlier, institutions can earn a final composite score of 1.00 in a number of ways. A **strength factor** of one for any particular ratio indicates a lesser degree of weakness than a strength factor of zero or negative one. Strength factors of three equate to the minimum ratio necessary to form a conclusion of financial health. Strength factors of zero equate to ratios that are unfavorable enough to warrant no points being generated toward the final composite score. Farther down the spectrum, strength factors of less than zero indicate ratios that are so unfavorable that strength must be demonstrated in other ratios for positive points to be generated toward the final composite score. Therefore, final composite scores of one point to an area on the spectrum of financial health that is greater than zero, i.e. points have been generated toward the final composite score, but substantially less than three, the maximum score possible.

The following case studies represent actual schools included in the sample and are presented to further clarify the general characteristics of schools with composite scores around 1.00. As noted earlier, in computing the final composite score for all institutions in the appendix, KPMG used an algorithm that approximates the strength factor tables. That algorithm produced some rounding differences so the final composite scores may vary slightly.

**Proprietary Institution #112**

<b>Ratio</b>	<b>Result</b>	<b>Strength Factor</b>	<b>Weighting Percentage</b>	<b>Product</b>
Primary Reserve	.02	.40	30%	.12
Equity	.16	.90	40%	.36
Net Income	.02	1.70	30%	.51
<b>Final Composite Score</b>				<b>.99</b>

**Proprietary Institution #113**

<b>Ratio</b>	<b>Result</b>	<b>Strength Factor</b>	<b>Weighting Percentage</b>	<b>Product</b>
Primary Reserve	.012	.20	30%	.06
Equity	.120	.70	40%	.28
Net Income	.036	2.20	30%	.66
<b>Final Composite Score</b>				<b>1.00</b>

**Proprietary Institution #114**

Ratio	Result	Strength Factor	Weighting Percentage	Product
Primary Reserve	.09	1.80	30%	.54
Equity	.33	1.90	40%	.76
Net Income	-.06	-1.00	30%	-.30
<b>Final Composite Score</b>				<b>1.00</b>

**Private Non-Profit Institution #29**

Ratio	Result	Strength Factor	Weighting Percentage	Product
Primary Reserve	.12	1.20	40%	.48
Equity	.24	1.40	40%	.56
Net Income	-.04	0.00	20%	0.00
<b>Final Composite Score</b>				<b>1.04</b>

In the first two examples above, proprietary institutions #112 and 113, the relative weakness demonstrated in their balance sheet ratios (Primary Reserve and Equity) indicate that they have little, if any, margin against adversity. However, they are both profitable enough that the owners may be motivated to invest in the schools and commit to their success. Continued profitability at this level could slowly build up these institutions' margin against adversity. Proprietary institution #113 is substantially larger with total expenses of \$11,500,000 than proprietary institution #112 whose expenses were \$150,000 but their relative financial condition is similar.

In the third example, proprietary institution #114's, balance sheet ratios are more favorable than the first two but its operating loss was large enough to generate negative points toward the final composite score. This institution has sufficient expendable resources to continue operations for approximately thirty-two days without receiving additional revenue or support. The Equity Ratio of .33 indicates the institution has \$1.00 in assets for every \$.66 in liabilities. This excess of assets over liabilities represents greater commitment on the owners part than the first two examples because a proportionately higher amount of their resources are at risk. The operating loss is significant though and if continued will consume the expendable resources and equity shown in the first two ratios. This institution had total assets of \$116,000.

The last example, private non-profit institution #29, is of a private non-profit institution. In comparing this institution to private non-profit institution #19 discussed in the preceding section that described schools with composite scores of .90 or below, the major difference is in their proportional amount of expendable resources. This school's Primary Reserve Ratio indicates that it could continue operations at its current level for approximately forty-four days without receiving additional revenue or support. This school's four percent loss indicates that it did not live within its means during the year. Although the loss of \$3,400,000 was comprised largely of approximately \$3,000,000 in depreciation expenses, its operations are not funding its minimal capital replacement

needs. In both of the last two examples here, had the schools just lived within their means during the year, their final composite score may have significantly improved.

All of the examples above demonstrate that the schools had insufficient margin against adversity (expendable and other assets) to earn higher final composite scores. Even the third proprietary school listed, proprietary institution #114, had insufficient balance sheet ratios to off set its sizable operating loss.

