

AN AFFORDABLE DEBT POLICY
FOR NEW YORK STATE
AND NEW YORK CITY

A Report of the
Citizens Budget Commission



October 18, 2000

FOREWORD

Founded in 1932, the Citizens Budget Commission (CBC) is a nonpartisan, nonprofit civic organization devoted to influencing constructive change in the finances and services of New York State and New York City governments. This report was prepared under the auspices of the Commission's Debt and Capital Investment Committee, which we co-chair. The other members of the Committee are: Paul R. Alter, Jay I. Anderson, Lawrence B. Buttenwieser, Herman Charbonneau, Anne E. Cohen, Denis Curtin, Evan Davis, Bud H. Gibbs, Kenneth D. Gibbs, Marianne Kozlowski, Robert Kurtter, William McCarthy, Hector Prud'homme, Jon Rotenstreich, Heather Ruth, William Saubert, Richard Sigal, Albert Simons, III, Arthur Siskind, Merryl H. Tisch, W. James Tozer, Jr., David Weprin, and Eugene J. Keilin, ex-officio.

The Debt and Capital Investment Committee was established earlier this year to address a neglected aspect of State and City fiscal policy. In its 1995 *Budget 2000 Project* the CBC identified an efficient and well-maintained public infrastructure, along with lower taxes and improved public services, as critical to the competitiveness of New York City and New York State. The CBC's *Budget 2000 Project* report on *Capital Investment and Debt Service* found that the City and State were not providing physical facilities that competed effectively with other areas, and that the relatively neglected infrastructure was accompanied by a debt service burden for New Yorkers that was not in line with that of other jurisdictions. New policies were needed.

The purpose of the Debt and Capital Investment Committee is to provide information that will help State and City officials improve the way in which public infrastructure is financed and managed. The first step in developing an effective strategy is to determine how much can be borrowed for these purposes. That is, the public needs some guidance for answering the question: How much debt is too much? Once a limit is established for prudent borrowing, then the issue of how to best allocate these funds among different purposes and projects can be addressed productively. But the first critical step is deciding how much is available for capital investments.

This report presents a new and useful approach for determining how much the State and City should borrow. We believe it makes an important intellectual contribution to public debate on this subject, and that it provides a sound basis for future policy decisions.

In its future work, the Committee expects to consider how available funds can be used most effectively. With the support of the CBC research staff, the Committee will be examining major components of the City and State capital budgets in order to identify ways in which citizens can gain more "bang for the buck" in pursuit of the critical goal of upgrading and expanding public infrastructure.

Kurt Richwerger, Associate Research Director, was the lead analyst for this report. Cynthia Searcy, Research Associate, provided research support. Charles Brecher, Executive Vice President and Research Director, oversaw their efforts and edited the working drafts. The staff benefited from the cooperation of the staff of the New York City Comptroller's Office in collecting data for the report, and Dr. Robert Tannenwald of the Federal Reserve Bank of Boston was helpful in making available data and analyses he completed as part of his ongoing research. The New York State Comptroller's Office, New York State Division of the Budget, and New York City Comptroller's Office provided helpful comments on a draft of the report; their willingness to review it does not necessarily mean they endorse any of the recommendations. Nicolette Macdonald, CBC's Publications Coordinator, prepared the report for publication. An electronic version of this report is available on the CBC's website at <www.cbcny.org>.

Karen Daly
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October 18, 2000

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EXECUTIVE SUMMARY

How much should New York State and New York City borrow to finance needed public infrastructure investments? In recent years this has become a complex and controversial question. This report seeks to clarify the nature of the issue, to present criteria for deciding how much state and local debt is affordable, and to recommend how these criteria should be applied to decisions by the State and the City.

Nature of the Problem

Debt has become controversial for four related reasons.

- 1. Debt has grown rapidly.** In the last decade both the State's and the City's debt has more than doubled, reaching \$35.8 billion for the State and \$46.8 billion for the City at the end of their respective 1999 fiscal years. New York State's heavy debt load, in combination with its out-year budget gaps, has been cited as the main reason for the state's low credit rating relative to other states.
- 2. Debt has grown despite intended limits.** The State Constitution puts limits on the debt of both the State and the City. While the nature of the limits are different, both entities have found ways to circumvent them.

The State's constitutional limit is procedural: debt carrying the full legal obligation of the State, known as general obligation (GO) debt, can be issued only if the amount and purpose of the borrowing is approved by the voters at a general election. The State avoided this procedural limit by creating public authorities which are empowered to borrow using forms of debt that are not GO, but do not require voter approval. Less than 13 percent of the debt issued by the State and backed by State revenues is GO debt; the remainder take "back door" forms, primarily lease and other contractual agreements with authorities that issued non-GO bonds without voter approval.

In 2000 the State enacted a statutory limit on new debt issues. Beginning in fiscal year 2001 the amount of new State-supported debt to be issued is limited to 0.75 percent of personal income, and this grows to a maximum of 4.0 percent in 2010. However, this limit applies to new debt, which is added to currently outstanding debt over the next ten years. In addition, because it is statutory rather than constitutional, this limit can be changed by the Legislature in any year.

The City's limit for its GO debt is 10 percent of the five-year average of the market value of taxable real estate in the city. When real estate values fell in the early 1990s, the City was in danger of exceeding its limit and received approval from the State to create authorities that borrow using earmarked sources. These include the Transitional Finance Authority created in

1997 and the Tobacco Settlement Asset Securitization Corporation created in 1999. Historically, the City had used non-GO debt for good policy reasons. In the mid-1970s fiscal crisis GO bonds could not be marketed, so the City relied on the Municipal Assistance Corporation to borrow long-term; in 1984 it received State authorization to create a Water Finance Authority in order to put the City's water system on a self-financing basis with user charges. As a result, about 58 percent of the City's outstanding debt is in the form of GO bonds subject to the constitutional limit, and the rest is in other forms.

3. **New York's debt is greater than other jurisdictions'.** New York State has more debt outstanding than any other state. On a per capita basis and relative to personal income, it ranks sixth. New York City has more debt outstanding than any of the other ten largest cities, and also ranks first per capita and as a percent of personal income. However, as is explained in other parts of this report, while these measures are commonly used, they are not the best ways to compare the debt practices of states and cities.
4. **The outlook is for even greater debt.** Both the State and the City have capital plans that will cause their debt to grow. Between fiscal year 2000 and 2005 the State's debt will grow from \$36.8 billion to \$43.0 billion, and the City's debt will grow from \$36.6 billion to \$44.3 billion in the 2000-2004 period.

An Approach to Measuring Debt Affordability

Do New York State and New York City have too much debt? A sensible and realistic answer to this question should be rooted in the concept of affordability.

Debt affordability refers to the burden associated with repaying debt. To be affordable, the repayment of debt (a) should not cause a jurisdiction's tax rate to increase to uncompetitive levels in order to cover the debt service, and (b) should not require cutbacks in other public services that similarly cause the jurisdiction to become uncompetitive with other areas. That is, repaying debt should not require tax increases or service cutbacks that make a place less attractive than its competitors.

An important implication of this approach is that "too much" is defined relative to other places. The warning signal is not a particular number; rather, it is a position that is relatively far out of line with other places. A measurement of affordability can be thought of as having an upper bound that represents the beginning of a "danger zone" for states and cities.

A second implication of this approach is that affordability should be assessed as a relationship between the amount of debt and the resources available for repayment. Larger and wealthier places can afford more debt than smaller and poorer ones. Thus, affordability can best be measured in terms of a ratio between debt levels and resources available for repaying that debt.

Using this approach to derive policy guidance for New York State and New York City requires applying six analytic steps to the relevant jurisdictions:

1. Identify the amount of relevant long-term debt.
2. Adjust the amount of long-term debt to include unfunded pension fund liabilities.
3. Identify the resources available in the state or local economy to repay the debt.
4. Adjust the resources available to account for the division of service and financing responsibilities between the state and its localities.
5. Examine the distribution of the ratio of adjusted debt to adjusted resources in order to identify a point that is sufficiently "out of line" with most jurisdictions' practices that it constitutes the beginning of a danger zone.
6. Adjust the danger zone threshold to provide a safety margin for an economic downturn.

Each of these steps is described more fully in the report, and supporting data and technical information are presented in the Appendices.

When this analysis is complete, the data provide the basis for two informative calculations. First, one can determine how much debt New York State and New York City could have before entering the danger zone. The answer is that, in 1997, the year of the comparisons, the State should have had \$29.2 billion in State-supported debt rather than the \$33.1 billion that it actually had. In fiscal 1998, the year from which the City comparative data are drawn, New York City could have incurred \$2.1 billion more in debt before reaching the danger zone.

Second, the data can provide a basis for estimating a danger zone threshold for the latest fiscal year, 2000. If the overall measure of resources available for repayment of debt grew at the same rate as the state's personal income, then New York State's debt could have grown from the 1997 threshold of \$29.2 billion to \$33.8 billion. In fact, New York State's debt grew to \$36.8 billion and was therefore \$3.0 billion above the projected threshold at the end of fiscal year 2000.

Projecting a growth in New York City's available resources equivalent to its estimated growth in personal income, would suggest that at the end of fiscal year 2000 New York City's actual debt of \$36.6 billion was \$2.2 billion below the projected danger zone.

Recommendations

The analysis in this report answers the question, how much debt is too much? Based on these findings, the CBC makes three recommendations.

1. New York State's elected leaders should bring the State's debt burden below the danger zone threshold identified in this report, and New York City's leaders should keep their debt below the relevant danger zone threshold.

Current policies will not bring New York State's debt below the projected threshold through fiscal year 2005, the last year for which projections are available. New York State should develop a new plan to lower its outstanding debt. This should include doing more pay-as-you-go capital financing and devoting more of the current operating surplus to the retirement of outstanding debt. Development of the more precise actions to achieve this goal should rest with the debt policy board referred to in recommendation number two below.

New York City's current financing plans will not cause it to exceed the projected danger zone threshold in coming years. For City leaders, some caution in new debt issuance is appropriate, but the amounts do not seem unaffordable. However, it is important that the City stay within its plan and keep debt at affordable levels.

2. New York City and New York State should create Debt Policy Committees to recommend long-run debt strategies and annual debt issuance limits.

The State and the City should each have a Debt Policy Committee to advise public officials about the amounts that should be borrowed, the forms of borrowing that are appropriate, and other aspects of a comprehensive debt policy. The Committee should have members appointed by the political leaders with authority over debt including the City Council, the Mayor and Comptroller for the City and each house of the Legislature, the Governor and the Comptroller for the State.

3. The State Constitution should be amended to establish new limits on State and City debt.

The existing constitutional limits on State and City debt have proved neither effective nor sensible. New constitutional limits should be made effective by having them apply to all forms of debt which draw upon tax and other general governmental revenues. That is, in the case of the State the limit should apply to all forms of State-supported debt; in the case of the City the limit should apply to all forms of debt supported by local tax revenues including those of MAC, the TFA and other relevant authorities.

The new limits should be made more sensible by replacing the existing constraints with an approach based on that developed in this report. That is, the City should no longer be subject to a numerical limit related to property values, and the State should not have a procedural limit that requires all debt to go before the voters. Instead, for each entity there should be a periodic analysis following the affordability approach outlined in this report. The analysis should be conducted by an independent board, who would arrive at a debt limit for each entity based on the comparative approach to affordability developed in this report. Their charge would be to set rolling, multiyear limits for debt based on analysis that takes into account trends in the resources of the City and State and in the patterns of debt issuance by other competitive jurisdictions. These limits should be binding on the City and the State.

The sole safety valve or exception to the limit set based on analysis of affordability should be the will of the electorate. If the voters opt to approve debt for a specific purpose, then such debt should be permitted above the limit set by the independent board. The will of the voters should be supreme, but it should be guided by information on the affordability of debt. The voters should be empowered to go beyond that limit, when and if they are convinced it serves an important public purpose.

INTRODUCTION

The fundamental task of the elected leaders of state and local governments is to make their jurisdictions more desirable places to live and work. This is not a simple task. It requires balancing conflicting values. Services must be provided at high levels, while taxes are kept low. Vital public infrastructure must be improved and expanded, while borrowing for capital projects is kept in check. When these decisions are made wisely, the affected state and city will prosper and grow; when poor judgement prevails, the areas are likely to decline.

Nearly five years ago the Citizens Budget Commission completed a comprehensive review of how effectively New York State and New York City policies were promoting the competitiveness of the Two New Yorks.¹ The CBC found that New Yorkers' public services were more costly per unit of service than those of residents in other areas; that New Yorkers bore a tax burden that was much higher than residents of other states and cities; that New Yorkers had to rely on public infrastructure that was more deteriorated than that of most other parts of the nation. New policies were needed.

Since then, substantial progress has been made in lowering taxes and in improving some services. More progress is needed on both these scores, but a particularly neglected set of policies relates to the planning and financing of public infrastructure. Both New York State and New York City have large amounts of debt and enormous unmet needs in the modernization of their public facilities. Yet in modern economies a well-functioning infrastructure for transportation, water supply, and other services is critical to economic growth.

This report is intended to help provide guidance to the leaders of the Two New Yorks as they seek to address the important issue of how much to spend and to borrow in an effort to improve public infrastructure. The future competitiveness of the state and city are tied to striking the correct balance.

The remainder of the report is divided into three sections. The first describes the nature of the problem as it has evolved in the policies of the City and the State. The second presents a new approach to deciding how much state and local debt is affordable. The third applies this new framework to develop recommendations for borrowing policies and limits for the State of New York and the City of New York.

¹ See Citizens Budget Commission, *Budget 2000 Project: Final Report* (NY: CBC, December 1995).

