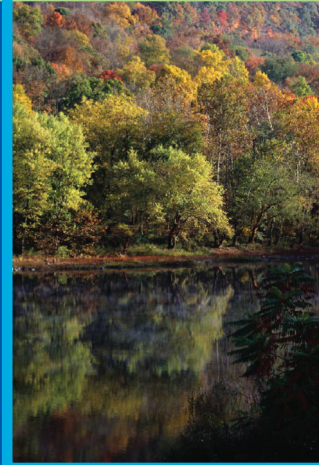


Mississippi Water Association

Financial Indicators Study



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This publication was developed under Subcontract #00110331-23 awarded by the Southeastern Regional Small Public Water Systems Technical Assistance Center (SE-TAC) through U.S. Environmental Protection Agency Assistance Agreement No. X828421010. It has not been formally reviewed by the SE-TAC or the Sponsor. The views expressed in this document are solely those of the Subcontractor and neither the SE-TAC nor EPA endorses any products or commercial services mentioned in this publication.

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Introduction

One of the most important roles assumed by a rural water association board is the management of the association's financial resources and concerns. The association's financial position affects much more than dollars in the checking account; it also impacts the association's ability to comply with regulatory mandates and provide quality and improved services to its customers.

One of the most powerful tools available to the water association board and technical assistance providers is comparative financial analysis. This technique recognizes that while the examination of an association's financial information at a single point in time does provide valuable data to the board, the impact of this information can be significantly enhanced if it is examined over time or if it is compared to other associations with similar characteristics. The purpose of this report is to initially provide the latter information, but also to give the board member a solid basis to compare the progress of the association to meet its financial and operational goals over time.

Acknowledgements

The authors wish to thank the Office of the State Auditor, State of Mississippi, for its assistance in providing the *Annual Report for Non-Profit Public Water Systems* and the accompanying financial statements provided by many rural water associations. Without this assistance, the data needed to compile this report would have been difficult to obtain.

The authors also wish to thank the Southeastern Regional Small Public Drinking Water Systems Technical Assistance Center (SE-TAC) for this project's funding and the Mississippi Department of Health for its encouragement and support throughout the project. Any errors, of course, remain the sole responsibility of the authors.

Data

The data used to compile the financial composite measures was primarily gathered from the *Annual Financial Reports for Non-Profit Public Water Systems* submitted to the State of Mississippi Office of the State Auditor for the end of fiscal year 2003 for the submitting water associations. The fiscal year for individual water systems varies. This report (see Appendix 1) provides a relatively complete proxy of an income statement for a rural water association.

Furthermore, many water associations submitted a complete set of certified financial statements. These statements were used not only as a guide to assist in categorizing the income and expense components from the *Annual Financial Reports for Non-Profit Public Water Systems*, but were also used to develop balance sheet composites and ratio analysis that required balance sheet components.

Finally, data gathered from a water rate survey conducted by the Community Resource Development department of the Mississippi State University Extension Service was used to augment the previously mentioned data sources. A complete analysis of this data is presented in *Mississippi Survey of Drinking Water System Characteristics and Rate Structure* and can be obtained online at <http://msucares.com/water>.

Data Aggregation

One of the foremost requirements in comparative financial statement analysis is the comparison of entities with similar operational or financial characteristics. In most cases, delineations between firm characteristics most often focus on measuring firm size. While there are many ways to measure firm size (level of sales, number of employees, dollar value of assets, etc.), a typical measurement used

with rural water systems is either the number of connections or the population that the system serves.¹

The data presented in this report is aggregated in roughly the same manner as the Environmental Protection Agency's system size classifications (very small, small, medium, large, and very large).² However, factorial analysis indicated that strict adherence to the EPA size classifications was not the most effective means of presenting the data. Factors beyond the scope of this report indicated that a slightly different grouping of systems would result in classifications that better aligned system characteristics. This analysis determined that the following system size classifications would be more meaningful for the comparative financial analysis presented in this report.

Size I	1-250 connections
Size II	251-500 connections
Size III	501-1,000 connections
Size IV	1,001-1,500 connections
Size V	1,501-2,000 connections
Size VI	Greater than 2,000 connections

Data Presentation

The resulting analysis is presented in two distinct methods. First, the components of the analyzed financial measures are presented in common-size financial statements with respect to system size. These statements are categorized by the accepted categories typically found in publicly available balance sheets and income statements. Presenting these data in a common-size format simply means that the financial statements are displayed in percentage terms, thus eliminating the confusion of dealing with absolute dollar magnitudes. Statement components will be discussed in detail in a later section of the report.

Second, an offering of financial ratios is presented for use in determining the general guidelines of financial indicators for rural water associations. Again, this data is categorized by the size classifications discussed earlier and is presented with specific statistical measures designed to facilitate the use of the comparative ratio by water association board members or technical assistance providers.

As with many other areas of financial or operational management analysis, there are a number of measures (ratios) that could be presented. The ones presented in this report were chosen based upon two distinct factors.

- *Common use in the financial analysis or lending arenas* – The majority of the financial ratios presented here have common use in the general business environment. They have come to be known as reliable measures of the health of a company, and providing information on resources that could be used to ascertain the financial capacity of a water system would be incomplete without their use.
- *Specific applicability to rural water associations* – There are specific factors in rural water

1 Population, in most cases, is defined as the number of connections multiplied by an assumed average population per connection, most often 3.0-3.3 persons served by each connection. Therefore, the use of either connections or populations is equivalent measures.

2 The EPA size classifications are defined as: Very Small – Having a service population of 1-500 persons; Small – Having a service population of 501-3,300; Medium – Having a service population of 3,301-10,000 persons; Large – Having a service population of 10,001-100,000 persons; and Very Large – Having a service population of greater than 100,000 persons.

association analysis that have specific meaning to operators, board members, and technical assistance providers (an example is financial characteristics that are measured in terms of a per connection basis). After discussion with researchers and technical assistance providers, certain ratios that were deemed to have a probability of long-term usage were chosen.