### **Institutions With Final Composite Scores of 1.50 or Above**

The characteristics of a group of proprietary and private non-profit institutions included in the sample with composite scores of 1.50 or more follows. For illustration, we selected the first thirty institutions in each sector with composite scores of 1.50 or more. These institutions provide insight into the characteristics of a group of financially improved institutions as compared to those with composite scores below .90.

<b>First 30 Schools with Composite Scores of 1.50 or Above</b>	<b>Proprietary institutions</b>	<b>Private Non-Profit Institutions</b>
No. of schools	30	30
Range of calculated scores	1.51 - 1.72	1.50 - 2.10
No. of schools with positive expendable resources	29	26
No. of schools with positive equity (adjusted for Equity Ratio)	30	30
No. of schools with positive net income	21	18

As can be seen, this next group of schools exhibits distinctly improved financial health over the institutions with scores under .90. While some significant structural financial health issues exist with these institutions, ED's time horizon for assessment of twelve to eighteen months indicates that these schools are in relatively better financial condition than the schools with scores under .90.

Beyond the institutions summarized above, the vast majority of the sampled institutions are clearly in better financial health. Institutions with a composite score of 2.00 or better totaled 253 (out of 507) for the proprietary schools and 313 (out of 395) for private non-profits.

The key differentiating factor between institutions with composite scores below .90 and those with composite scores over 1.50 is the demonstrated ability of the institutions to

retain some wealth in the institution which is demonstrated by the Equity Ratio. Note that all of the institutions with a composite score of 1.50 and higher have a positive Equity Ratio. Of the institutions with a composite score of .90 or less, 47 of the proprietary institutions and 5 of the private non-profit institutions had a negative Equity Ratio. Since this is calculated net of intangibles and related party items, the wealth represents items that the institution can claim readily, as its equity, although some components may be somewhat illiquid.

The following case studies represent actual schools included in the sample and are presented to further clarify the general characteristics of schools with composite scores of 1.50 or more. Note that in computing the final composite score for all institutions in the appendix, KPMG used an algorithm that approximates the strength factor tables. That algorithm produced some rounding differences so the final composite scores may vary slightly.

**Proprietary Institution #195**

Ratio	Result	Strength Factor	Weighting Percentage	Product
Primary Reserve	.15	3.00	30%	.90
Equity	.08	.40	40%	.16
Net Income	.02	1.70	30%	.51
<b>Final Composite Score</b>				<b>1.57</b>

This institution’s Primary Reserve Ratio has generated the maximum number of points toward the composite score. Its total expenses for the year were only approximately \$500,000 yet it had total assets of approximately \$1,000,000. Since total expenses are the denominator of the Primary Reserve Ratio, a small amount of expenses reflects small operating size and results in a favorable Primary Reserve Ratio. This entity bought another school during the year so its expenses were relatively low in relation to its assets. Its Equity and Net Income ratios are moderate and neither of them are weak enough to generate negative points. This institution has sufficient liquid resources to continue operations at its current level for approximately fifty-five days without receiving additional revenue or support.

This institution demonstrates relative strength in two out of five fundamental elements of financial health, viability and liquidity, and does not show extreme weakness in any of the other fundamental elements.

**Proprietary Institution #227**

Ratio	Result	Strength Factor	Weighting Percentage	Product
Primary Reserve	.01	.20	30%	.06
Equity	.71	3.00	40%	1.20
Net Income	.02	1.70	30%	.51

This institution's Equity Ratio, by itself, generates 1.20 points toward the final composite score. This school has approximately \$181,000 in total assets, \$118,000 of which is comprised of plant assets. However, on the liability side of the balance sheet, the school has no long-term debt; there are no third party claims against their plant. This fact contributes to a relatively unfavorable Primary Reserve Ratio because so much of the institution's resources are non-expendable but a strong Equity Ratio since there is such a small amount of liabilities. Since neither the Equity nor Net Income ratios are weak enough to generate negative points, the relative strength shown by the Equity Ratio is sufficient to place it higher on the spectrum of financial health than institutions with final scores closer to 1.00. This is a good example of an institution that has retained wealth over time. Although the Primary Reserve Ratio indicates a relative shortage of expendable resources, the Equity Ratio indicates that for every \$1.00 of assets there is \$.29 in liabilities. This excess of assets over liabilities should make it easier for this school to borrow money at market rates. It also implies a capital resource base upon which the school can build for the future.