NATURE OF THE PROBLEM

Debt has become a problematic and controversial issue for New York State and New York City for four related reasons. First, the amount of debt each entity has issued has grown rapidly in recent years. Second, this growth has occurred despite constitutional and statutory limits intended to limit debt. Third, the current levels of debt exceed those of most other states and cities. Finally, if current policies continue, the outlook is for even greater debt. Each of these concerns warrants a fuller discussion.

Debt Has Grown Rapidly

The 1990s witnessed an extraordinary growth in both New York State and New York City debt. For most of the 1980s, City debt grew at about 4.0 percent annually and State debt at 8.3 percent annually; in contrast, in the 1990s the respective increases were 8.8 percent and 10.4 percent.² (See Figure 1.) In the last decade each entity's debt has more than doubled, reaching \$35.8 billion for the State and \$46.8 billion for the City as of the end of their respective 1999 fiscal years. New York State's heavy debt load, in combination with its out-year budget gaps, has been cited as a main reason for the State's low credit rating. The most recent Moody's rating places New York State tied for last with Louisiana, while the most recent Standard and Poor's rating shows the State second-to-last, just in front of Louisiana.³

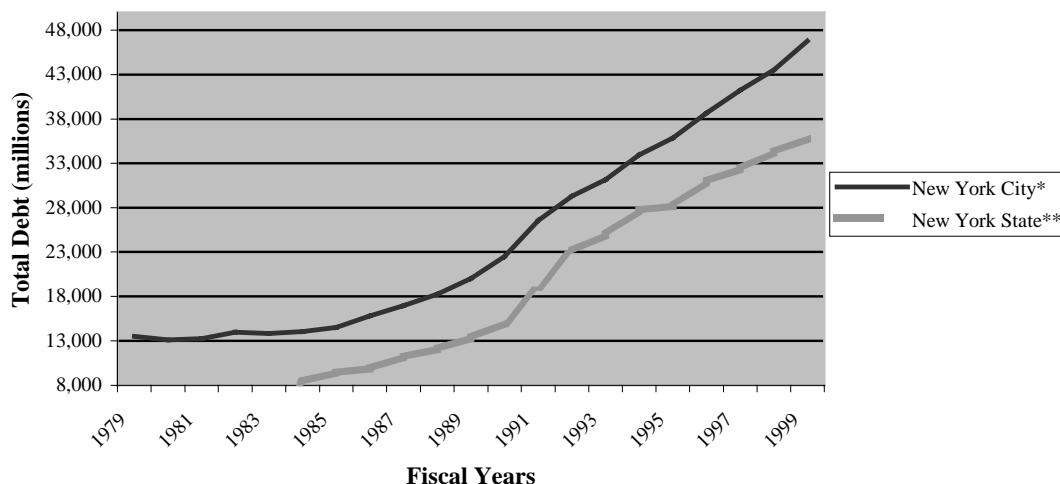
Debt Has Grown Despite Intended Limits

The framers of the New York State Constitution, which was last revised at a constitutional convention in 1938, were concerned about the risk that leaders of New York State and New York City might take on too much debt. Debt is a political risk in the sense that current office holders can borrow to raise money for popular projects, but the repayment of that debt falls on taxpayers long after the current office holders are departed from public life. To avoid abuses of borrowing, the State Constitution puts limits on the debt of both the State and City. The approach differs for each entity, but in each case ways have been found to circumvent the limit.

² "City debt" includes General Obligation, MAC, TFA, SFC and Guaranteed Debt, Capital Lease Obligations, Municipal Water Finance Authority debt, and Treasury Obligations. City debt growth rates are 1979-1989 and 1989-1999. "State debt" includes GO, Certificates of Participation, LGAC, and lease and other contractual obligation debt. "State debt" growth rates are 1984-1989 and 1989-1999.

³ State of New York, Office of the State Comptroller, Office of Fiscal Research and Policy Analysis, *2000-01 Budget Analysis, Review of the Enacted Budget*, June 2000, pp. 53-54.

Figure 1
Trends in New York City and State Gross Debt Outstanding
Fiscal Years 1979-1999



Sources: Office of the State Comptroller, Division of Management Audit and State Financial Services, "Comptroller's Annual Report To the Legislature on State Funds Cash Basis of Accounting, Fiscal Year Ended March 31, 2000," Schedule 21; Office of the State Comptroller, Bureau of Accounting Operations, "State of New York Comptroller's Annual Report To the Legislature on State Funds Cash Basis of Accounting, Fiscal Year Ended March 31, 1992," Schedule 23; The City of New York, *Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 1999*, p. 266; and previous annual editions.

Notes: *Gross City Debt Outstanding including GO, MAC, TFA, SFC, City Guaranteed Debt, Capital Lease Obligations, Treasury Obligations, NYC Municipal Water Finance Authority Bonds and Notes Payable.

**Gross State-Supported Debt Outstanding including GO, lease/purchase and contract, COPS and LGAC.

New York State's Debt Limit. The New York State Constitution does not put a numeric limit on State debt; rather it imposes a procedural limit. Debt carrying the full legal obligation of the State for repayment, known as General Obligation (GO) debt, can be issued only if the amount and purpose of the borrowing is approved by the voters in a general election. The intent is to insure that future obligations are undertaken only if there is strong popular support.

The procedural limit has been meaningful in the sense that voters have sometimes approved, and sometimes rejected, proposed borrowings. As shown in Table 1, of the 32 bond proposals put before voters since the end of World War II, 11 were rejected and 21 passed. While the failure rate has been higher in more recent years, a large bond issue was approved as recently as 1996.

However, the procedural limitation has proven ineffective because it applies only to GO debt. The State has created mechanisms for issuing non-GO debt in the form of State authorities. These authorities are public benefit corporations created by State legislation and authorized to borrow by issuing bonds. The authorities' bonds are supported by two general types of revenues.

Table 1
General Obligation Bond Proposals in New York State, 1946-1997
(dollars in millions)

Year	Title	Amount	Total vote	Percent in favor	Outcome
1946	State subsidies for Public Housing Increase from \$6.25 million to \$9 million	\$3	1,324,874	64.8%	Pass
1947	Slum Clearance and Public Housing	\$135	2,149,271	70.5%	Pass
1949	Loans to Localities for Slum Clearance Low-Rent Housing	\$300	1,829,905	60.8%	Pass
1954	Construction of Facilities in Mental Hygiene, Social Welfare, Correction	\$350	1,829,635	83.1%	Pass
1954	Slum Clearance and Low-Rent Housing	\$200	1,775,410	61.4%	Pass
1956	Construction, reconstruction of State Highways, Parkways, Arterials	\$500	2,942,424	69.1%	Pass
1958	Slum Clearance and Low-Rent Housing	\$100	2,327,882	51.0%	Pass
1958	For Loans to Limited Profit Housing Companies	\$100	2,290,029	50.5%	Pass
1960	Acquire More Open Lands for Recreation and Conservation	\$75	3,279,819	72.9%	Pass
1960	Increase State Subsidies for Low-Rent Housing and Urban Renewal	\$5	3,171,013	52.9%	Pass
1962	Purchase Open Land for Parks, Conservation and Recreation	\$25	2,676,420	66.7%	Pass
1965	Combat Water Pollution by Construction of Sewage Treatment Facilities	\$1,000	3,755,768	80.9%	Pass
1965	Increase Periodic Subsidies, Bonds for Slum Clearance & Low-Rent Housing	\$209	3,342,718	36.7%	Fail
1965	Increase State Subsidies for Low-Rent Housing, Urban Renewal	\$14	3,267,436	34.9%	Fail
1966	Acquire and Develop Lands for Outdoor Recreation	\$200	4,062,755	59.1%	Pass
1967	Acquisition, Construction, Improvement of Highways, Mass Transit, Airport, Aviation	\$2,500	4,801,895	58.2%	Pass
1970	Increase state subsidies for Low-Rent housing and Urban Renewal	\$20	2,993,526	47.6%	Fail
1971	Acquisition, Construction, Improvement of Highways, Mass Transit	\$2,500	4,245,360	39.0%	Fail
1972	Preservation, Enhancement, Improvement of State's Environment	\$1,150	4,682,943	67.0%	Pass
1973	Maintenance of Transit Fares, Improvement of Transportation Facilities	\$3,500	3,804,438	41.9%	Fail
1974	Preserve and Enhance Commuter, Intercity Rail Passenger and Freight	\$250	2,728,645	64.6%	Pass
1975	Low-Rent Housing	\$250	3,075,100	36.1%	Fail
1977	Economic Development	\$750	2,781,748	38.4%	Fail
1979	Energy Conservation Through Improved Transportation	\$500	2,693,494	55.4%	Pass
1981	Acquire, Equip, Improve Correctional Facilities with Better Security	\$500	2,559,043	49.7%	Fail
1983	Preserve, Enhance, Improve State's Transportation Infrastructure	\$1,250	3,006,930	57.2%	Pass
1986	Preservation, Enhancement, Restoration, Improvement of Environment	\$1,450	2,270,104	67.2%	Pass
1988	Preservation, Enhancement, Restoration, Improvement of Highways and Bridges	\$1,450	4,134,747	55.4%	Pass
1990	Preservation, Enhancement, Restoration, Improvement of Environment	\$1,975	2,747,279	48.4%	Fail
1992	Infrastructure Projects to Retain and Create Jobs (NY, NY Bond Act)	\$800	3,699,531	44.1%	Fail
1996	Clean Water/Clean Air Act of 1996	\$1,750	4,034,988	56.7%	Pass
1997	School Facility Health and Safety Bond Act (school construction)	\$2,400	2,695,980	46.9%	Fail

Source: State of New York, State Board of Elections.

First, some authorities have non-tax supported revenues, typically user fees. Examples include tolls collected by the Thruway Authority and rent and other revenue collected by the Dormitory and Housing Finance Authorities. Use of revenue bonds of this type by authorities is not a violation of the intent of the constitutional limit, because the debt does not directly impose a burden on future taxpayers. As shown in Table 2, this type of authority debt totaled \$63.8 billion at the end of 1998 with the largest issuers being the Dormitory Authority (\$16.4 billion), the Port Authority (\$8.5 billion), the Long Island Power Authority (\$7.9 billion), the Metropolitan Transportation Authority (\$5.8 billion), and the Triborough Bridge and Tunnel Authority (\$5.0 billion). This debt is conventionally defined as "non-State-supported" and usually is not included in the totals shown for "State-supported" debt, such as those in Figure 1.

The second type of authority debt is questionable as a mechanism for circumventing the constitutional limit. Authorities have been given legislative authorization to borrow without independent revenues to support repayment of the debt. Instead, repayment of this debt depends on annual appropriations by the legislature for this specific purpose. The legislature commits to repayment by approving lease or other contractual agreements with the authority, and it must appropriate money for the lease or contractual payment each year. This type of authority debt, known as "appropriation-backed" debt, depends on the same revenue sources as does GO debt. However, despite the dependence on future tax revenues, it is issued without voter approval.

Table 2
Non- State-Supported* Authority Debt, 1998 and 1993
(dollars in millions)

Authority**	Dec 31, 1998	Mar. 31, 1993
Dormitory Authority	\$16,387	\$5,942
Port Authority of NY-NJ	8,464	5,365
Long Island Power Authority	7,861	0
Metropolitan Transportation Authority	5,839	5,346
Triborough Bridge and Tunnel Authority	5,020	NA
State of NY Mortgage Agency	4,087	2,845
Energy Research and Development Authority	3,907	NA
Environmental Facilities Corporation	3,763	NA
Housing Finance Agency	2,922	2,726
Power Authority	2,440	3,524
Thruway Authority***	1,192	449
Battery Park City Authority	705	167
Urban Development Corp.	642	875
Job Development Authority	260	NA
United Nations Development Corp.	195	170
Project Finance Agency	127	NA
Medical Care Facilities Finance Agency	0	5,076
All Other	NA	2,995
Total Non State-Supported Debt	\$63,811	\$35,480

Sources: Office of the New York State Comptroller, *New York's Debt: A Profile of State and Public Authority Debt as of December 31, 1998*; Citizens Budget Commission, *Guidelines for Debt Reform In New York State* (NY: CBC, January 1994), p. 4.

Notes: *Non-state-supported debt is debt paid back by authority revenue sources rather than state appropriations. The totals include moral obligation and state guaranteed debt, which make up a small and declining portion of total non-state-supported debt.

**Excludes Municipal Assistance Corporation (MAC) debt.

***Includes only toll-backed debt. Thruway Authority also issues some tax-backed debt.

NA - denotes not applicable because agency did not exist.

As shown in Table 3, GO debt comprises only 12 percent of the total State-supported debt. In contrast, appropriation-backed debt, in the form of lease or other contractual agreements with authorities, comprises \$26.9 billion or fully 73 percent. The largest other type of State-supported debt is \$4.6 billion of bonds issued by the Local Government Assistance Corporation (LGAC). These bonds are supported by a dedicated portion of the State's personal income tax revenues, and they also do not require voter approval.

In addition to avoiding procedural limits, appropriation-backed debt has two other harmful effects. First, it is viewed as less secure than GO debt and, therefore, carries a higher interest rate. Currently, the difference between the two types of debt is about 0.2 percent; on the \$26.9 billion in outstanding appropriation-backed debt, this represents an average of about \$40 million in annual debt service over the next 30 years for a total cost of \$1.2 billion.