Analysis Limitations

The primary guide used by the authors in preparing this report was *Annual Statement Studies: Financial Ratio Benchmarks*, an annual publication of the Risk Management Association (RMA). In their General Organization of Content section, RMA presents several limitations of use that are applicable to this analysis. These include:

- *Data Not Random* – The financial statements used in this report are not selected by any random or statistically reliable methods. The information presented is the result of financial reports submitted to the State of Mississippi Office of the State Auditor.
- *Categorized by the Provision of Drinking Water Only* – Many of the entities used in the report may provide utility services in addition to drinking water (e.g., gas, electricity, and sewer/wastewater services). While every effort was made to exclude the financial impact of these services from the report, the possibility remains that they are sufficiently intertwined so as to prohibit a strict segmentation of these services. This is important to remember when using this data.
- *Small Samples* – Many of the composites presented are the result of a very small sample size. This is particularly true with regard to any measure that utilized balance sheet data. Relatively small sample sizes increase the probability that some measures do not accurately reflect the characteristics of the entire population.
- *Extreme Statements* – An extreme or outlier statement may occasionally be present in the sample, thus causing a disproportionate effect on the composite measure. This is particularly true in a small sample.
- *Operational Differences* – Water associations within a particular size class will differ in their operational characteristics. This stems from the Classification of Public Water Systems designations used by the Mississippi Department of Health. Public water systems are classified by the means through which they obtain and treat water for consumption by the public. These operational differences can directly affect financial statements and would thus have an impact on the composite measures presented in the report.
- *Additional Considerations* – There are other considerations that can result in variations among water associations. These include different labor markets, geographic location, variations in accounting methods, terms of sale, quality of products handled and delivered, and sources and terms of funding.

For these reasons, the Mississippi State University Extension Service (MSUES) does not recommend using the composites presented in this report as absolute norms. Rather, they should be used only as general guidelines and as a supplement to other methods of financial analysis. MSUES makes no claims regarding how representative the figures presented in this report are.³

Discussion of Composite Measures

The Balance Sheet

The balance sheet is a financial statement that provides a snapshot of the firm's financial position at a

3 *Annual Statement Studies: Financial Ratio Benchmarks*, Risk Management Association. Page 10.

given point in time (usually the end of the firm's fiscal year). The balance sheet is comprised of three main sections:

- Assets – Assets are tangible items and intangible concepts (identifiable non-monetary assets without physical substance) owned by the company. Current assets are those items that are cash or expected to be converted to cash in a relatively short time frame (usually one year or less). These can include checking, savings, and money market accounts and accounts receivable such as water bills that are due but haven't been paid.

Fixed assets are those assets to be held for a term longer than one year before they are sold or converted to cash. These include a water system's distribution lines, towers and storage tanks, and some tools.

Restricted assets are assets held by the association, but whose use is restricted in some way. For water associations, these typically include service connection or meter deposits which will be returned to the customer after service is discontinued and all outstanding bills are paid.

Other assets are those assets held by the association that do not fit into any of the previously mentioned asset categories.

There are several ways to value assets including market value, remaining basis, and value based on useful economic life. It is beyond the scope of this report to determine the asset valuation method used by each individual system. However, this is an area that definitely needs further research.

- Liabilities include the debt held by the water association. As with assets, liabilities are categorized with respect to the length of debt and its purpose. Current liabilities include debt to be retired in the relatively near future (usually a term of one year or less). These could include accounts payable for purchased water, supplies, prepaid expenses for such items as insurance or chemicals purchased on contract, or the portion of long-term debt that is due in the near future.

Long-term debt is usually held by the water association for a longer period of time and typically includes the debt incurred for capital expenditures such as towers or storage tanks, major distribution system expansions, or high-value equipment such as system-wide pumps or trucks.

- Net Worth (sometimes called equity) is the value of the company to its owners. For example, if all association assets were sold at the value of the assets listed on the balance sheet (book value) and the cash received was used to pay off the association's debts, then the dollar amount left over would be the association's net worth. It is desirable for any company to own assets that are in excess of the debt that it has incurred; if this is the case, net worth is positive. However, there are cases in which a company's borrowings exceed its assets and net worth is negative. This situation would have implications for the association's future ability to borrow funds to finance essential improvements and could eventually lead to the association being placed in receivership due to insolvency or the inability to meet regulatory requirements.

Tables 1 and 2 present common-size composite financial measures for the balance sheet delineated by system size. It is essential to notice the relatively small number of statements included in this analysis. This is because the submission of a complete financial statement package is not required by the Office

of the State Auditor, but some systems choose to provide these on a voluntary basis.

Asset Composites

The various asset categories are presented as percentages of total assets for the particular size categories with the number of statements provided in each category in Table 1. There are several points of interest in these composites.

First, smaller systems tend to hold almost twice (as a percent of total assets) the current assets, as do their larger counterparts. Size I through Size IV systems hold about 24 percent of their assets in cash or near cash equivalents, while Size V and Size VI systems hold only 12-14 percent of their assets in this category. Size V and VI systems also tend to have a relatively higher percentage of investments in fixed assets such as plant and equipment.

There could be several reasons for this. First, large systems, by the sheer volume of sales, may generate a sufficient level of cash so that routine expenses can be covered through relatively smaller holdings in the current asset category. Second, larger systems may have determined that larger and newer plant and equipment provide greater efficiencies and sufficiently larger economies of scale that fewer assets need to be held in near cash reserves. Smaller systems may not be able to realize that advantages due to the limited amount of sales they expect to provide. Third, larger systems may have higher population or connection densities than do smaller systems. While geographic service area or connection density data is not available, it is reasonable that higher density systems would enjoy efficiency advantages that would lead to reduced expenses. This advantage does have some support when the median value for the Net Income/Connections ratio is examined later.