This institution demonstrates relative strength in two out of five fundamental elements of financial health, ability to borrow and capital resources, and does not show extreme weakness in any of the other fundamental elements.

## **7 Other Considerations**

### **Chapter Outline**

- Validation of Methodology With Outside Source
- Other Methodologies, Ratios, and Factors Considered
  - Other Methodologies
  - Other Ratios
  - Other Factors
- Closed School Data and Trend Analysis

### **Validation of Methodology With Outside Source**

For the institutions included in this engagement's sample, we compared their final composite score with the score they received using Dun & Bradstreet's (D&B) Financial Stress Class and Credit Score Class.

D&B's Financial Stress Class are statistically derived values that are comprised to reflect the likelihood of a business ceasing operations without paying creditors in full, or seeking

bankruptcy protection within the next eighteen months. The Financial Stress Class relies on both financial and non-financial information including age of business, payment trends, financial ratios, and public records. Their Credit Score Class is designed to assess the probability of a firm paying its bills in a severely delinquent manner (90+ days past terms) over the next twelve months. Elements of information used for the Credit Score Class include demographic information, number of employees, payment experience, and age of payments in relation to terms.

In comparing the final composite scores calculated using KPMG's recommended methodology to scores derived from D&B's Financial Stress Class and Credit Score Class, certain arithmetic or statistical challenges arose. Namely, how does this methodology's scale equate to D&B's scales? How does one quantify the correlation between the three scales?

It appears, using non-statistical methods, that the correlation between this methodology's composite scores and D&B's indexes is higher (more closely correlated) than the correlation between the NPRM scores and D&B's indexes. Further, there appears to be a reasonable degree of correlation between this methodology's scores and D&B's indexes. It is important to note however, that the fundamental objective or purpose of D&B's indexes is different from this methodology's objective and the scores are compiled using mutually exclusive information. That is, non-financial information like payment history or age of business, used in the D&B indexes is not readily obtainable from general purpose financial statements upon which this methodology is based.

## **Other Methodologies, Ratios, and Factors Considered**

In developing the recommended methodology, KPMG considered a number of other methodologies, ratios and factors. A complete description of all methodologies, or components thereof, that were considered would be overly voluminous for this report and would provide information with limited usefulness. However, this section gives a brief overview of some of the items that KPMG considered and rejected in developing the recommended methodology.

### **Other Methodologies Considered**

There are a number of other organizations that employ various solvency predictor models. One popular model, the Edward I. Altman Model, uses financial ratios to generate a "z score" much like the way the recommended methodology generates a final composite score. The Edward I. Altman Model was rejected because of its complexity and the fact that it required market value information. To compute the z score, total market capitalization is needed, and that information is not available for many schools that participate in student financial assistance programs. That information is not readily obtainable from general purpose financial statements.

KPMG also considered various multiple tiered methodologies. With the multiple tier scenarios, schools would calculate their composite score using the three ratios from the NPRM methodology or the new recommended methodology then, if their composite score warranted, compute other select ratios. If the other ratio scores were strong enough, a school might pass the ratio test. This idea was rejected because, during the original project to develop the NPRM methodology, KPMG and ED determined that too many ratios made the methodology overly cumbersome and complex. The three ratios selected for this methodology provide a measure of institutions' total financial condition and the other ratios considered would not significantly improve on them.

### **Other Ratios Considered**

**Acid Test Ratio and other Working Capital Ratios** - The acid test is a quick measure of highly liquid assets available to meet current obligations. A measure of liquidity is important in the analysis of financial condition. This ratio was eliminated for three reasons: 1) Expendable capital is a more important element than strictly liquid capital in assessing financial condition. 2) There is some dispute concerning the appropriate way to account for deferred revenue. For example, proprietary institutions can change the way deferred tuition revenue is reported (current vs. long-term) in order to meet the test. 3) Information to calculate the ratio for colleges and universities is difficult to extract from the GAAP financial statements because it is not a required disclosure. Working capital is defined as the difference between current assets and current liabilities. An excess would represent positive working capital available to satisfy obligations. The Primary Reserve ratio measures expendable net assets or owner's equity. In calculating the Primary Reserve ratio, non-expendable / non-liquid items are eliminated from owners' equity. The Primary Reserve Ratio was chosen because it is a more disciplined calculation and can be obtained in all cases.