Table 3
New York State-Supported Debt by Type
March 31, 2000
(dollars in millions)

	<u>Amount</u>	<u>Percent</u>
General Obligation	\$4,556	12.4%
Lease and Other Contractual Arrangements	26,863	73.0%
Certificates of Participation	503	1.4%
Local Government Assistance Corporation	4,874	13.2%
Total	\$36,796	100.0%

Source: New York State Division of the Budget, *Capital Program and Financing Plan Update* (NY: NYSDOB, August 2000).

Second, appropriation-backed debt is sometimes used to borrow for operating purposes rather than for true capital needs. For example, in 1990, Attica Prison, at that time a Department of Correctional Services (DOCS) facility, was "sold" to the New York State Urban Development Corporation (UDC). The UDC issued appropriation-backed bonds to buy the prison from DOCS. The money paid to DOCS was used to help close a large State budget gap. Another example is the sale of certain State highways, formerly "owned" by the State Department of Transportation (DOT), to the Thruway Authority, which issued bonds to purchase the highways from DOT, with the money helping to close a State budget gap.

In recognition of the weaknesses of State debt practices, in the 2000 legislative session a reform measure was passed. This legislation limits the use of debt to capital purposes. It also limits the amount of debt and debt service. In fiscal year 2001 new State-supported debt issuances (above that already outstanding) are limited to 0.75 percent of personal income, and this limit grows progressively to 4.0 percent in fiscal year 2010. The debt service obligation on the newly issued debt is limited to 0.75 percent of all funds receipts in fiscal year 2001 and grows to 5.0 percent in fiscal year 2013.

The impact of this new legislation remains to be tested. The application of the limit only to new issues affects only the pace of growth in debt and does not require any absolute reductions. If adhered to, the new law will eventually lower debt burdens. However, because it is statutory rather than constitutional, this limit can be modified or revised by the Legislature in any year.

New York City's Debt Limit. Unlike New York State, the City of New York has a quantitative rather than procedural constitutional limit on its GO debt. This limit is 10 percent of the five-year average of the market value of taxable real estate in the city. This limit is determined by the State Office of Real Property Services (ORPS) annually. Uses of borrowed money are limited to

capital projects with relatively long useful lives. The structure of debt is also limited to avoid "back-loading" and other gimmicks that shift costs to future taxpayers in an unfair fashion.

Table 4
New York City Gross Debt Outstanding by Type
June 30, 1999
(dollars in millions)

<u>Type</u>	<u>Amount</u>	<u>Percent</u>
General Obligation	\$27,441	58.3%
Municipal Assistance Corporation	3,832	8.1%
Transitional Finance Authority	4,150	8.8%
Samurai Funding Corporation	160	0.3%
Capital Lease Obligations	1,526	3.2%
City Guaranteed Bonds*	586	1.2%
Municipal Water Finance Authority	9,372	19.9%
Treasury Obligations**	(-299)	
Total	\$47,067	100.0%

Source: City of New York, *Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 1999*.

Notes: *Includes City University Construction Fund and New York City Educational Construction Fund.

**Treasury obligations are notes and bonds payable which are held as investments of the Debt Service Funds.

Like the State, the City also has found ways to circumvent its debt limit. As shown in Table 4, less than 60 percent of the City's debt is GO debt subject to the constitutional limit.

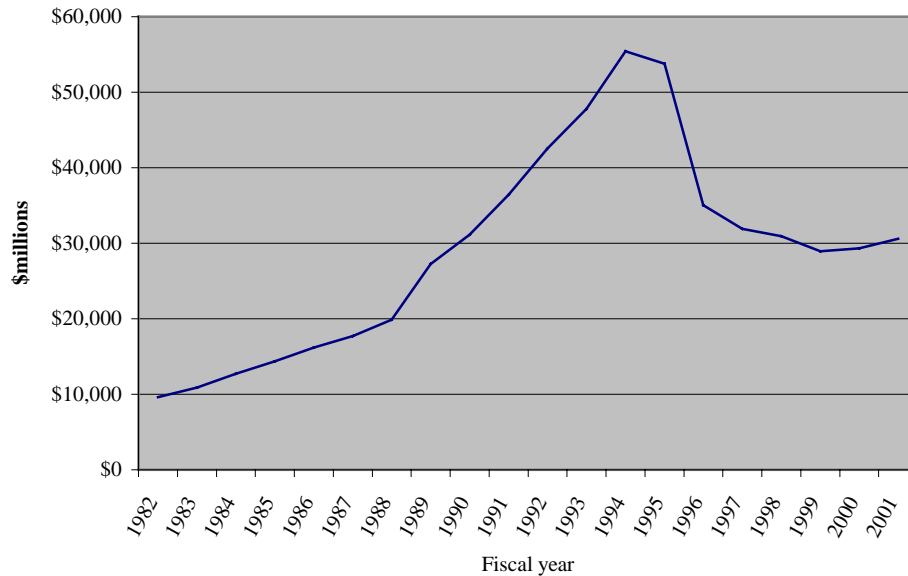
The largest type of non-GO debt, totaling nearly \$9.4 billion, is that issued by the New York City Municipal Water Finance Authority (WFA). It was established in 1984 by state legislation. Before then, the City funded improvements in its water system with GO debt. The new authority was created at the same time that the City shifted to a widely praised policy of paying for the water system with user charges and relying on metering to determine these charges. WFA debt is repaid with these user charges. However, the rates are set by a board dominated by the Mayor and the rates substitute for previous charges counted as revenues in the City's general fund. In this sense the WFA debt substitutes for former GO debt.⁴

The Municipal Assistance Corporation (MAC), which accounts for about 8 percent of City debt, predates the WFA. It was created by the State during the fiscal crisis of 1975, because the City could not market its GO debt. MAC's bonds are supported by an earmarked portion of

⁴ The New York City Water Board, which sets the water and sewer rates, has seven members, all appointed by the Mayor. The WFA, which is authorized to issue debt to finance the water system, has a seven member board including four ex-officio members: the NYC Finance Commissioner, the NYC Budget Director, the NYC DEP Commissioner, and the NYS DEC Commissioner, and three private members, two appointed by the Mayor and one by the Governor.

the City's sales tax revenue, that is withheld by the State to help ensure payment. All MAC bonds are scheduled to be repaid by 2008, when it will no longer be needed.

Figure 2
New York City Constitutional Debt Limit
Fiscal Years 1982-2001



Sources: City of New York, *Comprehensive Annual Financial Reports of the Comptroller for the Fiscal Years Ended 1982-1999*; Part III. Statistical Information, "Status of Debt-Incurring Margin"; Resolution of the Council of the City of New York, Fixing the Tax Rate for the Fiscal Year 2001, p.6.

The Transitional Finance Authority (TFA), with over \$4.1 billion in debt, was created in 1997, explicitly to avoid the limit on GO debt. It was created under State law to issue bonds to substitute for GO bonds to support the City's capital program. TFA bonds are repaid with funds from the City's personal income tax, which are collected by the State Department of Taxation and Finance and paid to the TFA. Unused income tax revenue is remitted to the City.

Another mechanism outside the constitutional limit is the Tobacco Settlement Asset Securitization Corporation (TSASC), created in 1999 and recently renamed TSASC, Inc. Primarily because of the limit on GO debt, the City decided to use its share of the settlement of a national lawsuit against tobacco companies to support revenue bonds. The settlement provides annual payments over the next 25 years, and the City decided to borrow against these payments to support its current capital program. The City plans to issue \$2.8 billion in TSASC, Inc. bonds over the period fiscal years 2000-2003.

The City, like the State, uses lease-purchase agreements with State authorities as another form of debt outside the constitutional limit. At the end of fiscal year 1999, the City had over \$2.1 billion in such agreements with a variety of authorities.

One reason the City has relied heavily on mechanisms like the TFA and TSASC in recent years is the erratic way in which the GO debt limit has been determined by the ORPS. Its method for determining the limit each year relies on estimates of market values based on sometimes outdated surveys and on trend line projections derived from these prior year estimates. The result of the faulty methodology has been significant volatility in the limit. As shown in Figure 2, the limit for fiscal year 1995 was \$53.8 billion, based on trend line projections that ignored the impact of the recession of 1990-91; when the impact of the downturn was finally recognized in ORPS estimates, the limit was abruptly cut by 35 percent and reduced to \$35.0 billion in 1996. More recently the ORPS has revised its methodology to reduce volatility, but the City was obliged to respond to a sharp reduction in the late 1990s.

It also should be noted that several public benefit corporations with political and fiscal ties to the City issue independent revenue bonds. These entities include the Health and Hospitals Corporation, Housing Development Corporation, Housing Authority, Industrial Development Authority, Economic Development Corporation, Business Relocation Assistance Corporation, and Brooklyn Navy Yard Corporation. Their bonds are supported with earned revenues, and their debt is not counted as City debt in Table 4. The outstanding debt of these entities is shown in Table 5. Housing development entities accounted for 83 percent of this debt and the Health and Hospitals Corporation for most of the remainder.

Table 5
New York City Public Authority Net Debt Outstanding~
June 30, 1999
(dollars in thousands)

Authority	Amount	Share of total
Health and Hospitals Corporation	\$808,477	16.8%
Housing Development Corporation*	2,431,024	50.5
Housing Authority**	1,578,987	32.8
Brooklyn Navy Yard Development Corporation	59	0.0
Total	\$4,818,547	100.0%

Sources: City of New York, *Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 1999*, p. 218, 224.

Notes: ~Bonds and notes payable less discounts, unamortized loss, and reserves for debt retirement.

*as of October 31, 1998.

**as of December 31, 1998.

Table 6
Long-Term Debt by State
Fiscal Year 1997
(dollars in thousands)

State	Long-term debt outstanding*	Rank	Debt as a percent of personal income**	Rank	Debt per capita**	Rank
Alabama	\$1,902,530	29	2.2%	31	\$440	35
Alaska	795,404	38	5.4%	9	1,305	8
Arizona	2,432,801	23	2.6%	27	534	28
Arkansas	721,315	41	1.5%	41	286	41
California	26,144,951	2	3.3%	19	812	19
Colorado	313,818	45	0.3%	49	81	49
Connecticut	9,617,985	6	8.7%	3	2,944	2
Delaware	1,380,010	32	7.0%	5	1,877	5
Florida	11,088,568	5	3.2%	21	755	20
Georgia	4,580,880	15	2.7%	24	612	25
Hawaii	4,293,180	16	14.4%	1	3,601	1
Idaho	185,989	47	0.8%	47	154	47
Illinois	7,856,338	8	2.5%	28	655	22
Indiana	2,454,998	22	1.9%	39	419	37
Iowa	757,622	39	1.2%	43	265	43
Kansas	1,181,220	35	2.0%	34	454	34
Kentucky	4,186,074	17	5.5%	8	1,071	11
Louisiana	2,765,362	19	3.2%	20	635	23
Maine	514,941	43	2.0%	36	415	38
Maryland	4,826,694	13	3.5%	18	947	14
Massachusetts	14,218,874	4	7.9%	4	2,325	3
Michigan	4,682,781	14	2.0%	35	479	30
Minnesota	2,223,187	25	1.9%	38	474	31
Mississippi	1,465,510	31	3.1%	23	536	27
Missouri	1,265,817	33	1.0%	45	234	44
Montana	408,005	44	2.5%	29	464	33
Nebraska	142,026	48	0.4%	48	86	48
Nevada	1,909,189	28	4.6%	12	1,137	9
New Hampshire	961,017	36	3.1%	22	820	18
New Jersey	14,298,040	3	5.8%	7	1,774	7
New Mexico	840,104	37	2.6%	26	487	29
New York	33,354,095	1	6.3%	6	1,838	6
North Carolina	2,106,801	27	1.3%	42	284	42
North Dakota	32,608	50	0.3%	50	51	50
Ohio	7,022,670	9	2.7%	25	627	24
Oklahoma	2,277,870	24	3.6%	17	686	21
Oregon	2,751,565	21	3.8%	16	848	16
Pennsylvania	6,671,580	10	2.3%	30	555	26
Rhode Island	2,205,767	26	9.2%	2	2,234	4
South Carolina	3,693,198	18	5.0%	10	975	13
South Dakota	311,643	46	2.1%	33	422	36
Tennessee	1,240,665	34	1.1%	44	231	45
Texas	9,075,687	7	2.1%	32	468	32
Utah	740,918	40	1.9%	37	359	40
Vermont	588,747	42	4.5%	14	1,000	12
Virginia	2,762,557	20	1.7%	40	410	39
Washington	6,342,845	11	4.6%	13	1,130	10
West Virginia	1,532,329	30	4.6%	11	844	17
Wisconsin	4,905,990	12	4.1%	15	943	15
Wyoming	93,145	49	0.9%	46	194	46
U.S. Total	\$218,125,910		3.5%		\$831	

Source: U.S. Census Bureau, Census of Governments, *State Government Finances, 1997*, < www.census.gov/govs/www/state.html > (10 August 2000).

Notes: *Long-term debt outstanding less public debt for private use less offsets. **1996 personal income per Bureau of Economic Analysis and 1997 population per United States Census Bureau.

New York's Debt Is Greater Than Other Jurisdictions'

Both New York State and New York City have issued more debt than have other states and cities. This is the case for several measures conventionally used to gauge indebtedness.

Table 6 summarizes the available comprehensive data, for fiscal year 1997, for the 50 states. In terms of absolute amount, New York had more debt than every other state—\$33.3 billion compared to second place California's \$26.1 billion. Measured relative to population and to income, New York ranked sixth.

Similar data for 14 large cities are shown in Table 7. New York City has more debt than every other city, and it also ranks first in debt per capita and debt relative to personal income. While, as will be discussed more fully below, these indicators do not provide a complete basis for judging the affordability of debt, the high ranking of New York suggests that its level of debt may be a problem.