The remaining asset categories are relatively similar across all size classes. All systems tend to hold 3-4 percent of their assets as restricted with the exception of the Size I and Size IV classes. Only two size classes held assets in the Other Asset category and those holdings are extremely small.

Table 1. Balance Sheet Components

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
ASSETS	%	%	%	%	%	%	%
Current Assets	23.3	24.6	24.4	26.0	12.1	13.7	22.2
Fixed Assets	76.7	71.1	72.6	64.6	85.2	83.4	74.2
Restricted Assets	0.0	4.1	3.0	8.9	2.7	2.9	3.5
Other Assets	0.0	0.1	0.0	0.5	0.0	0.0	0.1
Total Assets ^a	100.0	99.9	100.0	100.0	100.0	100.0	100.0
Number of statements	5	10	15	5	4	5	44

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Liability and Net Worth Categories

As with the asset section, composites in the liabilities and net worth section are presented as percentages of total liabilities and net worth (L&NW) in Table 2. Current liabilities are fairly consistent for association size classes with the exception of the Size IV class (an examination of the statements in the Size IV class reveals that two statements may appear to be outliers since the reported levels of current liabilities for these statements are significantly higher than the other reported levels).

There is a wide variation in the levels of long-term debt held by the different size classes. Long-term debt holdings ranged from a low of 38 percent for Size III systems to a high of 69 percent for Class IV systems. As with the variations in the different asset classes previously discussed, there could be several explanations for this variability.

Two reasonable explanations may be related to the age of the association’s plant and equipment and the Mississippi Department of Health (MDH) system class designations. It is likely that the plant and equipment held by some system size classes (most notably class Sizes II, III, VI) is older equipment with debt that has been serviced for a relatively longer period of time or, particularly in the case of Size VI systems, this could be relatively new plant and equipment with debt paid off at an accelerated rate. It is likely that this phenomenon occurs more frequently with older systems that have had ample opportunity to build significant cash reserves (it is important to note that system management philosophy plays a major role in reserve accumulation). Varying levels of debt could also be due to the operational characteristics inherent in the classification system used by the MDH. For example, a system size classification with a preponderance of Class D⁴ systems would likely have lower capital equipment requirements than a system size classification with a relatively large number of Class B systems.

Net worth for the systems analyzed range from a low of 23 percent for Size IV to a high of 57 percent for Class III systems. This wide range of values is not surprising given the variability in long-term debt holdings incurred by the various system size classes and the potential variability in the age of the systems.

Table 2. Balance Sheet Components

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
LIABILITIES	%	%	%	%	%	%	%
Current Liabilities	4.6	5.0	5.1	9.0	4.0	5.7	5.6
Long-Term Debt	54.2	46.6	37.8	68.5	61.1	40.9	47.7
Total Liabilities	58.8	51.6	42.9	77.5	65.1	46.6	53.0
Net Worth	41.2	48.4	57.2	22.8	34.6	53.4	47.0
Total Liabilities and Net Worth ^b	100.0	100.0	100.1	100.3	99.7	100.0	100.0
Number of statements	5	10	15	5	4	5	44

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Income Statements

Where the balance sheet shows the financial position of a firm at a particular point in time, the income statement provides information on the activities of a firm over a specified time period. The income statement is divided into two categories: income (funds that flow into the business) and expenses (funds that leave the business for purposes other than non-capital debt service). Income and expenses are divided into two classifications each so that management can better evaluate the firm’s performance.

Operating revenue is income derived from the firm’s primary activities. For a water system, these activities would likely include sales of water, collection of deposits and late fees, etc. Non-operating revenues include income from activities outside the firm’s primary mission and could include rents received from buildings and other real estate, the sale of unused equipment, interest on deposits, and extraordinary items.

Operating expenses are those monies expended through the firm’s primary mission activities. Operating expenses could include the purchase of water for resale, supplies and chemical expense,

4 Class D water systems provide no treatment to water other than chlorination, fluoridation, or direct chemical feed while Class B systems have iron and/or manganese removal facilities.

interest expense for plant and equipment debt, labor (payroll), and depreciation (a non-case operating expense). Non-operating expenses are those funds expended by the water association for activities outside the association’s primary scope or mission, but could include items such as improvements to non-water related property or real estate.

The composite information for the revenue and expense components of the income statement is provided in Table 3. The first observation is that there are a significantly larger number of financial statements from which to derive these composite numbers. The primary source of information for this section is the *Annual Financial Report for Non-Profit Public Water Systems* that all public water systems are required to submit to the Office of the State Auditor. These data were supplemented by complete financial statement packages provided to the Office of the State Auditor by some water systems.

Table 3. Income Statement Components

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
INCOME	%	%	%	%	%	%	%
Operating Revenue ^c	96.5	96.7	97.3	98.4	97.5	97.3	97.1
Non-Operating Revenue ^d	3.5	3.3	2.7	1.6	2.5	2.7	2.9
Total Revenue ^e	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Operating Expenses ^f	98.9	98.5	98.5	99.8	98.7	97.3	98.6
Non-Operating Expenses ^g	1.1	1.5	1.5	0.2	1.3	2.7	1.4
Total Expenses ^h	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of statements	55	72	63	22	19	19	250

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

As can be seen in Table 3, operating revenues consistently were 96.5-98.4 percent of total revenue and operating expenses consistently were between 97.3-99.8 percent for all size classes. While the majority of systems did receive non-operating revenues and incur non-operating expenses, these were very small for all size classes and are assumed to have a negligible impact on the financial health of the organization.

