
The 10-Point Test of Financial Condition: Toward an Easy-to-Use Assessment Tool for Smaller Cities

An evolving method for assessing the financial condition of a smaller city uses data from GFOA's Financial Indicators Database for comparing a city's key ratios with those of hundreds of similar size cities across the nation.

By Ken W. Brown

A thorough financial-condition assessment that involves a large number of factors and related indicators can be very time consuming for a municipality. As a result, analysis of financial condition may not be a regular part of financial management. When these comprehensive financial-condition assessments are conducted, the large amounts of data involved can make it difficult to communicate the results to a city's management, governing board and citizenry.

This article describes a short test of financial condition that municipal finance officers can conduct for cities with populations under 100,000. Called the 10-Point Test, the exercise suggested in this article allows finance officers to compare 10 key financial ratios for their city to similar ratios calculated for 750 smaller cities across the nation. The 10-Point Test includes a scoring procedure by which a municipal finance officer can grade his/her city and provide some evidence of the city's financial condition. The test was developed because of 1) the need for a quick and effective financial-condition assessment tool and 2) the improved availability of comparative city data provided by the Financial Indicators Database published in 1992 by the Government Finance Officers Association (GFOA).¹

The 10-Point Test of financial condition provides a concise and easy-to-use vehicle for the communication of financial condition to a city government's constituents. It is based on 10 ratios, listed in Exhibit 1,

that are considered useful for assessing four basic financial factors for a city: revenues (ratios 1-3), expenditures (ratio 4), operating position (ratios 5-7) and debt structure (ratios 8-10).² The test consists of three steps, which will be described in detail in this article: 1) calculation of 10 key financial ratios based on data contained in the city's current annual financial report, 2) comparison of the city's ratios to ratios of similar-sized cities reported in this article and 3) grading the city's financial condition based on the comparisons in step 2.

A city has a limited ability to interpret its financial condition other than through comparisons with similar-sized cities. The GFOA's Financial Indicators Database, therefore, is valuable as a source of data for determining the 10 key ratios for cities across the nation. The database contains FY89, FY90 and FY91 financial data for all cities that were awarded the GFOA's Certificate of Achievement for Excellence in Financial Reporting in those fiscal years. All of the data have been presented in conformity with generally accepted accounting principles (GAAP) and most of the data have been subjected to independent audit. In using these data, however, one must recognize that the cities receiving this award do not represent a random sample of the nation's cities.

Without financial information such as ratios, informed decisions about financial condition are not possible. Even with financial information, the assessment of

financial condition usually remains subjective. While city finance officers, city managers and governing board members may reach conclusions about their city's financial condition, their conclusions may be based on a few key indicators of their choice. On the other hand, some may obtain a perception of the city's financial condition and not be able to identify the basis for that perception. The 10-Point Test, however, attempts to provide an objective scoring technique to help bring closure to financial-condition decisions.

Step 1: Calculation of Ratios

The first step of the test consists of calculating the 10 ratios for one's city, using the definitions in Exhibit 1. All data required for the ratios usually are available in the city's comprehensive annual financial report and current general purpose financial statements.

A financial-condition worksheet that can be used to summarize the city's ratios and determine the city's financial-condition score is provided in Exhibit 2. After the city's ratios are calculated, they are entered in section B on the worksheet. Sections C and D are to be completed in accordance with instructions presented in step 3.

Step 2: City Comparisons

Using the definitions in Exhibit 1, the author calculated the FY89 ratios for all