Table 7
Long-Term Debt Measures for Selected U.S. Cities, Fiscal 1998*
(dollars in thousands)

City	Debt outstanding	Rank	Debt per capita	Rank	Debt as a percent of personal income**	Rank
New York	\$32,304,000	1	\$4,417	1	13.2%	1
Chicago	6,459,526	2	2,320	3	4.2%	3
Los Angeles	5,415,496	3	1,455	10	2.3%	11
Philadelphia	2,988,863	4	2,059	4	9.0%	2
Houston	2,832,375	5	1,538	8	3.0%	6
Phoenix	1,841,807	6	1,488	9	2.8%	7
Detroit	1,730,188	7	1,730	5	3.5%	4
San Diego	1,296,160	8	1,058	13	1.9%	12
Dallas	1,176,179	9	1,118	12	1.8%	13
Minneapolis	921,487	10	2,501	2	2.4%	9
Seattle	876,163	11	1,623	6	1.4%	14
San Francisco	818,794	12	1,039	14	2.7%	8
Las Vegas	709,775	13	1,584	7	2.4%	10
Boston	654,374	14	1,173	11	3.0%	5

Sources: City of New York, Office of the Comptroller, *Fiscal Year 2000 Annual Report of the Comptroller on Capital Debt and Obligations*, December 1999; U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Economic Information System* <<http://fisher.lib.virginia.edu/reis/>> (13 June 2000).

Notes: *Debt figures represent net direct and overlapping debt and are adjusted for comparability to New York City net debt (GO, MAC, TFA, SFA and City Guaranteed Debt, less debt service fund offsets).

**Personal income is based on personal income from surrounding county in 1997.

The Outlook Is For Even Greater New York State and City Debt

Current policies are expected to lead to higher levels of debt for both the State and City. For the State, the Governor's August 2000 Capital Plan Update calls for newly issued debt to be \$3.3 billion in fiscal year 2001 and to total \$17.5 billion over the capital plan period. Outstanding debt will be retired at a slower rate than this new debt is issued, causing total State-supported outstanding debt to grow to \$43.0 billion in fiscal year 2005. (See Table 8.)

The projected growth is more rapid for New York City. The City's Ten Year Capital Plan calls for \$48.1 billion in capital commitments over the 2000-2009 period, with 96 percent of this total financed by borrowing. This will cause the City's net outstanding debt to grow from \$36.6 billion at the end of fiscal year 2000 to \$44.3 billion by the end of 2004.

Table 8
Projected City and State Debt Outstanding
Fiscal Years 2001-2005
(dollars in millions)

Fiscal Year	Amount		Percent Change	
	State*	City**	State	City
2000	\$36,796	\$36,641		
2001	38,030	37,778	3.4%	3.1%
2002	39,359	41,223	3.5%	9.1%
2003	40,686	42,907	3.4%	4.1%
2004	41,951	44,256	3.1%	3.1%
2005	43,007	NA	2.5%	NA

Sources: New York State Division of the Budget, *Capital Program and Financing Plan Update*, August 2000; and Appendix Table B-4.

Notes: *State-supported debt.

**Net City debt including MAC.

AN APPROACH TO MEASURING DEBT AFFORDABILITY

The large and growing level of debt incurred by New York State and by New York City inevitably raises the question: How much debt is too much? A sensible and realistic answer to this question should be rooted in the concept of affordability.

Debt is neither inherently good nor bad. It is simply the most common method of financing a capital project. Citizens in one jurisdiction may have a preference for more capital spending than those in another, and may, therefore, take on more debt and more taxes in order to build public infrastructure. The key consideration in assessing debt levels is how readily it can be repaid.

Debt affordability refers to the burden associated with repaying debt. To be affordable, the repayment of debt (a) should not cause a jurisdiction's tax rate to increase to uncompetitive levels in order to cover the debt service, and (b) should not require cutbacks in other public services that similarly cause the jurisdiction to become uncompetitive with other areas. That is, repaying debt should not require tax increases or service cutbacks that make a place less attractive than its competitors.

An important implication of this approach is that "too much" is defined relative to other places. A state or city's debt becomes unaffordable when its repayment imposes a burden that is substantially greater than that incurred by other states and localities. The warning signal is not a particular number; rather, it is a position that is relatively far out of line with other places. A measurement of affordability can be thought of as having an upper bound that represents the beginning of a "danger zone" for states and cities. Entering the "danger zone" does not mean a jurisdiction will be incapable of repaying the debt; rather, it means the state or city is imposing a relatively high burden on its residents to repay debt and is, therefore, endangering its ability to attract and retain income producing residents and businesses. In brief, its economic competitiveness is in danger.

A second implication of this approach is that affordability should be assessed as a relationship between the amount of debt and the resources available for repayment. Larger and wealthier places can afford more debt than smaller and poorer ones. Thus, affordability can best be measured in terms of a ratio between debt levels and resources available for repaying that debt.

Using this approach to derive policy guidance for New York State and New York City requires applying six analytic steps to the relevant jurisdictions:

1. Identify the amount of relevant long-term debt.
2. Adjust the amount of long-term debt to include unfunded pension fund liabilities.
3. Identify the resources available in the state or local economy to repay the debt.
4. Adjust the resources available to account for the division of responsibilities between the state and its localities.
5. Examine the distribution of the ratio of adjusted debt to adjusted resources in order to identify a point that is sufficiently "out of line" with most jurisdictions' practices that it constitutes the beginning of a danger zone.
6. Adjust the danger zone threshold to provide a safety margin for an economic downturn.

Each of these steps is described more fully below, and supporting data and technical information are presented in the Appendix.

Identify the Amount of Relevant Long-Term Debt

As noted in the description of New York State debt, jurisdictions issue a variety of types of debt. Not all debt is relevant to the assessment of affordability. Specifically, two types of debt should not be included in the analysis.

First, short-term debt, defined as debt repayable in less than one year, incurred for operating purposes, need not be included.⁵ Reliance on short-term borrowing can cause fiscal problems for a state or city, and can be extremely dangerous (as New York City demonstrated in 1975). But the focus of this analysis is the long-term viability of a jurisdiction and its ability to repay long-term debt. Short-term borrowing for operating expenses is to be repaid relatively quickly, and is not critical to the more fundamental analysis.

Second, long-term debt that is supported by revenues independent of government taxes and mandatory fees should not be included. As previously noted, some state and local debt is repaid with revenues derived from user fees or other sources that are not linked to government taxation. This includes, for example, state university debt repaid by dormitory rents or tuition and airport debt to be repaid by fees charged airlines. Only debt that is conventionally classified as "State-supported" or "city-supported" in the sense that it depends on these jurisdictions' usual revenue sources should be included.

For states, measures of debt meeting these criteria are available from the U.S. Census Bureau. The comprehensive data available for fiscal year 1997 are used in this analysis. For cities, data meeting this criteria must be collected from relevant localities' annual financial reports, but common definitions are applied in the framework developed by the Governmental Accounting Standards Board (GASB). Localities audited financial reports usually comply with these standards.

Adjust Long-Term Debt to Include Unfunded Pension Fund Liabilities

Repaying a bond is not the only long-term liability that may draw upon a state or city's resources. Governments sponsor pension plans for their employees, and the funding of defined benefit plans (those that guarantee a specific benefit when the worker qualifies) requires annual contributions from the employer that are based on actuarial calculations. If these annual contributions are made in a full and timely way, then the pension fund is adequately funded. If the contributions are less than actuarial assumptions require or lag in some way, then the government sponsor has a long-term liability in the form of unfunded pension liabilities. Eventually, when the benefits must be paid to eligible workers, the entity will have to pay for this liability. Such unfunded pension liabilities should be added to long-term debt in considering the ability of an entity to repay its debt.

⁵ Short-term debt in the form of bond anticipation notes (BANs) should be and is included. This is short-term borrowing for the same purposes as long-term borrowing and is relevant.

The link between pension liabilities and long-term debt is highlighted by the debt instrument known as the pension obligation bond. Governments with underfunded pension systems sometimes choose to eliminate the underfunding by borrowing sufficient funds to bring the system to full funding. The bond issued to raise the funds essentially converts a contingent liability (underfunded pension benefits) to a fixed liability (bond repayments). Ignoring the pension liability, even when it remains a contingent liability, can distort the measure of the affordability of a jurisdiction's debt.

Credit rating agencies generally consider unfunded pension liabilities in assessing state and local governments. For example, a recent Standard and Poor's report on the nation's ten largest cities included the pension funding ratio (unfunded accrued liability as a percentage of total accrued liability) in its list of debt indicators.⁶ The federal General Accounting Office, in its studies of state and local finances, also recognizes unfunded pension liabilities as a form of debt, and cautions: "Although state and local governments rarely become insolvent or cease to operate, those with underfunded pension plans may face difficult budget choices in the future if they do not work toward full funding. Their future taxpayers will face a liability for benefits earned by current and former government workers, leaving these governments to choose between reducing future pension benefits or raising revenues."⁷ The approach is also evident in international comparisons of government fiscal health, with the inclusion of unfunded pension liabilities the subject of debates in considering how to formulate the debt limitation criterion for membership in the European Monetary Union.⁸

Identify the Resources Available to Repay Debt

The affordability of debt should be judged in the context of all the resources available in the state or local economy to repay that debt. The measures cited earlier—debt per capita and debt as a share of personal income—are common indicators that seek to capture this relationship. But per capita measures can be inaccurate because local populations vary in their incomes, and personal income does not capture all the economic activity in an area. For example, communities with exportable business activity (such as tourism or mineral deposits) may have more of a resource base than personal income suggests.

The concept of a Representative Revenue System (RRS), initially developed by the Advisory Commission on Intergovernmental Relations to measure tax capacity and tax effort, provides a broad and accurate measure of available resources. The purpose of the RRS is to indicate how much revenue a state would have if it relied on a tax and fee schedule similar to that

⁶ Standard and Poor's, "Vital Signs Improving for America's Ten Largest Cities," *Standard and Poor's Credit Week Municipal*, June 2, 1997.

⁷ U.S. General Accounting Office, *Public Pensions, State and Local Government Contributions to Underfunded Plans*, GAO/HEHS-96-56, March 1996.

⁸ W.H. Buiter, Giancarlo Corsetti and Nouriel Roubini, "Excessive Deficits: Sense and Nonsense in the Treaty of Maastricht," *Economic Policy*, April 1993. See also W.H. Buiter, "A Guide to Public Sector Debt and Deficits," *Economic Policy*, 1985, for a more comprehensive critique of focusing only on certain liabilities in measuring government solvency. See also Barry Eichengreen and C. Wyplosz, "The Stability Pact, More than a Minor Nuisance?," *Economic Policy*, 1998.

used by all other states. This approach identifies a representative revenue system based on national averages of state tax rates and other revenue sources. This representative set of rates can be applied to actual resource base values for a given state in order to calculate a standardized revenue base against which to assess affordability. The RRS is used in this analysis as detailed in Appendix A.⁹

For cities, the RRS is not a practical way to measure available resources, because of the lack of available economic measures at the city level. For the comparison of major cities, available resources are instead measured as "gross city product." This is a measure of the economic output of a city, akin to gross state product and gross domestic product. It is a more comprehensive reflection of a city's tax and resource base than resident personal income, because it measures the total output of local goods and services. These activities may be taxed by cities through local personal income, corporate income and sales taxes.

Adjust Resources to Reflect the Division of State and Local Responsibility

Comparisons among jurisdictions can be misleading because of the variability in the division of responsibilities between states and their localities. For example, New York places a higher than average burden on its localities. Localities in New York State must finance nearly one quarter of Medicaid and public assistance spending, while in no other state does the locality's share exceed 11 percent (and most have no such responsibility).¹⁰ Another source of variability is that states allocate responsibility differently among their cities and their other local jurisdictions. New York City is an unusual entity in that it includes functions performed by separate school districts and/or counties in other places. This accounts, at least in part, for New York City's high debt per capita compared to other cities. Yet, some other major cities function as counties as well, including Philadelphia, San Francisco and Baltimore. Thus, an adjustment is needed to account for the varying division of responsibility among localities as well as the division of responsibilities between state and local levels.