**Operating Income Ratios** - An operating income ratio would measure income from operations, for example, as a percentage of net revenue. The results would only help answer part of the question: Did the institution live within its means for the fiscal year? We rejected this measure in favor of the Net Income ratio. The Net Income ratio measures the percentage of income compared to net revenues after operations and other non-operating items. This ratio represents a more complete picture of whether the institution spent more than it brought in during the fiscal year.

**Debt to Equity (debt levels)** - Like the viability ratio, this ratio requires debt to be calculated. More than 35% of proprietary institutions have no debt. Therefore, an equity to total assets ratio was utilized which provided a relative measure of leverage and could be calculated for all institutions regardless of whether they have long-term debt.

**Cash Flow Ratios** - Cash flow ratios were considered in developing the methodology. Several measures of cash provided from operations to cover debt payments and a net income ratio adjusted for non-cash expenses were considered. We found cash flow measures can easily be manipulated. For example, simply extending creditors from normal

payment terms to 120 days will look like cash has been provided by operations, when in fact the trend of delayed vendor payment is not a positive indicator. KPMG, therefore, opted for an accrual based measure. In addition, we considered adjusting the net income ratio for non-cash items and setting the measure of strength based upon an adjusted net income ratio. This was rejected because of the objective to keep the final methodology as simple and user friendly as possible. However, the concept of considering non-cash expenses was used in setting the strength factors for the Net Income Ratio. Based upon the analysis of over 900 financial statements, we determined that depreciation expense was the largest non-cash item represented in the income statement (proprietary sector) and in the statement of activities (private non-profit sector). Based upon analysis, depreciation expense on average represented 3 - 4% of total revenues. In order to reflect this, the final strength factors for the Net Income ratio were adjusted (see Strength Factors chapter). The concept is that no credit should be given to an institution in any methodology if it is not producing cash income for a fiscal year. Therefore, the bottom of the range where no credit is given is a Net Income result of a 3 - 4% deficit depending on business sector.

**Debt to Revenue and Debt Service Coverage** - These ratios were considered secondary to the Equity ratio. They provide additional insight as to how the institution is managing its debt. The primary measure was determined to be how leveraged an institution is in the first place as measured by the Equity ratio.

### **Other Factors Considered**

**Loan Default Rates** - Information relating to default rates may be indirectly useful in assessing financial health but that information is generally not obtainable from general purpose financial statements. In addition, default rates are monitored under a different section of the Title IV regulations.

**Institutional Longevity** - Even if an institution has been in existence for 35 years, large financial deficits could still impact the financial condition. KPMG analyzed closed school information and found that in a sample of twenty-five closed institutions 12% were in existence for more than 25 years upon closure for financial reasons including failure of the loan default regulations.

**Enrollment Trends** - Although enrollment trends may significantly impact an institution's financial condition, that information generally cannot be obtained from general purpose financial statements.