**Exhibit 1
TEN KEY RATIOS OF FINANCIAL CONDITION**

Ratio	Clarification of Ratio Components
1. $\frac{\text{Total revenues}}{\text{Population}}$	<i>Total revenues</i> is the total revenues for all governmental funds.
2. $\frac{\text{Total general fund revenues from own sources}}{\text{Total general fund revenues}}$	<i>Total general fund revenues from own sources</i> is the difference between total general fund revenues and amounts classified in the general fund as intergovernmental revenues.
3. $\frac{\text{General fund sources from other funds}}{\text{Total general fund sources}}$	<i>General fund sources from other funds</i> is general fund operating transfers in. <i>Total general fund sources</i> is the total of general fund revenues and operating transfers in.
4. $\frac{\text{Operating expenditures}}{\text{Total expenditures}}$	<i>Operating expenditures</i> is the total expenditures for the general, special revenues and debt service funds. <i>Total expenditures</i> is the total expenditures for all governmental funds.
5. $\frac{\text{Total revenues}}{\text{Total expenditures}}$	<i>Total revenues</i> is the total revenues for all governmental funds. <i>Total expenditures</i> is the total expenditures for all governmental funds.
6. $\frac{\text{Unreserved general fund balance}}{\text{Total general fund revenues}}$	<i>Unreserved general fund balance</i> is the total of both unreserved designated and unreserved undesignated fund balance for the general fund.
7. $\frac{\text{Total general fund cash and investments}}{\text{Total general fund liabilities}}$	(The components are self-explanatory).
8. $\frac{\text{Total general fund liabilities}}{\text{Total general fund revenues}}$	(The components are self-explanatory).
9. $\frac{\text{Direct long-term debt}}{\text{Population}}$	<i>Direct debt</i> is general obligation debt to be repaid from property tax revenues.
10. $\frac{\text{Debt service}}{\text{Total revenues}}$	<i>Debt service</i> is the total expenditures in the debt service fund. <i>Total revenues</i> is the total revenues of all governmental funds.

750 cities in the Financial Indicators Database with a population of 100,000 or less.³ Because of economies of scale and other differing characteristics between large and small cities, comparative ratio analysis will be more meaningful if ratio comparisons are made for similar-sized cities. To aid in that analysis, the ratios of the 750 cities were partitioned into four population groups: 1) cities between 50,000 and 100,000, 2) cities between 30,000 and 50,000, 3) cities between 15,000 and 30,000, and 4) cities under 15,000. Exhibit 3 shows the ratios, reported in quartiles, for the cities in each of these population categories. A quartile contains 25 percent of the cities in a given population group. Thus, in Exhibit 3, quartile 1 shows the ratios of that 25 percent of the cities in a particular population group which have the worst ratios; the 25 percent of the cities with the next best ratios are placed in quartile 2; and those with better ratios are included in quartile 3 or 4, according to their rank. As

shown in Exhibit 3, the ratio of total revenues to population (ratio 1) for cities in the 50,000 to 100,000 population group was \$714 or more for the cities in quartile 1. For quartile 2 cities, the ratios ranged between \$714 and \$532. Quartile 3 cities had ratios ranging from \$532 to \$429, and quartile 4 cities had the best ratios amounting to \$429 or less.

Providing the ratios in quartiles enables finance officers to make definitive statements about the relationship of their city's ratio to the ranges of ratios for the database cities. For example, if a city with a population between 50,000 and 100,000 has a ratio of total revenues to population that is \$500, its ratio is in quartile 3 (see Exhibit 3); thus, the finance officer can say that his/her city's ratio is better than 50 percent of the cities in the Financial Indicators Database and that his/her city is in a favorable position among this group of the nation's cities.

As Exhibit 3 shows, some ratios are favorable if they are low, while other

ratios are favorable if they are high. For six of the 10 ratios (i.e., ratios 1, 3, 4, 8, 9, 10), low values are favorable. The other four ratios (i.e., ratios 2, 5, 6, 7) are favorable only if they have high values.

This fact can be observed in either quartiles 1 or 4 where the ranges are described as more than or less than a given value. The generally accepted interpretations of favorable ratios are listed below.

Ratio 1: A **low ratio** suggests a greater ability to acquire additional revenue.

Ratio 2: A **high ratio** suggests the city is not reliant on external governmental organizations.

Ratio 3: A **low ratio** suggests the city does not have to rely on operating transfers to finance general government operations in the general fund.

Ratio 4: A **low ratio** suggests the infrastructure is being maintained adequately.

Ratio 5: A **high ratio** suggests the city experienced a positive interperiod equity.