A reasonable proxy for the division of functional responsibilities is the division of combined state and local revenues between the two levels of government. Relatively greater shares of combined revenues used by local governments indicate more spending responsibility at the local level; similarly, a greater share of revenues used by states indicate that state governments have more financing responsibilities. The percentage shares, when indexed to the national average for the 50 states, is referred to as the Index of State Fiscal Responsibility. It can be used to adjust the revenue capacities of the states by multiplying the index by the representative revenue capacity. The result is "adjusted revenue capacity," a reasonable measure

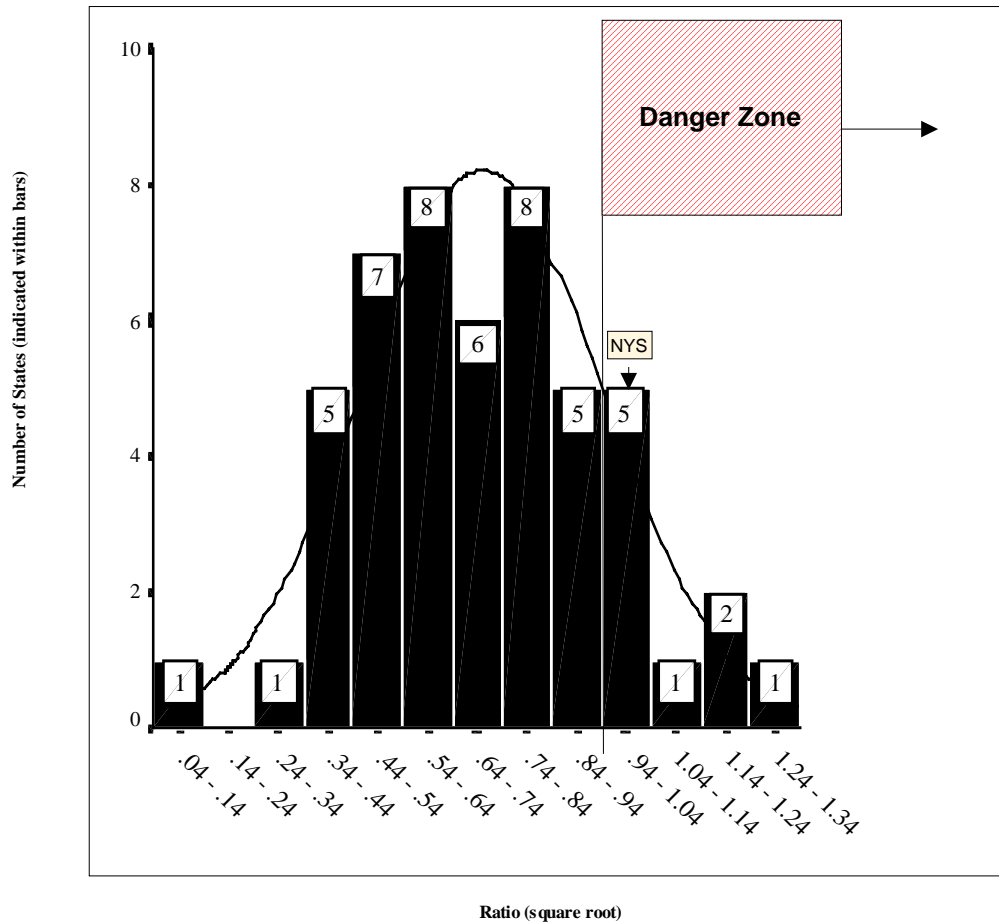
⁹ This was accomplished using data from the RRS, supplied to the CBC staff by Dr. Robert Tannenwald, Federal Reserve Bank of Boston. Representative tax rates for each state are based on state revenue collections only, rather than state-local collections. The source used by Tannenwald for revenue collections, the Census of Governments, was also used by CBC to develop the state-only system. See Robert Tannenwald, "Fiscal Disparity Among the States Revisited," *New England Economic Review* (July/August 1999).

¹⁰ New York City Council, *City Council Comment on the Fiscal 1995 Preliminary Budget* (NY: New York City Council, March 25, 1994).

of available resources that is adjusted for the division of responsibilities between state and local levels.

The same approach can be used to adjust the available resources for cities. An Index of Local Fiscal Responsibility is computed based on combined local governments' revenue in a state as a share of total state and local revenue for the state. The index measures how a state treats its localities generally, not how it treats a specific city. The Index of Local Fiscal Responsibility is multiplied by the gross city product for each city to arrive at "adjusted gross city product," a reasonable measure of available resources.

Figure 3
Distribution of State Ratios of Debt and Unfunded Pensions to Adjusted Capacity



Examine the Distribution of Debt Burden Measures to Identify A Danger Zone

After the adjustments are made to the amount of debt and to the available resources for repayment, then it is possible to calculate a ratio of debt to resources for each state or each city. Higher ratios represent greater levels of indebtedness and less affordability. If some entities have ratios that are greatly out of line with the others, then they can be judged to be in a danger zone of having more debt than is affordable within competitive standards.

Figure 3 shows the distribution of debt measures for the 50 states in fiscal year 1997, the latest year for which complete data are available. Most of the states cluster around the mean value of 0.70, but nine states have a relatively high burden; that is, their ratio is more than one standard deviation above the mean.¹¹ The nine states in the danger zone are Rhode Island, Hawaii, Connecticut, West Virginia, New York, Oklahoma, Massachusetts, Louisiana, and Washington.

Figure 4 shows the debt measures for New York City and the nine other large cities to which it was compared. The cities had a mean value of .0494, with the danger zone at .0868. While New York fell slightly below this danger zone, Detroit and Philadelphia were both above it.

Adjust Resources to Allow For An Economic Downturn

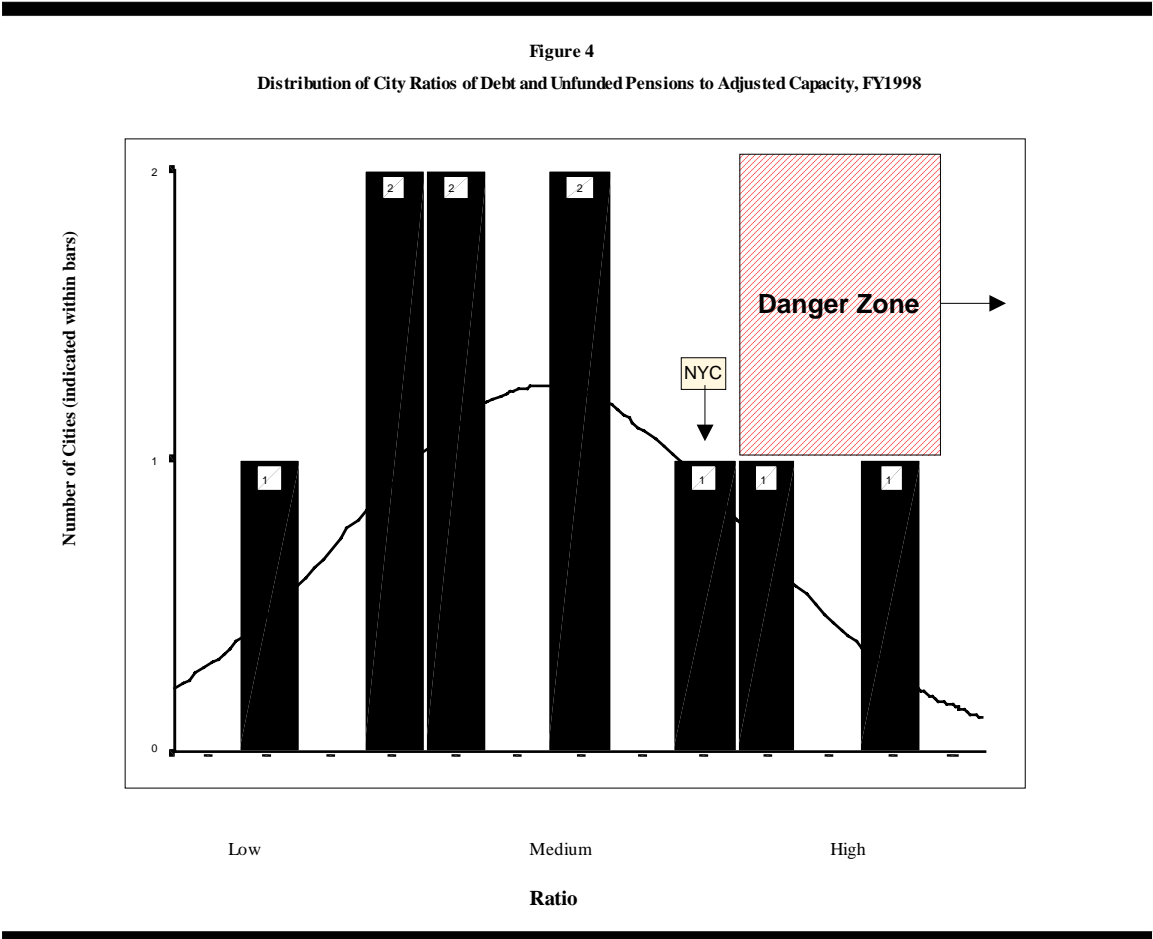
Studies of governmental defaults and bankruptcies suggest that many were the result of economic downturns.¹² The Panic of 1837 and the ensuing depression left half of all outstanding state and local debt in default. The Depression of 1893 brought a host of municipal defaults. Between 1890 and 1905, nearly 400 government units defaulted. The Great Depression of the 1930s led to another round of problems. A total of 4,770 state and local governments defaulted during the depression years.

In the second half of the twentieth century, the link between economic downturns and debt defaults became more complicated for two reasons. First, the rise of the revenue bond made the prospects for repayment become more closely tied to the fate of specific projects rather than an area's general economic health. Thus, more defaults arose because specific debt-financed projects turned out to be ill conceived or poorly implemented. Notable examples include bonds of the West Virginia Turnpike Commission (1958), the Calumet Skyway (1963), the Chesapeake Bay and Bridge and Tunnel Commission (1970), the Washington Public Power Supply System (1983) and the Public Service Company of New Hampshire (1987). Second, poor financial management, typically in the form of a misuse or over-reliance on short-term debt, became a

¹¹ The ratios are expressed in square root form to make the standard deviation a more meaningful measure of variance. See Appendix for further explanation.

¹² This section relies on Natalie R. Cohen, *Municipal Default Patterns: A Historical Study* (NY: Enhance Reinsurance Company, 1988) and Alberta Sbragia, *Debt Wish* (PA: University of Pittsburgh Press, 1994).

source of local government fiscal problems. Examples include New York City's fiscal crisis of 1975 and the bankruptcy of Orange County in California in 1994.¹³



Nonetheless, recessions continued to be an important source of state and local fiscal stress. This is the case both for older areas already in long-term decline and for recent "boom" areas that experience sudden reversals in fortunes with abrupt declines in land values. In New York, the national recession of 1990-1991 was especially severe. Between 1990 and 1991, personal income in both the state and the city declined almost two percentage points more than it did in the rest of the country. Such a recession, if repeated, would cause a sharper decline in New York's resource capacity relative to the rest of the country and could quickly push the state and city into the danger zone, even if both jurisdictions had been below that ratio before the recession. In fact, most rating agency downgrades occur in a recession, when states and localities have difficulty responding quickly enough to resource declines.¹⁴

¹³ Mark Baldassare, *When Government Fails: The Orange County Bankruptcy* (CA: University of California Press, 1998).

¹⁴ National Association of State Budget Officers, *Debt Management Practices in the States* (DC: NASBO, April 1994), p 5.

In order to take into account the possibility of a decline in available resources for debt repayment due to a recession, New York State and New York City should define the danger zone threshold allowing for the impact of a recession. This allows for a margin of safety equivalent to the impact of that recession.

After this recession adjustment is made, the data provide the basis for two informative calculations. First, one can determine by how much New York State would have to reduce its debt in order to be out of the danger zone. The answer is that the State should, in 1997, have had \$29.2 billion in State-supported debt rather than the \$33.1 billion in debt that it actually had.

Second, the 1997 data can provide a basis for estimating a danger zone threshold for the latest fiscal year, 2000. If the overall measure of resources available for repayment of debt grew at the same rate as the state's personal income between 1996 and 1999, then debt could have also grown at this rate and still remained in the same ratio to the available resources. Thus New York State's debt could have grown from the 1997 threshold of \$29.2 billion to \$33.8 billion. In fact, New York State's debt grew to \$36.8 billion and was therefore \$3.0 billion above the projected threshold at the end of fiscal year 2000.

In fiscal 1998, the year from which the city comparative data are drawn, New York City could have incurred \$2.1 billion more in debt before reaching the danger zone. Projecting a growth in New York City's available resources equivalent to its estimated growth in personal income, would suggest that at the end of fiscal year 2000 New York City's actual debt of \$36.6 billion was \$2.2 billion below the projected danger zone.

RECOMMENDATIONS

The analysis described in the previous section provides an answer to the question: How much debt is too much? The specific answers are different for New York City and New York State, but the approach provides a basis for identifying a danger threshold that each entity ought to stay below. Moreover, the analysis indicates that New York State is already above that threshold, and that New York City is approaching it.

Based on these findings, the CBC makes three recommendations.

- 1. New York State's elected leaders should bring the State's debt burden below the danger zone threshold identified in this report, and New York City's leaders should keep their debt below the relevant danger zone threshold.*

As shown in Table 9, current policies will not bring New York State's debt below the projected threshold through fiscal year 2005, the last year for which projections are available. Although the "excess" debt would be lowered significantly by 2005 under the current plan, New York State should develop a more aggressive strategy to lower its outstanding debt. This should include more pay-as-you-go capital financing and devoting more of the recent

operating surplus to the retirement of outstanding debt. Development of more precise actions to achieve this goal should rest with the debt policy board referred to in recommendation number two below.

Table 9
Projected Debt Outstanding and Amount Below (Above) Danger Zone Threshold
(dollars in millions)

Fiscal Year	New York State			New York City		
	Debt outstanding	Danger zone	Variance	Debt outstanding	Danger zone	Variance
1997	33,130	29,168	(3,962)			
1998	34,247	30,406	(3,841)	32,304	34,434	2,130
1999	35,842	31,968	(3,874)	34,633	36,424	1,791
2000	36,796	33,830	(2,965)	36,641	38,854	2,213
2001	38,030	35,387	(2,643)	37,778	41,658	3,880
2002	39,359	37,016	(2,343)	41,223	43,283	2,060
2003	40,686	38,721	(1,964)	42,907	44,908	2,001
2004	41,951	40,506	(1,445)	44,256	46,921	2,665
2005	43,007	42,375	(632)	NA	NA	NA

Source: See Appendix.

New York City's current financing plans will not cause it to exceed the projected danger zone threshold in coming years. For City leaders, some caution in new debt issuance is appropriate, but the amounts do not seem unaffordable. However, it is important that the City stay within its plan and keep debt at affordable levels.