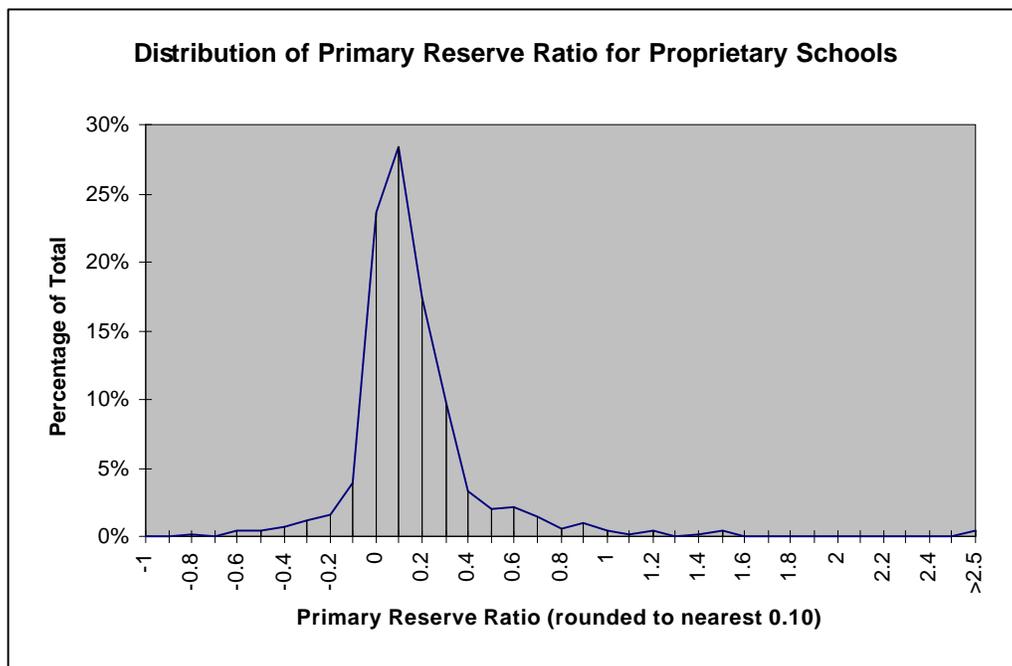
**Multiple Years' Average for net Income** - In measuring profitability, KPMG considered using a three year running average for the Net Income Ratio. That idea was rejected for a number three basic reasons. First, it would necessitate using financial statements from multiple years and make the methodology more cumbersome to administer. Second, the residual effect of all previous years' profitability is already reflected in institutions' balance sheets. In the proprietary sector, retained earnings, a component of total equity, identifies the amount of residual earnings that have been left in the institution. Third, and finally, the

general unavailability of prior years' financial statements precluded KPMG from compiling comprehensive empirical data.

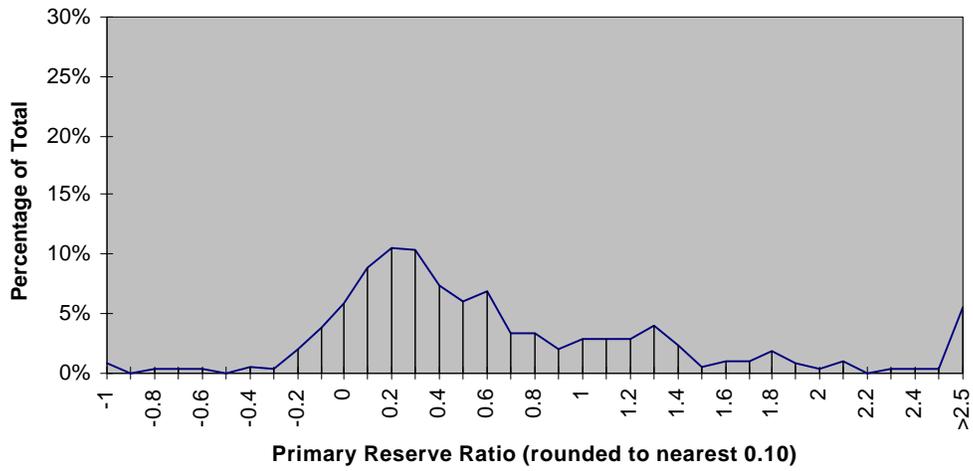
## Closed School and Trend Analysis

Comprehensive information about schools that had precipitously closed for financial reasons in prior years would have been very useful to KPMG in developing its recommendations. However, much of that information was not available because of the lack of availability of audited financial statements. Although ED had over one hundred statements from multiple years of closed school data, since audited financial statements have only been required to be submitted in the past four years, a significant portion were not audited. KPMG and the Department concluded that only the audited financial statements would be reliable enough to be useful. Only twenty-nine audited financial statements of schools which have closed for what could be reasonably assumed to be financial reasons were available.