**Exhibit 2
FINANCIAL CONDITION WORKSHEET**

	(A) Ratio	(B) Your City's Ratio	(C) Points Assigned to Each Quartile (Circle the quartile in which your city's ratio falls)				(D) City's Score (Enter your score circled on the left)
			Quartile 1 (0 to 25 percentile)	Quartile 2 (25 to 50 percentile)	Quartile 3 (50 to 75 percentile)	Quartile 4 (75 to 100 percentile)	
1.	<u>Total revenues</u> Population	1 _____	-1	0	+1	+2	_____
2.	<u>Total general fund revenues from own sources</u> Total general fund revenues	2 _____	-1	0	+1	+2	_____
3.	<u>General fund sources from other funds</u> Total general fund sources	3 _____	-1	0	+1	+2	_____
4.	<u>Operating expenditures</u> Total expenditures	4 _____	-1	0	+1	+2	_____
5.	<u>Total revenues</u> Total expenditures	5 _____	-1	0	+1	+2	_____
6.	<u>Unreserved general fund balance</u> Total general fund revenues	6 _____	-1	0	+1	+2	_____
7.	<u>Total general fund cash and investments</u> Total general fund liabilities	7 _____	-1	0	+1	+2	_____
8.	<u>Total general fund liabilities</u> Total general fund revenues	8 _____	-1	0	+1	+2	_____
9.	<u>Direct long-term debt</u> Population	9 _____	-1	0	+1	+2	_____
10.	<u>Debt service</u> Total revenues	10 _____	-1	0	+1	+2	_____
Your city's financial condition score							_____

Ratio 6: A high ratio suggests the presence of resources that can be used to overcome a temporary shortfall of revenues.

Ratio 7: A high ratio suggests sufficient cash with which to pay short-term obligations.

Ratio 8: A low ratio suggests short-term obligations can be easily serviced by the normal flow of annual revenues.

Ratio 9: A low ratio suggests the city has the ability to repay its general long-term debt.

Ratio 10: A low ratio suggests the city is able to pay its debt service requirements when due.

Before proceeding to the next step, one should refer to the part of Exhibit 3 that relates to the population of his/her city and identify the quartile in which each of the city's ratios falls. This comparison will

be used to help determine the overall financial condition of the city in step 3.

Step 3: Grading City Condition

The 10-Point Test's scoring technique is arbitrary and based on certain assumptions about the importance of 10 ratios. As a result, some users of this methodology may prefer to complete the analysis with the ratio comparisons in step 2 and forego the grading process suggested in step 3.

To obtain the 10-Point Test's grading of a city's financial condition, one should complete the worksheet (Exhibit 2) that contains the ratios computed for his/her city. Section C of the worksheet assigns points to each of the ratios according to the quartile in which the city's ratio falls; it

can be completed by circling the quartiles in which each ratio falls.

Each quartile is assigned a score that ranges from -1 to +2. This scale is designed to allow only cities with ratios above the 50th percentile (quartile 3 or above) to obtain a positive overall score. A city with all of its ratios in quartile 3 would be above the 50th percentile among all cities and would receive an overall score of 10 points under the 10-Point Test. A city with all ratios in quartile 2 (25th to 50th percentile) would receive an overall score of 0, whereas a city with all ratios in quartile 1 (less than 25th percentile) would receive a negative overall score of -10 points.

To determine the city's overall score, one should transfer the circled points for each ratio in section C to the