2. *New York City and New York State should create Debt Policy Committees to recommend long-run debt strategies and annual debt issuance amounts.*

The State and the City should each have Debt Policy Committees to advise public officials about the amounts that should be borrowed, the forms of borrowing that are appropriate, and other aspects of a comprehensive debt policy. The committees should have members appointed by the political leaders with authority over debt, including the City Council, the Mayor and Comptroller for the City and each house of the Legislature, the Governor and the Comptroller for the State.

Models for such committees already exist in several states. Two examples are the states of Maryland and Virginia. The five-member Maryland Capital Debt Affordability Committee reviews all state debt annually to assess affordability. Each year it submits to the Governor and General Assembly its estimate of the amount of general obligation debt that prudently may be authorized for the coming fiscal year. The Committee has four ex-officio members (State Treasurer, State Comptroller, Secretary of Budget and Management, and Secretary of Transportation) and one member appointed by the Governor. The seven-member Virginia Debt Capacity Advisory Committee reviews all state debt and makes a recommendation to

the Governor and General Assembly each year as to the amount of debt that should be issued. It consists of the Secretary of Finance, State Treasurer, Director of the Department of Planning and Budget, Auditor of Public Accounts, Director of the Legislative Audit and Review Commission, and two citizen members appointed by the Governor.

3. *The State Constitution should be amended to establish new limits on State and City debt.*

The existing Constitutional limits on State and City debt have proved neither effective nor sensible. The limits have been circumvented through the creation of public authorities and the use of appropriation-backed debt and of debt backed by earmarked taxes in place of general obligation debt. The limits are of questionable merit because, in the case of the City, real estate values are not the best measure of ability to repay, and, in the case of the State, voter approval can be a serious obstacle to raising capital for unpopular purposes such as prison facilities.

New constitutional limits should be made effective by having them apply to all forms of debt which draw upon tax and other general governmental revenues. That is, in the case of the State, the limit should apply to all forms of State-supported debt; in the case of the City, the limit should apply to all forms of debt supported by local tax revenues including those of MAC, the TFA and other relevant authorities. However, debt supported by independent non-tax revenues such as the Water Authority's user fees and the Thruway Authority's tolls should not be subject to the limit.

The new limits should be made more sensible by replacing the existing constraints with an approach based on that developed in this report. That is, the City should no longer be subject to a numerical limit related to property values, and the State should not have a procedural limit that requires all debt to go before the voters. Instead, for each entity there should be a periodic analysis following the affordability approach outlined in this report. The analysis should be conducted by an independent board, who would arrive at a debt limit for each entity based on the comparative approach to affordability developed in this report. Their charge would be to set rolling, multiyear limits for debt based on analysis that takes into account trends in the resources of the City and State and in the patterns of debt issuance by other competitive jurisdictions. These limits should be binding on the City and the State.

The sole safety valve or exception to the limit set based on analysis of affordability should be the will of the electorate. If the voters opt to approve debt for a specific purpose, then such debt should be permitted above the limit set by the independent board. The will of the voters should be supreme, but it should be guided by information on the affordability of debt. The voters should be empowered to go beyond that limit, when and if they are convinced it serves an important public purpose.

APPENDIX A

Calculation of an Affordability Limit for State Debt

This Appendix describes the data sources and methods used in applying the affordability approach described in the report to state governments and to New York State in particular. Each of the six steps is described separately.

Step 1. Identify the amount of relevant long-term debt.

The U.S. Census Bureau regularly collects information on state government debt, and their data for fiscal year 1997 are used in this report.¹⁵ The specific Census Bureau category used is "net long-term debt outstanding." This category includes the debt of state agencies and of "state dependent entities," but includes only debt used for "public purposes." Net long-term debt is distinguished from gross long-term debt which include "long-term debt offsets," such as sinking funds and debt service funds held for debt repayment or retirement.

The Census Bureau considers the Municipal Assistance Corporation (MAC) a dependent state entity that issues debt for public purposes. However, this report includes MAC debt in the New York City debt affordability measurement (see Appendix B); accordingly, it is excluded from the New York State figure. The first column in Table A-1 shows the 1997 long-term debt outstanding by state.

Step 2. Adjust long-term debt to include unfunded pension liabilities.

Like long-term debt, unfunded pension liability represents a potential burden on future taxpayers. The Public Pension Coordinating Council (PPCC) regularly collects data on state and local government pension systems.¹⁶ The PPCC's 1997 survey includes the unfunded accrued actuarial liability (UAAL) for each plan in the survey.

The PPCC data were adjusted in three ways. First an estimate was made of the state share of combined state-local pension plans. Pension systems are of three types: state, local or combined state-local. The entire UAAL for state-only plans is included in the calculation, and the UAAL for local plans is excluded. For the combined plans, a small share of all plans, the UAAL was apportioned between the state and localities based on the state's share of total state and local employees in the plan (which was reported in the PPCC survey). The state-only plans accounted for \$91 billion of the \$161.1 billion total state-local UAAL, and the estimated state share of the combined plans was \$11.2 billion, bringing the states' total to \$102.3 billion. Each state UAAL is shown in column two of Table A-1.

¹⁵ U.S. Bureau of the Census, Census of Governments, *State Government Finances, 1997*, <www.census.gov/govs/www/state.html> (10 August 2000).

¹⁶ The PPCC is made up of members of the Government Finance Officers Association, the National Association of State Retirement Administrators, the National Conference on Public Employee Retirement Systems, and the National Council on Teacher Retirement.

Table A-1
Long-Term Debt and Unfunded Pension Liability by State, Fiscal Year 1997
(dollars in thousands)

State	Net Long-Term Debt Outstanding	State Unfunded Pension Liability	Adjusted State Unfunded Pension Liability	Combined Unfunded Pension and Debt Liability
Alabama	\$1,902,530	\$898,441	\$557,932	\$2,800,971
Alaska	795,404	(108,001)	(67,069)	687,403
Arizona	2,432,801	(1,516,526)	(941,763)	916,275
Arkansas	721,315	245,436	152,416	966,751
California	26,144,951	10,186,199	6,325,629	36,331,150
Colorado	313,818	577,087	358,371	890,905
Connecticut	9,617,985	3,743,688	2,324,830	13,361,673
Delaware	1,380,010	24,741	15,364	1,404,751
Florida	11,088,568	3,275,220	2,033,911	14,363,788
Georgia	4,580,880	4,371,306	2,714,581	8,952,186
Hawaii	4,293,180	413,548	256,813	4,706,728
Idaho	185,989	465,803	289,264	651,792
Illinois	7,856,338	13,295,392	8,256,439	21,151,730
Indiana	2,454,998	7,068,254	4,389,386	9,523,252
Iowa	757,622	214,003	132,896	971,625
Kansas	1,181,220	317,619	197,241	1,498,839
Kentucky	4,186,074	98,713	61,301	4,284,787
Louisiana	2,765,362	6,627,668	4,115,782	9,393,030
Maine*	514,941	474,167	294,458	989,108
Maryland	4,826,694	4,519,703	2,806,736	9,346,397
Massachusetts	14,218,874	237,378	147,412	14,456,252
Michigan	4,682,781	792,717	492,277	5,475,498
Minnesota	2,223,187	2,883,858	1,790,876	5,107,045
Mississippi	1,465,510	2,546,502	1,581,378	4,012,012
Missouri	1,265,817	1,495,884	928,944	2,761,701
Montana	408,005	562,900	349,561	970,905
Nebraska*	142,026	462,363	287,128	604,389
Nevada	1,909,189	595,986	370,108	2,505,175
New Hampshire	961,017	1,491,571	926,266	2,452,588
New Jersey	14,298,040	719,677	446,919	15,017,717
New Mexico	840,104	2,816,000	1,748,736	3,656,104
New York	33,354,095	(922,690)	(572,990)	32,431,405
North Carolina	2,106,801	503,474	312,657	2,610,275
North Dakota	32,608	(16,483)	(10,236)	16,125
Ohio	7,022,670	6,149,663	3,818,941	13,172,333
Oklahoma	2,277,870	5,523,286	3,429,961	7,801,156
Oregon	2,751,565	2,407,174	1,494,855	5,158,739
Pennsylvania	6,671,580	1,024,368	636,133	7,695,948
Rhode Island	2,205,767	2,279,872	1,415,801	4,485,639
South Carolina	3,693,198	617,431	383,425	4,310,629
South Dakota	311,643	284,981	176,973	596,624
Tennessee	1,240,665	526,792	327,138	1,767,457
Texas	9,075,687	1,429,111	887,478	10,504,798
Utah	740,918	729,882	453,257	1,470,800
Vermont	588,747	(4,073)	(2,529)	584,674
Virginia	2,762,557	1,536,971	954,459	4,299,528
Washington	6,342,845	6,224,292	3,865,286	12,567,137
West Virginia	1,532,329	3,526,251	2,189,802	5,058,580
Wisconsin	4,905,990	674,029	418,572	5,580,019
Wyoming	93,145	89,033	55,289	182,178
Total	\$218,125,910	\$102,380,661	\$63,578,395	\$320,506,572

Sources: Paul Zorn, *PENDAT97 Database User's Guide, 1997 Survey of State and Local Government Employee Retirement Systems* (IL: Public Pension Coordinating Council c/o GFOA, 1998); U.S.

Census Bureau, Census of Governments, *State Government Finances, 1997*,

<www.census.gov/govs/www/state.html> (10 August 2000).

*Pension liability is estimated by authors. See text.

Second, the state UAAL was reduced to reflect the share assigned to employee contributions. Pension systems are funded jointly by governments and their employees. Both groups bear the risk of the UAAL. The PPCC survey indicates that the split in contributions between employer and employees was 62.1 percent by employers, and 37 percent by employees (less than one percent came from other sources). Therefore, each state UAAL was multiplied by .621 to estimate the state's share as employer. This adjusted UAAL is shown in column three of Table A-1. New York's systems were more than fully funded, with an adjusted over-funding of \$573 million.

Third, an estimate of UAAL was made for two states not responding to the survey—Nebraska and Maine. For these two states, the estimated UAAL was set equal to the average share of the aggregate adjusted revenue capacity that the UAAL comprised in the other 48 states.

Table A-2
Representative Revenue System for States, Fiscal Year 1996

<u>Revenue Sources</u>	<u>Collections</u> <i>(thousands)</i>	<u>Standard Revenue Base</u> <i>(millions)</i>	<u>Standard Rate</u>
General sales and gross tax receipts	\$139,363,248	\$2,536,062	0.05 per dollar
Selective sales taxes			
Motor fuel	25,988,277	147,895	0.18 per gallon
Alcoholic beverages			
Distilled spirits	1,432,271	131	0.11 per gallon
Beer	1,880,227	262	0.07 per gallon
Wine	397,513	53	0.07 per gallon
Tobacco	7,337,848	22,973	0.32 per pack
Insurance	9,049,371	604,868	0.01 per dollar
Public utilities	8,614,794	451,137	0.02 per dollar
Pari-mutuel	464,766	3,710	0.13 per dollar
License taxes			
Motor vehicles	12,681,130	206	61.40 per license
Vehicle operator	1,166,843	179	6.50 per license
Corporation	5,158,425	5	951.52 per license
Fishing and hunting	989,955	69	14.29 per license
Personal income tax	133,546,718	4,059,660	0.03 per dollar
Corporate income tax	29,315,684	591,816	0.05 per dollar
Property taxes	9,973,524	12,219,884	0.00 per dollar
Estate and gift taxes	5,320,098	17,529	0.30 per dollar
Severance taxes	4,115,529	144,848	0.03 per dollar
User charges and special assessments	67,360,710	6,408,990	0.01 per dollar
Other taxes	\$19,775,862	\$6,408,848*	0.003 per dollar
RRS Total	\$483,932,793		

Source: Robert Tannenwald, "Fiscal Disparity Among the States Revisited," *New England Economic Review* (July/August 1999).

Notes: *The standard base for "Other taxes" is assumed to be personal income.

Step 3. Identify the resources available in the state to repay debt.

The available resources are estimated by applying a representative revenue system to each state's relevant economic base. The concept of a Representative Revenue System (RRS) was initially developed by the Advisory Commission on Intergovernmental Relations (ACIR) to measure tax capacity and tax effort. The RRS is specified based on national averages of state tax rates and other revenue sources. Robert Tannenwald of the Federal Reserve Bank of Boston updated the ACIR's representative revenue system through fiscal year 1996.¹⁷ The state portion of his combined state-local RRS is detailed in Table A-2.

To calculate the available resources in each state, the RRS was applied to data indicating the size of each relevant tax base in each state. Data on the states' tax bases was supplied by Robert Tannenwald; he assembled the data for his research from multiple sources. The total available resources are shown as "unadjusted revenue capacity" in column one of Table A-3.

Step 4. Adjust the available resources for the division of responsibility between the state and its localities.

A state's revenue base is shared by the various units of government within it. The differential use of the revenue base reflects the responsibilities assigned to the various levels of government. Some states rely more on their localities to finance services than do others. The level of reliance is estimated using the ratio of revenue collected by the state government to total revenue collected by all state and local governments (excluding intergovernmental aid). The revenue data are from the Census Bureau.¹⁸ The national average is 58.3 percent. New York's figure is 51.4 percent, indicating that it relies on its localities more than most other states. These percentages are shown in column two of Table A-3. Column three of Table A-3 presents the state percentages as an index with the national average at 100. This index is used to weight the unadjusted revenue capacity in column one, thereby taking into account different state-local relations in the states. For New York, the effect of this adjustment is to lower the state government's revenue capacity by approximately 12 percent. The weighted or adjusted revenue capacity for each state is shown in column four of Table A-3. This adjusted revenue capacity is the denominator of the ratio used to measure debt affordability.

¹⁷ See Robert Tannenwald, "Fiscal Disparity Among the States Revisited," *New England Economic Review* (July/August 1999).