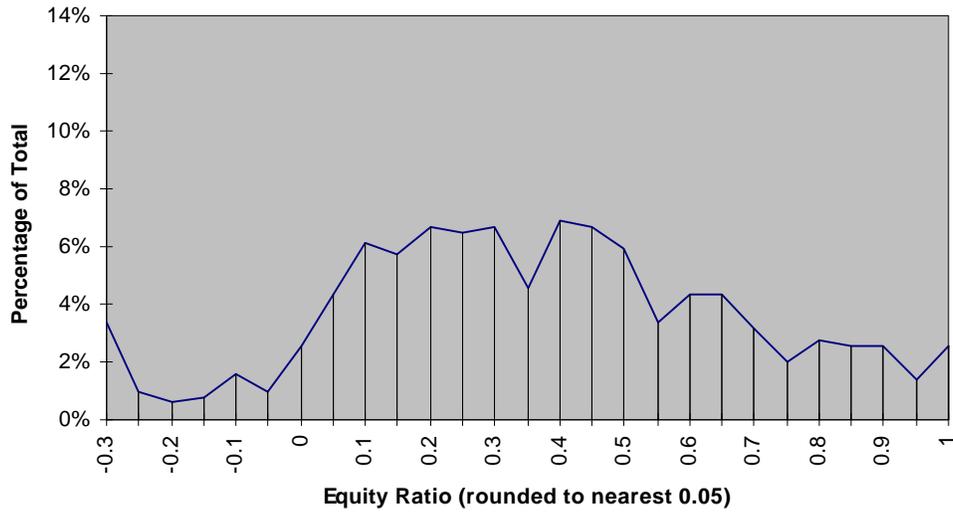
Trend analysis would also be valuable in developing and testing the recommended methodology. We were unable to incorporate such analysis for two reasons. First, new accounting standards like Statement of Financial Accounting Standards (SFAS) Nos. 116 and 117 made comparison of the current year data of private not-profit institutions to prior years impossible (at least without elaborate additional effort). In addition, the unavailability of prior years' audited financial statements, particularly the prior year's financial statements of the institutions represented in this sample group, prevented KPMG from employing trend analysis as a tool.

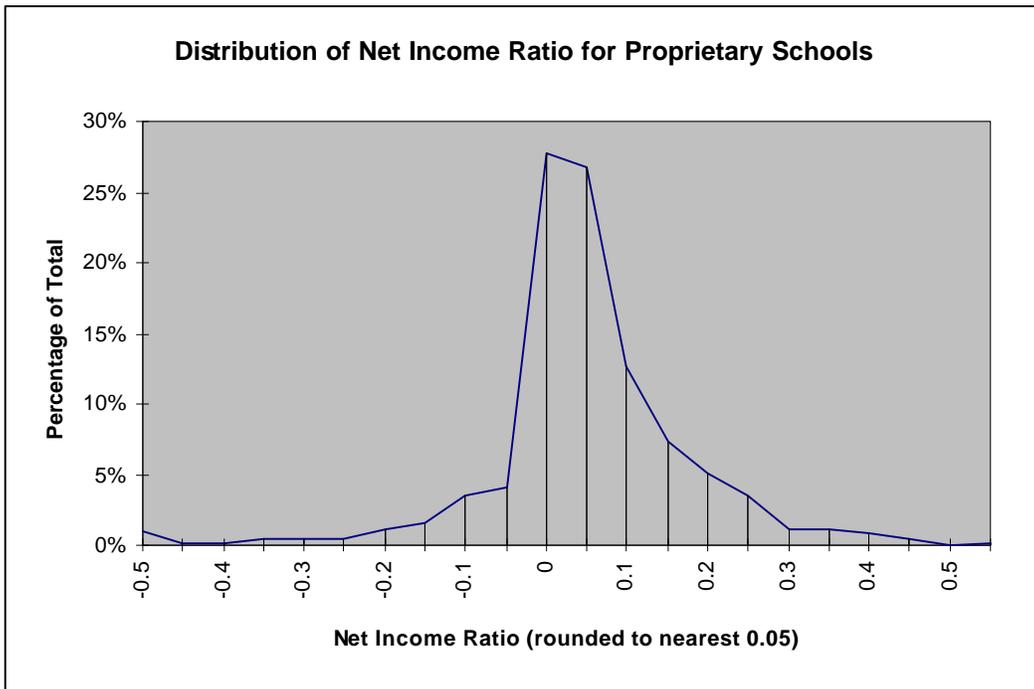
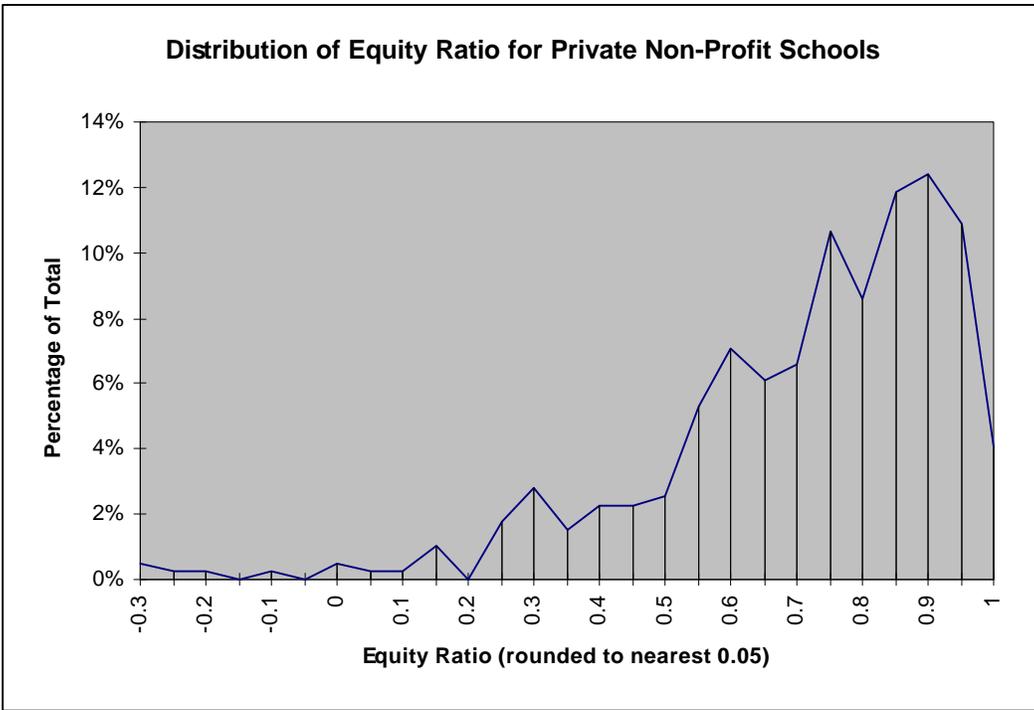