**Exhibit 3
FY1989 QUARTILE RANGES FOR 750 CITIES
FROM THE FINANCIAL INDICATORS DATABASE**

Ratio	Population 50,000-100,000 (162 cities)				Population 30,000-50,000 (167 cities)			
	Quartile				Quartile			
	1 0-25% (Worst)	2 25-50%	3 50-75%	4 75-100% (Best)	1 0-25% (Worst)	2 25-50%	3 50-75%	4 75-100% (Best)
1. <u>Total revenues</u> Population	\$714 or more	\$714 to \$532	\$532 to \$429	\$429 or less	\$631 or more	\$631 to \$493	\$493 to \$399	\$399 or less
2. <u>Total general fund revenues</u> Total revenues	80.2% or less	80.2% to 87.7%	87.7% to 96.8%	96.8% or more	77.5% or less	77.5% to 87.4%	87.4% to 96.4%	96.4% or more
3. <u>General fund sources from other funds</u> Total general fund sources	7.285% or more	7.285% to 2.083%	2.083% to 0.003%	0.003% or less	6.598% or more	6.598% to 2.438%	2.438% to 0.001%	0.001% or less
4. <u>Operating expenditures</u> Total expenditures	95.8% or more	95.8% to 88.9%	88.9% to 81.6%	81.6% or less	94.4% or more	94.4% to 86.5%	86.5% to 77.4%	77.4% or less
5. <u>Total revenues</u> Total expenditures	0.878 or less	0.878 to 0.964	0.964 to 1.038	1.038 or more	0.864 or less	0.864 to 0.952	0.952 to 1.034	1.034 or more
6. <u>Unreserved general fund balance</u> Total general fund revenues	0.086 or less	0.086 to 0.180	0.180 to 0.300	0.300 or more	0.133 or less	0.133 to 0.211	0.211 to 0.338	0.338 or more
7. <u>Total general fund cash and investments</u> Total general fund liabilities	0.622 or less	0.622 to 1.539	1.539 to 3.372	3.372 or more	0.916 or less	0.916 to 1.909	1.909 to 3.525	3.525 or more
8. <u>Total general fund liabilities</u> Total general fund revenues	0.254 or more	0.254 to 0.101	0.101 to 0.069	0.069 or less	0.193 or more	0.193 to 0.099	0.099 to 0.063	0.063 or less
9. <u>Direct long-term debt</u> Population	\$413 or more	\$413 to \$201	\$201 to \$21	\$21 or less	\$416 or more	\$416 to \$141	\$141 to \$15	\$15 or less
10. <u>Debt service</u> Total revenues	0.134 or more	0.134 to 0.074	0.074 to 0.041	0.041 or less	0.146 or more	0.146 to 0.080	0.080 to 0.025	0.025 or less

NOTES:

Each quartile represents 25 percent of the cities in the population group.

The dollar ratios reported represent 1989 dollars inflated to 1992 dollars using the growth in the Municipal Cost Index.

corresponding blanks in section D and then sum the column. Exhibit 4 shows a worksheet completed for a city with a population between 30,000 and 50,000. This Midwestern city reported one ratio in quartile 4 (better than 75 percent of the other cities), five ratios in quartile 3, two ratios in quartile 2 and two ratios in quartile 1. Because a majority of its ratios were better than 50 percent of the other cities, the city obtained a positive score of 5. The remaining task for the city in Exhibit 4, and for finance officers using the worksheet, is to interpret the final score.

Because little is known about the relative importance of the municipal finance ratios, the scoring technique of the

10-Point Test assumes that each of the 10 ratios has equal importance in the assessment of financial condition. A city with a majority of its ratios above the 50th percentile would be in better financial condition than a city with a majority of its ratios below the 50th percentile.

Cities in better financial condition will have favorable values in most of the 10 ratios. The following grading scale suggested by the author nets the favorable and unfavorable ratios to obtain an overall "grade" for a city relative to the cities in the database. To determine a city's financial condition relative to the condition of the database cities, its overall score determined in the Exhibit 2 worksheet is compared with the grading scale.