¹⁸ U.S. Census Bureau, Census of Governments, *State and Local Finance Estimates, by State, 1996*, <www.census.gov/govs/www/estimate.html> (13 March 2000).

Table A-3
Unadjusted and Adjusted State Revenue Capacity
(dollars in thousands)

State	Unadjusted Revenue Capacity	State's Share of State/Local Own Source Revenue	Index of State's Share of State/Local Own Source Revenue	Adjusted Revenue Capacity
Alabama	\$6,784,792	58.7%	100.4	\$6,812,192
Alaska	2,261,086	81.5%	139.4	3,151,018
Arizona	7,705,790	53.8%	92.1	7,096,103
Arkansas	3,757,793	71.1%	121.5	4,566,746
California	58,536,034	55.5%	94.9	55,577,532
Colorado	7,979,413	51.6%	88.2	7,038,849
Connecticut	7,991,734	65.4%	111.9	8,943,568
Delaware	1,695,379	78.6%	134.5	2,280,135
Florida	28,239,966	51.2%	87.6	24,742,825
Georgia	13,876,879	52.8%	90.2	12,521,760
Hawaii	2,419,335	79.6%	136.1	3,292,431
Idaho	1,958,544	70.3%	120.3	2,355,965
Illinois	23,673,652	52.9%	90.4	21,404,282
Indiana	10,572,476	58.6%	100.2	10,589,395
Iowa	4,973,790	59.1%	101.1	5,029,756
Kansas	4,561,296	55.5%	95.0	4,330,957
Kentucky	6,289,550	70.3%	120.2	7,558,190
Louisiana	7,558,473	59.9%	102.4	7,739,650
Maine	2,158,145	62.8%	107.3	2,316,646
Maryland	10,453,388	57.7%	98.7	10,319,636
Massachusetts	13,758,308	62.9%	107.6	14,806,280
Michigan	18,316,334	67.3%	115.0	21,067,302
Minnesota	9,292,863	62.7%	107.3	9,970,149
Mississippi	3,703,964	63.4%	108.5	4,017,912
Missouri	9,936,754	61.7%	105.5	10,479,029
Montana	1,508,684	70.5%	120.6	1,818,937
Nebraska	2,984,481	44.3%	75.7	2,258,978
Nevada	4,291,313	63.3%	108.3	4,647,497
New Hampshire	2,498,511	54.6%	93.3	2,330,998
New Jersey	17,987,140	62.2%	106.3	19,129,003
New Mexico	3,021,904	77.2%	132.1	3,991,767
New York	37,434,533	51.4%	87.9	32,919,506
North Carolina	12,642,368	58.6%	100.2	12,670,022
North Dakota	1,128,247	69.7%	119.3	1,345,774
Ohio	20,632,253	63.8%	109.2	22,529,371
Oklahoma	5,135,276	66.1%	113.0	5,803,469
Oregon	6,655,864	68.1%	116.4	7,748,610
Pennsylvania	21,991,553	62.5%	106.8	23,492,588
Rhode Island	1,762,489	68.6%	117.3	2,067,094
South Carolina	5,953,044	62.4%	106.7	6,350,716
South Dakota	1,367,778	59.0%	101.0	1,381,056
Tennessee	9,296,321	45.1%	77.1	7,164,057
Texas	34,222,325	50.8%	86.9	29,742,406
Utah	3,284,379	58.6%	100.2	3,289,887
Vermont	1,135,175	61.7%	105.6	1,198,281
Virginia	13,035,518	59.9%	102.4	13,344,448
Washington	10,595,950	63.0%	107.8	11,422,483
West Virginia	2,712,304	72.4%	123.8	3,358,909
Wisconsin	9,367,394	68.5%	117.2	10,974,548
Wyoming	1,149,390	61.8%	105.7	1,214,370
U.S. total	\$500,249,929	58.3%	100.0	\$500,203,080

Sources: United States Census Bureau, Census of Governments, *State and Local Government Finance Estimates, by State, 1996*, < www.census.gov/govs/www/estimate.html>; U.S. Census Bureau, Census of Governments, *State Government Finances, 1997*, < www.census.gov/govs/www/state.html> (10 August 2000); Robert Tannenwald, "Fiscal Disparity Among the States Revisited," *New England Economic Review* (July/August 1999), and e-mail communications with the author.

Step 5. Examine the distribution of ratios of debt to resources in order to identify a danger zone.

The first column of Table A-4 shows for each state the ratio of combined debt and pension fund liability (column four of Table A-1) to adjusted revenue capacity (column four of Table A-3). A "danger zone" can be defined as the ratios more than one standard deviation from the mean ratio for all fifty states. The standard deviation is the most frequently used concept for measuring the distance from the mean of a given distribution.¹⁹ For a standard deviation to be statistically meaningful, however, the distribution of measures should follow a "normal" or bell-shaped distribution. Two indicators of "normality" are a distribution's "skewness" and "kurtosis." Skewness refers to the slope of the two tails of the normal curve. When one tail is much longer than the other, the distribution is considered to be skewed. Kurtosis measures how peaked the middle of the normal curve is. A distribution with a high peak is said to have high kurtosis. A widely accepted test of normality for data is that skewness and kurtosis measures for the distribution be within a range of +2.0 to -2.0. As shown in Table A-4, the distribution of ratios in column one does not meet this test of normality.

To make the standard deviation, and hence the danger zone, more meaningful in a statistical sense, it is appropriate to express the ratio in square root form. This indicator is shown in column two of Table A-4. The square root distribution passes both tests of normality.

Using the distribution of square roots of the ratios, the danger zone can be defined as more than one standard deviation above the mean. Of the 50 states, nine had ratios (in square root form) more than one standard deviation above mean. New York State ranked fifth of the 50 states and is above the danger zone limit.

Step 6. Adjust the available resources to provide a safety margin for an economic downturn.

A state should not have so much debt that the differential impact of a national recession on that state would push it into the danger zone. The 1991 recession is an example of a national recession that hit New York State especially hard. In 1991 New York State's real personal income dropped 2.17 percent from 1990, while the other 49 states in combination fell only 0.29 percent.²⁰ In other words, New York's real personal income fell 1.88 percentage points more than the rest of the states'. An economic downturn such as the 1991 recession would change New York's relative debt burden. Based on this experience, a prudent debt policy for New York State would keep debt 1.88 percent below the "danger zone" threshold calculated in Step 5 above.

¹⁹ The standard deviation "is the most important summary measure of dispersion" of a population around a mean. See Edwin Mansfield, *Basic Statistics* (NY: W.W. Norton & Company, 1986). In a normal distribution, 68.3 percent of all the observations will lie within one standard deviation of the mean. That is, slightly over two-thirds of all cases will be within one standard deviation of the mean. Use of such a measure rests on the normative assumption that debt burdens should not place New York State in the highest one sixth of a distribution of its competitors.

²⁰ U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Economic Information System* <<http://fisher.lib.virginia.edu/reis/>> (13 September 2000).

Table A-4
Ratio of Liability to Revenue Capacity

State	Ratio	Square Root of Ratio
Rhode Island	1.751	1.323
Hawaii	1.382	1.176
Connecticut	1.335	1.155
West Virginia	1.108	1.052
New York	0.996	0.998
Oklahoma	0.983	0.991
Massachusetts	0.970	0.985
Washington	0.893	0.945
Louisiana	0.889	0.943
New Hampshire	0.809	0.900
New Jersey	0.771	0.878
Mississippi	0.758	0.871
Illinois	0.752	0.867
Maryland	0.739	0.860
New Mexico	0.648	0.805
Indiana	0.646	0.804
South Carolina	0.642	0.801
Delaware	0.612	0.782
California	0.584	0.764
Georgia	0.582	0.763
Kentucky	0.562	0.750
Oregon	0.548	0.740
Florida	0.530	0.728
Nevada	0.490	0.700
Vermont	0.489	0.699
Wisconsin	0.485	0.697
Ohio	0.481	0.694
Montana	0.416	0.645
Minnesota	0.402	0.634
Utah	0.363	0.602
Alabama	0.361	0.601
South Dakota	0.354	0.595
Maine	0.349	0.591
Texas	0.335	0.579
Kansas	0.318	0.564
Pennsylvania	0.311	0.558
Virginia	0.278	0.528
Michigan	0.246	0.496
Alaska	0.231	0.481
Tennessee	0.219	0.468
Arizona	0.210	0.459
Missouri	0.209	0.458
Idaho	0.202	0.449
Arkansas	0.191	0.437
North Carolina	0.191	0.437
Nebraska	0.190	0.436
Iowa	0.177	0.421
Wyoming	0.122	0.350
Colorado	0.095	0.309
North Dakota	0.017	0.129
Total	0.545	0.698
Standard Deviation	0.358	0.240
One Standard Deviation above mean	0.903	0.938
Skewness/standard error of skewness**	0.740	0.813
Kurtosis/standard error of kurtosis**	2.402	0.066

Sources: SPSS, Inc., *SPSS Base 8.0 Applications Guide*, p. 25; CBC Analysis.

Notes: *States in bold are in the "danger zone."

**acceptable range is between -2.0 and +2.0.

The danger zone threshold ratio identified in Table A-4 using the square root indicators was .8792. For New York State in fiscal year 1997, the adjusted revenue capacity (column four of Table A-3) was \$32.9 billion. Reducing the revenue base by 1.88 percent to allow a safety margin for a recession reduces it to \$32.3 billion. Applying the .8792 ratio to this adjusted base yields a danger zone threshold of \$28.4 billion for combined UAAL and long-term debt. Since New York had a negative UAAL, the long-term debt danger zone in 1997 was \$29.0 billion. This is well below the actual debt outstanding according to the Census Bureau data of \$33.4 billion (column one of Table A-1).

Table A-5 compares projections of the danger zone limit to projections of New York State debt based on current financial plans. Revenue capacity (column one) is projected based on growth equal to average annual growth in personal income in New York State over the 1993-1999 period (4.68 percent). Column two shows the projected danger zone limit for New York State's combined UAAL and long-term debt based on the threshold ratio (.8792) and the projected capacity in column one. The danger zone threshold for debt, excluding the UAAL, is shown in column three. Column four shows the debt threshold on a basis equivalent to the way debt is projected in State financial plans. The specific adjustment is from "net debt" as reported by the Census Bureau to "State-supported debt" as projected in State financial plans. The conversion is based on the ratio of the two figures in 1997 (or 1.007). The projection of actual debt exceeds the projection of the danger zone in all years compared.

Table A-5
Projected New York State Debt Outstanding, and Debt Danger Zone, Fiscal Years 1997-2005
(dollars in thousands)

Fiscal Year	Revenue Capacity With Recession Adjustment*	Net Debt and Pension Liability Danger Zone**	Net Debt Danger Zone	State-Supported Debt Danger Zone	Actual State-Supported Debt	Actual Amount Above Danger Zone
1997	32,301,221	28,399,785	28,972,222	29,168,194	33,130,000	3,961,806
1998	33,700,069	29,629,676	30,202,113	30,406,404	34,247,000	3,840,596
1999	35,463,834	31,180,408	31,752,845	31,967,625	35,842,000	3,874,375
2000	37,568,187	33,030,592	33,603,029	33,830,324	36,795,709	2,965,385
2001	39,326,378	34,576,424	35,148,861	35,386,612	38,029,865	2,643,253
2002	41,166,853	36,194,601	36,767,037	37,015,734	39,358,873	2,343,139
2003	43,093,462	37,888,508	38,460,945	38,721,099	40,685,580	1,964,481
2004	45,110,236	39,661,690	40,234,127	40,506,275	41,950,946	1,444,671
2005	47,221,395	41,517,857	42,090,294	42,374,997	43,006,997	632,000

Sources: New York State Division of the Budget, Capital Program and Financing Plan Update, August 2000;

Notes: *The capacity forecast for NYS is based on the average annual growth in personal income, 1993-1999. **Assumes pension liability remains at the value of the most recently published amount.

APPENDIX B

Calculation of an Affordability Limit for City Debt

This appendix describes the data sources and methods used in applying the affordability approach described in the report to city governments and to New York City in particular. The basis for the comparative analysis is the ten largest cities in the United States based on their population. These cities are identified in Table B-1.

Step 1. Identify the amount of relevant long-term debt.

The appropriate and available measure of debt for cities is "net direct and overlapping debt." This approach to measuring a locality's debt was developed by the National Council on Governmental Accounting (NCGA), the predecessor of the Governmental Accounting Standards Board.²¹ This approach seeks to make comparisons of cities meaningful by recognizing that in different areas local government responsibilities are divided differently among types of local governments. For example, while New York City has a consolidated local government, other areas have independent school districts, separate counties, fire districts and other overlapping jurisdictions that each may borrow independently. To measure and compare the local debt burden on the area's residents it is necessary to combine all of the debt issued by the overlapping local jurisdictions. This is the concept behind the GASB indicator. The recommended procedure allocates debt to each municipality based on the municipality's share of the population of the overlapping jurisdiction. For example, Chicago is allocated a share of Cook County's debt based on the city's share of the county's population.

Net direct and overlapping debt does not include revenue bond debt such as that of independent authorities (for example, transit and water districts). However, county and school district debt, which is general obligation bond debt, is included. Thus, the measure represents the total tax-supported debt burden on a city's residents from all overlapping jurisdictions.