Financial Ratio Analysis

Financial ratio analysis is a long-standing method of analyzing a firm’s financial statements and determining the financial health of the entity, whether it is a for-profit business or a non-profit organization such as a rural water association. Utilizing ratio analysis to determine the financial health of a firm accomplishes two very important objectives:

- Ratio analysis allows firms with similar characteristics to be compared, regardless of differences, in absolute dollar magnitudes.
- Ratio analysis provides a means by which a single firm can track its performance over time to determine its profitability or efficiency trends.

Ratio analysis accomplishes these objectives by putting the benchmarks being analyzed on a common basis. The very concept of a ratio accomplishes this by eliminating the magnitude of absolute dollars from the analysis and providing the user with a readily comparable basis from which to judge the performance of the water association either with other associations that have similar characteristics or with itself over time.

Liquidity Ratios

The concept of liquidity refers to the firm's capacity to generate sufficient cash to meet its financial obligations as they come due. It is important to note that if a firm is not liquid, it may enter into bankruptcy or receivership even though the firm may be profitable and have a positive net worth (although short-term liquidity problems may be alleviated by short-term debt). This is primarily due to the fact that the firm must have cash with which to operate. Without cash or available credit, payrolls can't be met, routine expenses such as electricity or chemicals expense can't be paid, and the entity's debt can't be serviced. The three ratios discussed below provide insight into the health of a water association.

Current Ratio

The current ratio is perhaps the most often quoted measure of a firm's liquidity. It is calculated by dividing a firm's total current assets by its current liabilities. Current assets and current liabilities are used because they represent the most immediate sources of cash to the firm and the most immediate obligations that must be met. While this ratio must be measured in degrees of liquidity, there is one absolute threshold that should not be crossed. If the association's current ratio is greater than or equal to 1.0, then the association is said to be in a liquid position since its immediate sources of cash exceed its immediate obligations. However, if the current ratio drops below a level of 1.0, then the firm is no longer in a liquid position, and it is in danger of not having the ability to fulfill its most immediate financial obligations.

Table 4. Current Ratio

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	4	10	15	5	4	5	43
Median ⁱ	5.45	5.21	4.72	2.50	2.42	2.19	3.76
Mean ^j	9.73	4.93	5.26	2.73	2.53	2.29	4.70
Standard Deviation ^k	10.90	2.66	2.88	0.61	1.31	1.12	4.14

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

The current ratio composites presented in Table 4 indicate that the rural water associations in Mississippi enjoy a relatively high degree of liquidity, at least according to this small sample. Consistent with the discussion of the balance sheet composites, it seems that smaller systems tend to hold a relatively larger portion of their assets in the current asset categories while larger systems do not have the same degree of liquidity concerns.

While a relatively high current ratio relieves the association of liquidity concerns, it could indicate that the association is not utilizing its assets to the fullest extent possible. In the case of the composites presented here, larger systems tend to place a relatively larger level of assets into the fixed asset category, perhaps indicating that increased investment in plant and equipment will alleviate some liquidity concerns associated with repair expense, expansion, etc.

Net Working Capital/Total Assets

Net working capital is defined as the difference between current assets and current liabilities. Dividing this difference by the total level of the association's asset holdings provides an indication of the ability of the association to sustain itself in the long run by meeting unplanned expenditures. (The current liabilities category is used as a proxy for planned expenditures. While not all planned expenditures are captured in current liabilities (e.g., payroll), an association with sound accounting or bookkeeping procedures in place is more likely to provide an accurate estimation of planned expenses through the

use of current liabilities) or by indicating potential business failures.

Table 5. Net Working Capital/Total Assets

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	5	10	15	5	4	5	44
Median	0.18	0.14	0.15	0.13	0.08	0.06	0.13
Mean	0.19	0.20	0.19	0.16	0.07	0.08	0.17
Standard Deviation	0.05	0.20	0.15	0.09	0.06	0.10	0.14

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Consistent operating losses will cause current assets to shrink relative to total assets. A negative ratio (indicating that current assets are less than current liabilities) indicates that net working capital is negative and serious future liquidity problems (see the discussion on the current ratio above).

Cash and Cash Equivalents per Dollar of Sales

The final measure of association liquidity describes the firm’s holdings of cash and cash equivalents⁵ relative to its sales volume (Table 6). The board member or technical assistance provider must be aware that this calculation requires the use of two separate financial statements and, as such, requires special consideration. The composites presented in this report are as of the end of the association’s fiscal year. Therefore, if these values are to be used as a guide, it is imperative that sales are calculated on an annual basis, even if the value used cross fiscal years.

Table 6. Cash and Cash Equivalents/Sales

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	54	72	63	22	19	19	249
Median	1.67	1.16	1.06	0.76	0.77	1.08	1.10
Mean	1.75	1.73	1.25	0.78	0.99	1.51	1.45
Standard Deviation	1.43	3.74	0.72	0.46	0.73	1.90	2.23

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

The composite values shown in Table 6 continue to demonstrate that smaller systems (with the notable exception of Size VI systems for this particular measure) tend to hold a relatively large portion of their assets in liquid form. If the composite is greater than 1.0, then the association is holding more cash at a single point in time (in this case, at the end of the fiscal year) than its sales totals for the entire year. There are some general implications for this level of cash holdings.

While association boards that hold this relatively large level of cash have eliminated the vast majority of their liquidity concerns, they may not be exploring the full abilities of these funds to better improve the operational aspects of their systems. For example, investments in plant and equipment for system upgrades might improve the system’s sustainability and lower unexpected maintenance and repair costs.

5 Cash and cash equivalents are defined to be cash on hand in bank (various checking and savings accounts), petty cash, restricted cash, certificates of deposit (CDs), savings accounts, money market accounts, association deposits (including customer meter deposits, utility deposits, security deposits, etc.), time deposits and short-term investments, and cash-impact fees.