Overall Score	Overall Grade Relative to Database Cities
10 or more	Among the <i>best</i>
5 to 9	<i>Better</i> than most
1 to 4	About <i>average</i>
0 to -4	<i>Worse</i> than most
-5 or less	Among the <i>worst</i>

The database cities do not provide a random sample of all the nation's cities. Thus, the grading scale includes only relative interpretations (i.e., better or worse) instead of absolute terms, such as good or bad financial condition. While it can be said that a city with a low score from the 10-Point Test is in *poorer* condition than most of the database cities, the city may not be in *poor* financial

(continued)

Population 15,000-30,000 (213 cities)				Population less than 15,000 (208 cities)			
Quartile				Quartile			
1	2	3	4	1	2	3	4
0-25%	25-50%	50-75%	75-100%	0-25%	25-50%	50-75%	75-100%
(Worst)			(Best)	(Worst)			(Best)
\$666 or more	\$666 to \$481	\$481 to \$326	\$326 or less	\$736 or more	\$736 to \$465	\$465 to \$368	\$368 or less
77.7% or less	77.7% to 88.6%	88.6% to 98.3%	98.3% or more	76.4% or less	76.4% to 89.2%	89.2% to 96.7%	96.7% or more
5.987% or more	5.987% to 1.157%	1.157% to 0.001%	0.001% or less	8.089% or more	8.089% to 1.270%	1.270% to 0.001%	0.001% or less
97.9% or more	97.9% to 91.1%	91.1% to 81.9%	81.9% or less	99.0% or more	99.0% to 92.2%	92.2% to 80.3%	80.3% or less
0.876 or less	0.876 to 0.954	0.954 to 1.034	1.034 or more	0.868 or less	0.868 to 0.962	0.962 to 1.038	1.038 or more
0.104 or less	0.104 to 0.218	0.218 to 0.386	0.386 or more	0.173 or less	0.173 to 0.278	0.278 to 0.444	0.444 or more
0.819 or less	0.819 to 1.865	1.865 to 4.719	4.719 or more	1.162 or less	1.162 to 2.522	2.522 to 5.761	5.761 or more
0.208 or more	0.208 to 0.104	0.104 to 0.061	0.061 or less	0.189 or more	0.189 to 0.102	0.102 to 0.057	0.057 or less
\$326 or more	\$326 to \$133	\$133 to \$8	\$8 or less	\$329 or more	\$329 to \$87	\$87 to \$1	\$1 or less
0.133 or more	0.133 to 0.063	0.063 to 0.011	0.011 or less	0.105 or more	0.105 to 0.039	0.039 to 0.001	0.001 or less

condition. Even so, a city receiving negative scores might do well to engage in a more comprehensive study of its financial condition.

The interpretations suggested in the above scoring technique are based on the author's assumption that all 10 ratios have equal importance. Since certain ratios are probably more important than others, a city's overall grade could be biased where unfavorable but important ratios are outnumbered by favorable but less important ratios. Publications of financial ratios, however, such as the International City/County Management Association's book, *Evaluating Financial Condition: A Handbook for Local Government*, do not highlight some ratios as being more

important than others. Thus, until additional research is conducted and more is known about the relative importance of ratios, the suggested scoring technique is a reasonable first stage in the development of a more refined financial-condition test.

Because of the uncertainty about ratio importance, it would be appropriate for finance officers completing the 10-Point Test to modify the scoring technique to reflect the finance officer's perceptions of the most and least important indicators. For example, the finance officer of the Midwestern city whose ratios are depicted in Exhibit 4 might feel that two of the ratios depicting operating position (i.e., ratio 5—total revenues to total expenditures—and ratio 6—unreserved general

fund balance to total general fund revenues) are more important to the assessment of financial condition than the other eight ratios. To reflect this increased importance, the city's score for ratios 5 and 6 could be multiplied by two as a way to indicate that the two ratios are more important than the others. While this modification would cause the Midwestern city's score to increase from +5 to +8, its overall score could have been lowered had the two important ratios been unfavorable.

Despite the limitations just discussed, the comparisons of a city's ratios with those of the cities in the Financial Indicators Database provide new information about a city's relative financial condition that has not been available previously. The author, who is interested in further research and study of the best indicators of municipal financial condition, would like to obtain any feedback from finance officers and other analysts who complete the 10-Point Test regarding their experiences with and/or impressions of the test. The 10-Point Test is intended to provide a *conversation piece* around which finance officers and others can discuss and develop better financial-condition assessment tools.