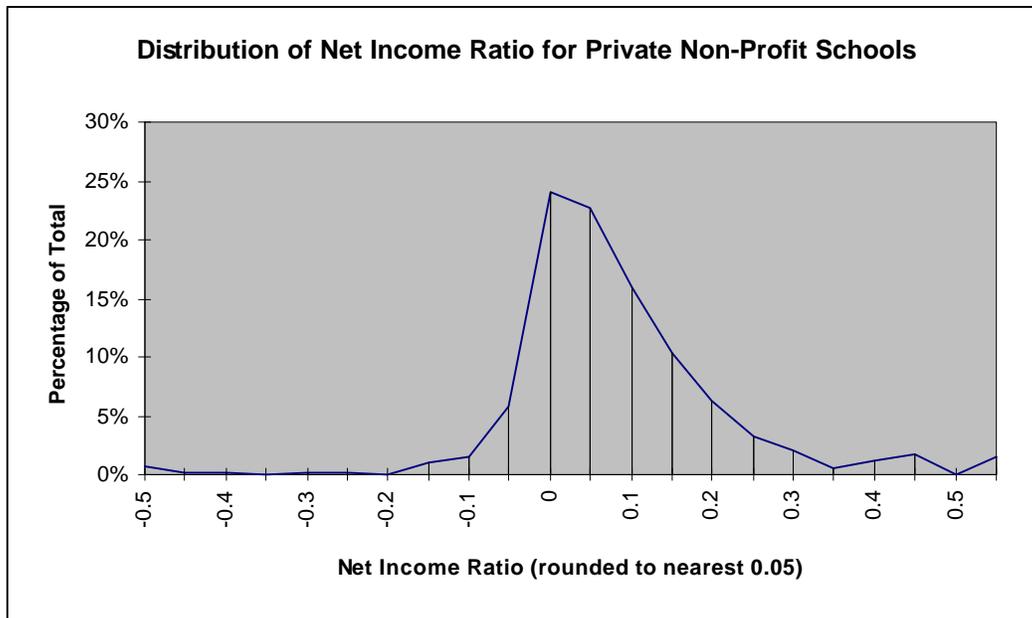
**Distribution of Primary Reserve Ratio for Private Non-Profit Schools**



**Distribution of Equity Ratio for Proprietary Schools**







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