However, cash could also be thought of as insurance. A system failure (such as the failure of a well) could have a much more serious implication for smaller systems than for larger systems. Therefore, there is the need for more cash availability (relative to sales) to cover these occasions. Having a large level of cash can protect the system from relatively large unexpected expenses.

A mitigating factor in this discussion is the presence of relatively large standard deviations (measures of variability in the data). Since the media and mean values are roughly equivalent, then the analyst can examine the variability around the mean as a useful proxy for the variability about the median. The relatively high degree of variability found here indicates that systems within particular size classes are holding very different levels of cash relative to their sales (indeed, a relatively high degree of variability can be observed for all liquidity composites). While there are several likely explanations for this variability, two that may be in the forefront are the methods of obtaining and treating water used by various systems within a particular size class and the age of the association's plant and equipment.

Debt Management/Operating Efficiency Ratios

While attention is (and should be) focused on the revenue structure of a rural water association, particularly the association's rate structure, the debt management, and operating efficiency aspects of the association should be considered as well. The system must manage its debt and operating efficiency effectively in order to provide the most affordable water to its customers.

Interest Expense/Operating Expense

The first measure of debt management is the proportion of total operating expenses that is interest on debt. Overall, interest expense is 15 percent of total expenses and ranges from a low median of 9 percent for Size V systems to a high median of 17 percent for Size I systems (Table 7). If all other things were equal, this scenario would be counter-intuitive to the liability composites discussed earlier. However, the liabilities composites and the Interest Expense/Operating Expense composites are from different samples (prepared financial statements versus the *Annual Reports for Non-Profit Public Water Systems*, respectively). Furthermore, it is likely that larger water systems may be viewed as being more viable by lenders and are therefore able to obtain more favorable credit terms than are smaller systems. Finally, the availability of relatively large loans obtained from the USDA Rural Development could contribute to a high Interest Expense/Operating Expense ratio, particularly for newer systems.

Table 7. Interest Expense/Operating Expense

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	35	62	55	18	17	13	200
Median	0.17	0.15	0.13	0.14	0.09	0.10	0.15
Mean	0.17	0.17	0.14	0.12	0.11	0.12	0.15
Standard Deviation	0.09	0.09	0.09	0.06	0.07	0.07	0.09

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Long-Term Debt Ratio

Total Debt Ratio

The long-term debt ratio is calculated by dividing long-term debt by total assets, and the total debt ratio is similarly calculated by dividing the amount of total debt by the level of total assets. These measures indicate the amount of funds provided by the association's creditors as a percentage of assets. As a general rule, lenders prefer lower long-term and total debt ratios since low ratios tend to assist in alleviating the creditor's risk in the case of liquidation or receivership.

Table 8. Long-Term Debt Ratio

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	4	9	15	5	4	4	41
Median	0.67	0.50	0.42	0.71	0.55	0.50	0.51
Mean	0.68	0.52	0.38	0.69	0.61	0.51	0.51
Standard Deviation	0.12	0.10	0.15	0.29	0.13	0.20	0.19

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Table 9. Total Debt Ratio

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	4	10	15	5	4	5	43
Median	0.73	0.55	0.44	0.78	0.60	0.45	0.56
Mean	0.74	0.52	0.43	0.77	0.65	0.47	0.54
Standard Deviation	0.10	0.17	0.14	0.27	0.13	0.27	0.21

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Tables 8 and 9 show no specific patterns or trends with regard to the level of funds provided by creditors with regard to size classes. This could indicate a wide variety of operating designations present in each size class as well as variations in the terms of debt offered by lenders with respect to particular water systems. This could also represent variations in the age of plant and the individual association’s ability to retire debt early.

Long-Term Debt per Connection

Table 10 presents the average level of debt associated with each connection. As with other per connection composite discussions, there is no distinction between the types of connection. The median long-term debt per connection is \$706.35 for all systems combined, but no distinct trends between size classes can be determined.

Table 10. Long-Term Debt per Connection

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	55	72	63	22	19	19	250
Median	606.62	832.11	624.90	890.61	759.63	578.72	706.35
Mean	779.85	884.04	705.12	773.62	685.00	550.99	765.87
Standard Deviation	784.60	681.70	625.38	452.48	523.36	402.06	648.99

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

Operating Revenue per Connection

Operating Expense per Connection

The final two operating ratios presented in this report demonstrate the average contribution to operating revenues and operating expenses per system connection (Tables 11 and 12). While closely related to the net income per connection composite presented in the profitability section of this report, these composites provide more detail regarding the individual components of net income per connection.

As can be seen in Table 11, only two system size classes have median revenues per connection lower than the median for all systems combined (Sizes III and VI). However, an examination of Table 12 indicates that these size classes also have the lowest expenses per connection as well. It is likely

that much of the variation seen in these composites is due to the variety of different production and treatment methods necessary for the particular system of an association or geographic area. While these composites are useful to an individual association determining if their revenues and expenses per connection are comparable to other association in its size class, it is much more useful to set time specific goals given the mandated treatment procedures for the individual system.

Table 11. Operating Revenue per Connection

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	55	72	63	22	19	19	250
Median	301.89	289.88	258.37	304.71	288.70	282.80	285.36
Mean	319.97	305.34	276.83	307.74	304.98	290.91	300.46
Standard Deviation	119.75	95.07	93.70	74.86	87.96	59.19	96.97

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Table 12. Operating Expense per Connection

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	55	72	63	22	19	19	250
Median	256.25	232.80	212.84	249.55	235.79	228.12	238.55
Mean	269.15	247.00	229.88	261.29	252.55	231.21	248.04
Standard Deviation	102.27	91.00	82.92	67.73	95.56	60.38	88.73

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Profitability Ratios

Many rural water systems erroneously assume that because they are organized as a non-profit entity, they should strive to make cash expenses and non-expense obligations (debt service) equal revenues for each operating period. Nothing could be farther from the truth. While it is true that excess revenues cannot be distributed to the system’s owners, these revenues are a significant means for the association to more rapidly reduce its debt load, prepare for major unexpected expenditures (for example, a major system pump may have to be unexpectedly replaced), which is one reason for high cash reserves, or to finance system upgrades or expansions.