Additional improvements in the test can be made in the near future because of the recent release of GFOA's Financial Indicators Database for FY90 and FY91. This provides the opportunity to integrate trend analysis into subsequent versions of the test. The test could be improved also with the development of a method for incorporating the financial condition of proprietary funds activities into the 10-Point Test. Financial-condition assessment of businesslike enterprises, however, requires techniques that are unique to each industry. Even so, a finance officer should determine the financial condition of these enterprises and consider this assessment with the results of the 10-Point Test.

Conclusion

Because of the difficult environment in which all the nation's cities now operate, finance officers need to assess their city's financial condition on a continuing basis. The test described in this article provides a quick and effective tool for officials of smaller cities to assess their city's financial condition without the use of analytical techniques that are costly, time-consuming

**Exhibit 4
SAMPLE FINANCIAL CONDITION WORKSHEET
COMPLETED BY A CITY WITH A POPULATION BETWEEN 30,000 AND 50,000**

Ratio	(A)	(B) Your City's Ratio	(C) Points Assigned to Each Quartile (Circle the quartile in which your city's ratio falls)				(D) City's Score (Enter your score circled on the left)
			Quartile 1 (0 to 25 percentile)	Quartile 2 (25 to 50 percentile)	Quartile 3 (50 to 75 percentile)	Quartile 4 (75 to 100 percentile)	
1. <u>Total revenues</u> Population		1. <u>3445</u>	-1	0	<u>+1</u>	+2	<u>+1</u>
2. <u>Total general fund revenues from own sources</u> Total general fund revenues		2. <u>89.97%</u>	-1	0	<u>+1</u>	+2	<u>+1</u>
3. <u>General fund sources from other funds</u> Total general fund sources		3. <u>6.5187%</u>	<u>-1</u>	0	+1	+2	<u>-1</u>
4. <u>Operating expenditures</u> Total expenditures		4. <u>80.57%</u>	-1	0	<u>+1</u>	+2	<u>+1</u>
5. <u>Total revenues</u> Total expenditures		5. <u>1.048</u>	-1	0	+1	<u>+2</u>	<u>+2</u>
6. <u>Unreserved general fund balance</u> Total general fund revenues		6. <u>.261</u>	-1	0	<u>+1</u>	+2	<u>+1</u>
7. <u>Total general fund cash and investments</u> Total general fund liabilities		7. <u>1.972</u>	-1	0	<u>+1</u>	+2	<u>+1</u>
8. <u>Total general fund liabilities</u> Total general fund revenues		8. <u>.157</u>	-1	<u>0</u>	+1	+2	<u>0</u>
9. <u>Direct long-term debt</u> Population		9. <u>\$/82</u>	-1	<u>0</u>	+1	+2	<u>0</u>
10. <u>Debt service</u> Total revenues		10. <u>.173</u>	<u>-1</u>	0	+1	+2	<u>-1</u>
Your city's financial condition score:							<u>+5</u>

or so complex that final assessments become difficult if not impossible. While more comprehensive tests are available, the strength of the 10-Point Test lies in the extensive set of ratios that were determined for cities from the Financial Indicators Database. Tests such as the one suggested here provide a case for continued and expanded exchange of financial information by cities so that they can make better-informed judgments about the state of their financial affairs.

NOTES

¹For a description of the contents and products of the Financial Indicators Database, see "Using the Financial

Indicators Database for Policy Analysis," in this issue and "A New Data Source for Comparative Analysis," in the February 1992 issue of *Government Finance Review*.

²Except for the third ratio, the ratios used in this article were adapted from the 36 indicators included in the International City/County Management Association's *Evaluating Financial Condition: A Handbook for Local Government*, written by S.M. Groves and M.G. Valente in 1986. Ratio 3, which tests a city's reliance on proprietary funds transfers to finance general government operations, was developed by the author specifically for the 10-Point Test. Ratio selection, definitions and interpretations of the ratios were aided by a discussion of financial condition assessment contained in *Governmental and Nonprofit Accounting*, forthcoming edition) written by Leon Hay and Earl Wilson.

³FY89 data are used because data for only that fiscal year were available in the database when the author began preparation of this article.

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