For New York City, net direct and overlapping debt is the same as the "Combined Net City Debt" reported in the New York City Comptroller's annual financial report.²² For New York City there is no "overlapping debt" to allocate because the City funds the public schools, and there are no overlapping counties. The New York City measure includes the following types of debt: General Obligation, Municipal Assistance Corporation, Samurai Funding Corporation, Transitional Finance Authority, and City Guaranteed. The measure for New York City and all cities uses net, not gross, debt outstanding. Net debt is gross debt reduced by amounts available for debt repayment in debt service and sinking funds.

²¹ The specific standard is from NCGA Statement 1: Governmental Accounting and Financial Reporting Principles, Paragraph 161.

²² City of New York, *Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 1998*, page xlvi.

Column one of Table B-1 shows the net overlapping debt outstanding for the ten cities. The data are taken from annual financial reports of each of the cities.²³

Table B-1
The Ten Largest U.S. Cities Long-Term Debt and Pension Liability, Fiscal 1998
(dollars in thousands)

City	Net Direct and Overlapping Long-Term Debt	Unfunded Pension Liability	Adjusted Unfunded Pension Liability	Combined Debt and Unfunded Pension Liability
Chicago	\$6,459,526	3,509,232	\$2,179,233	\$8,638,759
Dallas	1,176,179	3,305,000	\$2,052,405	\$3,228,584
Detroit	1,730,188	66,900	\$41,545	\$1,771,733
Houston	2,832,375	17,500	\$10,868	\$2,843,243
Los Angeles	5,415,496	294,700	\$183,009	\$5,598,505
New York	32,304,000	3,355,100	\$2,083,517	\$34,387,517
Philadelphia	2,988,863	2,606,514	\$1,618,645	\$4,607,508
Phoenix	1,841,807	(167,582)	-\$104,068	\$1,737,739
San Antonio	2,151,424	46,420	\$28,827	\$2,180,250
San Diego	1,296,160	105,560	\$65,553	\$1,361,713

Sources: City of New York, Office of the Comptroller, *Fiscal Year 2000 Annual Report of the Comptroller on Capital Debt and Obligations*, December 1999; Fiscal Year 1998 Annual Financial Reports for the cities of Chicago, Dallas, Detroit, Houston, New York City, Philadelphia, Phoenix, San Antonio and San Diego; Official Statement for City of Los Angeles, June 30, 1998.

Step 2. Adjust long-term debt to include unfunded pension liabilities.

Like long-term debt, pension liability represents a potential burden on future taxpayers and should be included in an affordability measurement. For cities, a measurement of unfunded pension liability is available in the annual financial report. GASB Statement 27 requires cities to include as "required supplementary information" a "schedule of funding progress" for all its pension systems.²⁴ These schedules include the dollar value of the unfunded (or surplus if overfunded) actuarial accrued liability (UAAL) of each pension system. For each city, unfunded

²³ City of Chicago, *Comprehensive Annual Financial Report for the Year Ended December 31, 1998*, "Computation of Direct and Overlapping Debt, page 133; City of Los Angeles, *Official Statement*, Table 37, June 30 1998; City of Dallas, Texas, *Comprehensive Annual Financial Report for the Fiscal Year Ended September 30, 1998*, Table 13, "Direct and Overlapping Debt," p. 160; City of Detroit, *Comprehensive Annual Financial Report for the Year Ended June 30, 1998*, Exhibit AA-10, "Direct and Overlapping Debt" p. 173; City of Houston, Texas, *Annual Financial Report for the Fiscal Year Ended June 30, 1998*, "Computation of Direct and Overlapping Debt," p. 176; City of Phoenix, *Annual Financial Report*, July 1, 1998, Table 18, "Net Direct and Overlapping Bonded Debt," p. 198; City of San Diego, California, *Comprehensive Annual Financial Report, Fiscal Year Ended June 30, 1998*, Table 11, "Schedule of Direct and Overlapping Bonded Debt," p.144; City Of Philadelphia, *Annual Financial Report for the Fiscal Year Ended June 30, 1998*; City of San Antonio, *Annual Financial Report*. The CBC staff thank Michael Leinwand, Budget Chief, and Peter Flynn, Assistant Budget Chief, of the New York City Comptroller's Office for providing copies of these reports.

²⁴ Governmental Accounting Standards Board, *Governmental Accounting and Financial Reporting Standards* (CT: GASB, 1997).

or surplus liability is summed for all systems yielding a total UAAL. This total is shown in column two of Table B-1. Note that Dallas has more unfunded pension liability than long-term debt, and for Philadelphia the pension liability figure is close to the long-term debt figure.

An adjustment is made to total city UAAL to take into account the division of fiscal responsibility and risk between the employer and employee. Consistent with the method used for the states, 62.1 percent of the UAAL is attributed to the city government as employer (see Appendix A, Step 2). This "adjusted unfunded pension liability" is shown in column three of Table B-1. The combined adjusted pension liability and long-term debt are shown in column four of Table B-1.

Step 3. Identify the resources available in the city to repay debt.

For cities, the Representative Revenue System is not a feasible way to measure the available resource base. Many economic base data simply are not available for individual cities. Instead, for the comparison of major cities, revenue capacity is defined as "gross city product" (GCP). The U.S. Bureau of Economic Analysis (BEA) develops estimates of gross state product (GSP) for the 50 states. Gross state product is a measurement of the economic output of a state, similar to national gross domestic product. GSP attempts to measure the "value added" by a state's economic base (outputs less inputs).

Gross City Product (GCP) is regularly estimated for New York City by the City Comptroller and the Mayor's Office of Management and Budget. However, an equivalent measure is generally not available for other cities. Fortunately, a recent report of the New York City Independent Budget Office (IBO) estimated GCP for the ten largest U.S. cities, using a gross state product methodology.²⁵ These IBO estimates of GCP for the ten cities for calendar year 1997 are shown in column one of Table B-2.

Step 4. Adjust the available resources for the division of responsibility between the state and its localities.

Some states place more responsibility on their localities than do others, and this is relevant to how states and localities share available resources. The Index of State Fiscal Responsibility, described in Appendix A, reflects each state's share of total state and local revenue (excluding intergovernmental aid). The inverse of this computation is the share of each state's revenue capacity that its localities have available. This Index of Local Fiscal Responsibility is shown in column two of Table B-2.

The revenue capacity in column one is weighted by the Index to take into account the different state-local relations in the cities. For New York City, the effect of this adjustment is to increase its available resources by 17 percent. The adjusted resource base is shown in column three of Table B-2.

²⁵ Independent Budget Office, *Taxing Metropolis: Tax Effort and Tax Capacity in Large U.S. Cities* (NY: IBO, February 2000).

Table B-2
Gross City Product of Ten Largest Cities, 1997
(dollars in thousands)

	Gross City Product	Index of Local Fiscal Responsibility*	Adjusted Gross City Product**
New York	\$365,561,045	1.17	\$427,638,308
Los Angeles	140,472,356	1.07	150,468,308
Chicago	128,978,037	1.13	146,385,701
Houston	120,910,098	1.18	143,194,856
Dallas	85,479,705	1.18	101,234,341
San Diego	44,388,567	1.07	47,547,238
Phoenix	39,610,990	1.11	44,023,545
San Antonio	33,909,147	1.18	40,158,891
Philadelphia	36,694,104	0.90	33,167,831
Detroit	24,587,674	0.79	19,388,323

Sources: New York City Independent Budget Office, *Appendix to Taxing Metropolis: Tax Effort and Tax Capacity in Large U.S. Cities* (NY: IBO, February 2000), U.S. Census Bureau, *Census of Governments, State and Local Government Finance Estimates, by State, 1996*, < www.census.gov/govs/www/estimate.html> (10 March 2000).

Notes: *Index of Fiscal Responsibility is defined as the share of state-local revenue accounted for by all localities in the state, indexed to the national average share for all 50 states. **Gross city product multiplied by the Index of Fiscal Responsibility.

Step 5. Examine the distribution of ratios of debt to resources in order to identify a danger zone.

For each of the ten cities the ratio of combined debt and UAAL (column four of Table B-1) to adjusted gross city product (column three of Table B-2) is shown in column one of Table B-3. A danger zone can be defined as a debt ratio more than one standard deviation from the mean ratio for all large cities. The standard deviation is the most frequently used concept for measuring the distance from the mean of a given distribution.²⁶ For a standard deviation to be used, however, the distribution of city observations should follow a normal distribution. Two indicators of normality are a distribution's "skewness" and "kurtosis." (Refer to Appendix A for a definition of these terms.) Based on these indicators the ratios do not fall in a pattern that closely resembles a normal distribution. Expressing the ratios in logarithmic form makes the

²⁶ The standard deviation "is the most important summary measure of dispersion" of a population around a mean. See Edwin Mansfield, *Basic Statistics* (NY: W.W. Norton & Company, 1986). In a normal distribution 68.3 percent of all of the measurements will lie within one standard deviation of the mean. That is, slightly over two-thirds of all cases will be within one standard deviation of the mean. Use of such a measure rests on the normative assumption that debt burdens should not place New York City in the highest one sixth of a distribution of its competitors.

distribution more closely follow a normal distribution, and these log measures are shown in column two of Table B-3.

Based on the distribution of logs, the danger zone threshold can be defined as more than one standard deviation above the mean. This is the equivalent of 8.68 percent of adjusted gross city product. Of the ten cities, two had ratios above the threshold—Detroit and Philadelphia. New York City ranked third, operating in fiscal year 1998 with a ratio of 8.04 percent.

Rank City	Ratio	Log of Ratio
1 Philadelphia	13.89	-197.39
2 Detroit	9.14	-239.27
3 New York	8.04	-252.06
4 Chicago	5.90	-283.00
5 San Antonio	5.43	-291.34
6 Phoenix	3.95	-323.21
7 Los Angeles	3.72	-329.13
8 Dallas	3.19	-344.54
9 San Diego	2.86	-355.30
10 Houston	1.99	-391.93
Mean	5.81	-300.72
Standard Deviation	3.46	56.35
Limit	9.27	-244.37
Skewness/standard error of skewness*	1.92	0.51
Kurtosis/standard error of kurtosis*	1.18	-0.40

Sources: SPSS, Inc., *SPSS Base 8.0 Applications Guide*.
 Note: *Acceptable range is from -2.0- to +2.0.

Step 6. Adjust the available resources to provide a safety margin for an economic downturn.

A city should not have so much debt that the differential impact of a national recession would push it into the danger zone. The 1991 recession is an example of a national recession that hit New York City especially hard. In 1991 New York City real personal income dropped 2.03 percent from 1990, while the rest of the country fell only 0.36 percent.²⁷ In other words, New York City's real personal income fell 1.67 percentage points more than in the rest of the country. An economic downturn such as the 1991 recession would change New York City's relative debt burden. Based on this experience, a prudent debt policy for New York City would keep debt 1.67 percent below the danger zone threshold calculated in Step 5 above.

²⁷ U.S. Department of Commerce, Bureau of Economic Analysis, *Regional Economic Information System* <<http://fisher.lib.virginia.edu/reis/>> (13 September 2000).

The danger zone ratio identified in Table B-3 using the log indicators was 8.68. For New York City in fiscal year 1998, the adjusted revenue capacity (column four of Table B-2) was \$427.6 billion. Reducing the adjusted gross city product base by 1.67 percent to allow a safety margin for a recession reduces it to \$420.5 billion. Applying the 8.68 ratio to this adjusted base yields a "danger zone" limit of \$36.5 billion for combined UAAL and long-term debt. Since New York had a UAAL of \$2.1 billion, the long-term debt danger zone in 1998 was \$34.4 billion. This is \$2.1 billion above the actual net debt outstanding of \$32.3 billion (column one of Table B-1).

Table B-4 compares projections of the "danger zone" limit to projections of New York City debt. Revenue capacity (column one) is projected based on the City's current forecast of personal income for calendar years 2000 through 2004. Column two shows the projected danger zone limit for New York City's combined UAAL and long-term debt based on the threshold ratio (8.68) and the projected capacity in column one. The danger zone threshold for debt, excluding the UAAL, is shown in column three. The projection of actual debt is lower than the projection of the "danger zone" threshold in all years.

Table B-4
Projected New York City Debt Outstanding, and Debt Danger Zone Threshold, Fiscal Years 1998-2005
(dollars in thousands)

Fiscal Year	Revenue Capacity With Recession Adjustment*	Net Debt and Pension Liability Danger Zone**	Net Debt Danger Zone	Actual Net City Debt***	Actual Amount Below Danger Zone
1998	\$420,496,748	\$36,516,997	\$34,434,000	\$32,304,000	(2,130,000)
1999	448,827,481	38,977,309	36,424,000	34,633,000	(1,791,000)
2000	476,814,810	41,407,799	38,854,000	36,641,000	(2,213,000)
2001	509,094,675	44,211,064	41,658,000	37,778,000	(3,879,000)
2002	527,810,128	45,836,361	43,283,000	41,223,000	(2,060,000)
2003	546,525,582	47,461,658	44,908,000	42,907,000	(2,001,000)
2004	569,705,272	49,474,641	46,921,000	44,256,000	(2,666,000)

Notes: *Revenue capacity is forecast assuming it grows at the same rate as personal income as projected in the City's Adopted Budget.

**This calculation assumes unfunded pension liability remains at the fiscal year 1999 amount. Changes in the funds' actuarial assumptions and revaluation of assets for fiscal year 2000 will alter this assumption.

***The 1998 and 1999 actual is from the *Comprehensive Annual Financial Report of the Comptroller for the fiscal year ended June 30, 1999*. Subsequent years projected based on MAC projections from City of New York, Office of Management and Budget, "Statement of Debt Affordability," April 18, 2000, Schedule C; all other net debt projected by applying growth rates in New York State, Office of the State Comptroller, *How Debt Finances New York City's Capital Program*, March 2000, to the 1999 actual.