Profit Margin on Water Sales (PMWS)

Profit Margin on Operating Revenue (PMOR)

The association’s profit margin on water sales (operating revenue) is calculated by dividing the net income for the period by that period’s water sales. While the profit margin on operating revenue is probably the most widely used of all profitability measures, the absence of a significant level of non-operating revenues for the associations being analyzed makes these measures equivalent. For those associations that may have relatively high levels of non-operating revenue, the PMWS may be the more appropriate measure to use.

Table 13. Profit Margin on Water Sales

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	55	72	63	22	19	19	250
Median	0.16	0.20	0.20	0.15	0.21	0.22	0.19
Mean	0.19	0.22	0.20	0.16	0.20	0.23	0.20
Standard Deviation	0.20	0.20	0.34	0.17	0.21	0.23	0.24

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Table 14. Profit Margin on Operating Revenue

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	55	72	63	22	19	19	250
Median	0.15	0.19	0.18	0.14	0.20	0.20	0.18
Mean	0.19	0.21	0.17	0.15	0.19	0.20	0.19
Standard Deviation	0.19	0.18	0.22	0.16	0.20	0.19	0.19

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

As can be seen in Tables 13 and 14, most systems have profit margins of 20 percent or above for the PMWS composite and 18 percent and above for PMOR. Since the rule of thumb PMOR ratio value most often used by technical assistance providers is 10 percent, the systems analyzed in this report appear to be doing fairly well in terms of their rate structures (one of the main influencing factors of these composite measures). However, there is a fairly high degree of variability within all size class, indicating that several systems should seriously consider a comprehensive rate study.

Operating Revenues/Operating Expenses

Operating revenues divided by operating expenses is a measure that is very similar to the PMWS and PMOR measures covered in the previous section. If the ratio is greater than 1.0, then operating revenues are greater than operating expenses and the association is increasing fund balances for unexpected expenses, plant and equipment upgrades, etc. Furthermore, the absolute magnitude of this ratio closely corresponds with the magnitude of the PMOR ratio. The greater the value of the ratio (assuming, of course, that the ratio is above 1.0), the more revenues that are available for use by the association to meet its future needs and plans.

If the ratio is below 1.0, then the association is not collecting revenues sufficient to cover its operating expense. In this case, an initial corrective action either consists of the commission of a comprehensive rate study to determine the most likely method of increasing revenue or an analysis of the system’s operations to determine the most effective measures of cutting expenses.

The composites presented in Table 15 indicate that, as a whole, rural associations are doing fairly well in pricing their water at a level above the production expenses required. However, smaller systems tend to have a lower average composite than do larger systems, indicating that the smaller system boards may be more concerned about the non-profit aspect of their association. Only two system size classes (Size I and Size IV) fall below the average composite for all systems combined.

Table 15. Operating Revenue/Operating Expenses

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	55	72	63	22	19	19	250
Median	1.16	1.22	1.21	1.15	1.26	1.30	1.21
Mean	1.22	1.28	1.28	1.20	1.27	1.31	1.26
Standard Deviation	0.24	0.29	0.48	0.26	0.29	0.31	0.33

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Net Income⁶/Total Assets

This composite measures the consequences of the association's asset decisions. While the composite measures presented in Table 16 may seem small, they must be viewed with respect to the capital-intensive nature of the water treatment and distribution industry.

Table 16. Net Income/Total Assets

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	5	10	15	5	4	5	44
Median	0.02	0.01	0.01	0.02	(0.001)	0.01	0.01
Mean	0.03	0.01	0.02	0.003	(0.01)	0.01	0.01
Standard Deviation	0.05	0.02	0.03	0.03	0.03	0.02	0.03

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

This composite differs from the PMWS, PMOR, and operating revenue as a percentage of operating expenses measures due to a different sample of associations being analyzed. Since the total asset category is found on the balance sheet and is not included in the *Annual Financial Report for Non-Profit Public Water Systems*, the sample size on which this composite is based is much smaller than the sample size for the other measures. The effect of this small sample size is seen in the case of Size V systems, which indicate that these systems are having a difficult time in achieving a profitable status. This is a much different picture than was portrayed in the previous composite discussions.

Overall, this measure indicates that every dollar invested in the assets of the association contributes 1-2 cents in profit. While this contribution level of assets to the sustainability of the association is quite plausible, one would tend to question the source of the relatively high medians calculated for Size I and Size IV systems. Since these systems also had relatively large levels of current asset holdings, a major influence in net income could be interest earnings resulting from short-term certificates of deposit, money market accounts, etc.

Net Income per Connection

The final measure of profitability concerns the contribution to net income derived from the average connection to the system. As indicated in other sections of this report (most notably the discussion on revenues and expenses per connection), smaller systems tend to be less concerned with the profitability of the system than do their larger counterparts (Table 17). However, there may be factors that contribute to this situation.

First, this measure does not differentiate between residential, agricultural, commercial, or industrial users as connection-type classes. Larger associations may have a larger number of high volume water users in the agricultural, commercial, or industrial classes. Depending on the type of rate structure selected and the availability of water in the area, these types of connections can be extremely profitable for a rural association.

6 Net income is calculated by subtracting total expenses (non-operating and operating) from the total revenues (non-operating and operating).

Table 17. Net Income per Connection

Size Class	Size I	Size II	Size III	Size IV	Size V	Size VI	
Number of Connections	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
Number of Statements	55	72	63	22	19	19	250
Median	48.86	55.10	45.33	48.09	61.94	54.70	50.72
Mean	64.45	65.64	49.50	50.64	54.89	57.95	58.58
Standard Deviation	95.25	60.64	86.04	53.42	63.72	60.76	75.56

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Summary

A water system’s financial position plays a vital role in whether or not a system can provide a safe, affordable, and reliable source of water to its customers. Comparative financial analysis provides board members with a solid basis to compare the progress of the association to meet its financial and operational goals. The balance sheet and income statement provide decision-makers with information regarding their financial position at a certain point in time and the activities of the system over a specified time period. One method to analyze these financial statements is by examining the components that make up these statements. Financial ratio analysis is another method used to analyze financial statements. Through this report, board members can use the data presented to compare their financial position with the financial position of systems of a similar size based on connections.

Endnotes

- a Total Assets may not equal 100 percent due to rounding error.
- b Total Liabilities and Net Worth may not equal 100 percent due to rounding error.
- c Operating revenues are equal to water sales plus hook-up charges plus other incomes.
- d Non-operating revenues are equal to interest income plus sales of investments for one year.
- e Total revenues are equal to the sum of operating revenues and non-operating revenues.
- f Operating Expenses are equal to the sum of the following: salaries, board per diem, fringe benefits, office supplies, utilities, insurance, repairs, contractual services, travel, interest, depreciation, and other expenditures not included in non-operating expenses.
- g Non-operating expenses are defined as being equal to the purchase of investments. While this definition is not one that is prescribed to by most financial analysts, investment purchase is used as a significant cash flow tool by water associations making these purchases and therefore is included here.
- h Total expenses are equal to operating expenses plus non-operating expenses.
- i The median is defined as the middle value of a data set, thus telling you the value which 50% of the numbers fall above or below.
- j The mean, often referred to as the average, is found by dividing the sum of the values by the number of values.
- k The standard deviation measures the tightness, or variability, of a data set. By subtracting the standard deviation from the mean and then adding it to the mean, you will have a range in which 68% of the values fall. By doing this twice, you will have the range in which 95% of the values fall.

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Appendix I

Annual Financial Report for Non-Profit Public Water Systems

Office of the State Auditor
State of Mississippi



**STATE OF MISSISSIPPI
OFFICE OF THE STATE AUDITOR
Annual Financial Report for Non-Profit Public Water Systems**

Annual Report Year Ending (month/year)

NOTE: This report must be provided to State Auditor's Office no later than 1 July of each year.

Name of Water System: _____

MSDH PWS ID Number(s): _____
(List ID numbers for all water systems included in this report)

A) Receipts

Water bills _____
Hook-up charges _____
Interest income _____
Loans and grants _____
Sale of investments _____
Other income _____

B) Total Receipts _____

C) Expenditures

Salaries _____
Board per diem _____
Fringe benefits _____
Office supplies _____
Utilities _____
Insurance _____
Repairs _____
Contractual services _____
Travel _____
Capital outlay _____
 equipment _____
 construction _____
 construction contracts _____
Debt payments _____
 principal _____
 interest _____
Purchase of investments _____
Other expenditures _____

D) Total Expenditures _____

E) Excess Receipts over Expenditures (B minus D) _____

	<u>Beginning of Year</u>	<u>End of Year</u>
Cash balance	\$ _____	\$ _____
Investments	\$ _____	\$ _____
Debt	\$ _____	\$ _____

I hereby certify that, to the best of my knowledge, this report is a complete and accurate report of the receipts and expenditures for this non-profit public water system(s). I further certify that, in accordance with Section 79-11-197 Mississippi Code of 1972 Annotated and the corporation's bylaws, an annual meeting of the membership was held: _____

(Date/Location of Annual Meeting)

Name of Board President (please print or type)

Signature of Board President

_____/_____/_____
Date

→→ (CONTINUED ON BACK) ←←

Mail completed form to: Norman McLeod, State Auditor's Office, P.O. Box 956, Jackson, MS 39205

Appendix II

Composite Measures for Common Size Financial Statements

Financial Ratios

Common Size Financial Statement Composites

<i>Tables 1 and 2.</i>	Size I	Size II	Size III	Size IV	Size V	Size VI	
<i>Balance Sheet Components</i>	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
ASSETS	%	%	%	%	%	%	%
Current Assets	23.3	24.6	24.4	26.0	12.1	13.7	22.2
Fixed Assets	76.7	71.1	72.6	64.6	85.2	83.4	74.2
Restricted Assets	0.0	4.1	3.0	8.9	2.7	2.9	3.5
Other Assets	0.0	0.1	0.0	0.5	0.0	0.0	0.1
Total Assets	100.0	99.9	100.0	100.0	100.0	100.0	100.0
Number of statements	5	10	15	5	4	5	44
LIABILITIES	%	%	%	%	%	%	%
Current Liabilities	4.6	5.0	5.1	9.0	4.0	5.7	5.6
Long-Term Debt	54.2	46.6	37.8	68.5	61.1	40.9	47.7
Total Liabilities	58.8	51.6	42.9	77.5	65.1	46.6	53.0
Net Worth	41.2	48.4	57.2	22.8	34.6	53.4	47.0
Total Liabilities and Net Worth	100.0	100.0	100.1	100.3	99.7	100.0	100.0
Number of statements	5	10	15	5	4	5	44

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi
 Note: Total Assets and Total Liabilities and Net Worth may not equal 100 percent due to rounding error.

<i>Table 3.</i>	Size I	Size II	Size III	Size IV	Size V	Size VI	
<i>Income Statement Components</i>	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
INCOME	%	%	%	%	%	%	%
Operating Revenue	96.5	96.7	97.3	98.4	97.5	97.3	97.1
Non-Operating Revenue	3.5	3.3	2.7	1.6	2.5	2.7	2.9
Total Revenue	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Operating Expenses	98.9	98.5	98.5	99.8	98.7	97.3	98.6
Non-Operating Expenses	1.1	1.5	1.5	0.2	1.3	2.7	1.4
Total Expenses	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of statements	55	72	63	22	19	19	250

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

Financial Ratio Composites

	Size I	Size II	Size III	Size IV	Size V	Size VI	
	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
<i>Table 4. Current Ratio</i>							
Number of Statements	4	10	15	5	4	5	43
Median	5.45	5.21	4.72	2.50	2.42	2.19	3.76
Mean	9.73	4.93	5.26	2.73	2.53	2.29	4.70
Standard Deviation	10.90	2.66	2.88	0.61	1.31	1.12	4.14

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

	Size I	Size II	Size III	Size IV	Size V	Size VI	
	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems
<i>Table 5. Net Working Capital/Total Assets</i>							
Number of Statements	5	10	15	5	4	5	44
Median	0.18	0.14	0.15	0.13	0.08	0.06	0.13
Mean	0.19	0.20	0.19	0.16	0.07	0.08	0.17
Standard Deviation	0.05	0.20	0.15	0.09	0.06	0.10	0.14

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

	Size I	Size II	Size III	Size IV	Size V	Size VI	
	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems

Table 6. Cash and Cash Equivalents/Sales

Number of Statements	54	72	63	22	19	19	249
Median	1.67	1.16	1.06	0.76	0.77	1.08	1.10
Mean	1.75	1.73	1.25	0.78	0.99	1.51	1.45
Standard Deviation	1.43	3.74	0.72	0.46	0.73	1.90	2.23

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

Table 7. Interest Expense/Operating Expense

Number of Statements	35	62	55	18	17	13	200
Median	0.17	0.15	0.13	0.14	0.09	0.10	0.15
Mean	0.17	0.17	0.14	0.12	0.11	0.12	0.15
Standard Deviation	0.09	0.09	0.09	0.06	0.07	0.07	0.09

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

Table 8. Long-Term Debt Ratio

Number of Statements	4	9	15	5	4	4	41
Median	0.67	0.50	0.42	0.71	0.55	0.50	0.51
Mean	0.68	0.52	0.38	0.69	0.61	0.51	0.19
Standard Deviation	0.12	0.10	0.15	0.29	0.13	0.20	0.51

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Table 9. Total Debt Ratio

Number of Statements	4	10	15	5	4	5	43
Median	0.73	0.55	0.44	0.78	0.60	0.45	0.56
Mean	0.74	0.52	0.43	0.77	0.65	0.47	0.54
Standard Deviation	0.10	0.17	0.14	0.27	0.13	0.27	0.21

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Table 10. Long-Term Debt per Connection

Number of Statements	55	72	63	22	19	19	250
Median	606.62	832.11	624.90	890.61	759.63	578.72	706.35
Mean	779.85	884.04	705.12	773.62	685.00	550.99	765.87
Standard Deviation	784.60	681.70	625.38	452.48	523.36	402.06	648.99

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

Table 11. Operating Revenue per Connection

Number of Statements	55	72	63	22	19	19	250
Median	301.89	289.88	258.37	304.71	288.70	282.80	285.36
Mean	319.97	305.34	276.83	307.74	304.98	290.91	300.46
Standard Deviation	119.75	95.07	93.70	74.86	87.96	59.19	96.97

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

Table 12. Operating Expense per Connection

Number of Statements	55	72	63	22	19	19	250
Median	256.25	232.80	212.84	249.55	235.79	228.12	238.55
Mean	269.15	247.00	229.88	261.29	252.55	231.21	248.04
Standard Deviation	102.27	91.00	82.92	67.73	95.56	60.38	88.73

Source: Annual Financial Report for Non-Profit Public Water Systems, Office of the State Auditor, State of Mississippi

	Size I	Size II	Size III	Size IV	Size V	Size VI	
	1-250	251-500	501-1000	1001-1500	1501-2000	>2000	All Systems

Table 13. Profit Margin on Water Sales

Number of Statements	55	72	63	22	19	19	250
Median	0.16	0.20	0.20	0.15	0.21	0.22	0.19
Mean	0.19	0.22	0.20	0.16	0.20	0.23	0.20
Standard Deviation	0.20	0.20	0.34	0.17	0.21	0.23	0.24

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Table 14. Profit Margin on Operating Revenue

Number of Statements	55	72	63	22	19	19	250
Median	0.15	0.19	0.18	0.14	0.20	0.20	0.18
Mean	0.19	0.21	0.17	0.15	0.19	0.20	0.19
Standard Deviation	0.19	0.18	0.22	0.16	0.20	0.19	0.19

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Table 15. Operating Revenue/Operating Expenses

Number of Statements	55	72	63	22	19	19	250
Median	1.16	1.22	1.21	1.15	1.26	1.30	1.21
Mean	1.22	1.28	1.28	1.20	1.27	1.31	1.26
Standard Deviation	0.24	0.29	0.48	0.26	0.29	0.31	0.33

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi

Table 16. Net Income/Total Assets

Number of Statements	5	10	15	5	4	5	44
Median	0.02	0.01	0.01	0.02	(0.001)	0.01	0.01
Mean	0.03	0.01	0.02	0.003	(0.01)	0.01	0.01
Standard Deviation	0.05	0.02	0.03	0.03	0.03	0.02	0.03

Source: Prepared Financial Statements provided to the Office of the State Auditor, State of Mississippi

Table 17. Net Income per Connection

Number of Statements	55	72	63	22	19	19	250
Median	48.86	55.10	45.33	48.09	61.94	54.70	50.72
Mean	64.45	65.64	49.50	50.64	54.89	57.95	58.58
Standard Deviation	95.25	60.64	86.04	53.42	63.72	60.76	75.56

Source: *Annual Financial Report for Non-Profit Public Water Systems*, Office of the State Auditor, State of Mississippi



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