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THE EFFECTIVENESS OF DEBT LIMITS ON STATE AND LOCAL GOVERNMENT BORROWING

By William E. Mitchell

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TABLE OF CONTENTS

Foreword 5

I. Introduction and Summary 7

II. The Origin of Legal Debt Limitations 10

- III. Financial Innovations To Circumvent Legal Debt Limitations 17 Shifting Financial Responsibility 17 Nonguaranteed Debt 22 Reasons for Issuing Nonguaranteed Debt 23 Trends in Nonguaranteed Financing 24 The Interest Cost of Nonguaranteed Financing 28
- IV. The Use of Nonguaranteed Debt To Circumvent Legal Debt Restrictions 31 Statistical Testing Procedures 33 State Government Legal Debt Provisions 35 Local Government Legal Debt Provisions 40 Combined State-Local Comparisons 42 Summary 44
- V. Policy Conclusions 46 A Policy Proposal 48 Appendix: Statistical Tables 50 Selected References 53 Bulletins 55

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List of Tables

Table

- 1. State and Local Government Debt Outstanding, 1820-1932 13
- 2. Relative Shares of Long-Term Debt Outstanding, by Type of Government, Selected Years 15
- 3. Statutory Authority Debt Issued, 1957-1964 20
- 4. Post-World War II Local Government Defaults, by Purpose of Issue and Type of Security 30
- 5. Estimated Additional Interest Costs from State Government Nonguaranteed Bonds Issued, 1956-1959 31
- State Government Statistical Data for Restrictiveness of Legal Debt Provisions 39
- Local Government Statistical Data for a "Tri-Classification" of Restrictiveness of Legal Debt Provisions 43
- Combined State and Local Government Statistical Data for an "Aggregate Tri-Classification" of Restrictiveness of Legal Debt Provisions 45

List of Figures

Figure

- 1. Nonguaranteed Debt Issued, Percentage of Total Debt Issued, 1926-1966 25
- Total Dollar Volume of State and Local Government Long-Term Debt Issued, 1892-1966 27

Appendix Tables

Table

A1. State Government Debt/Capacity Indexes and Percentage

Nonguaranteed Debt Outstanding, by Type of Legal Debt Limitation, 1962 50

- A2. Local Government *Debt/Capacity* Indexes and Percentage Nonguaranteed Debt Outstanding, by States and by Degree of Restrictiveness of Legal Debt Provisions, 1962 51
- A3. Total State and Local Government *Debt/Capacity* Indexes and Percentage Nonguaranteed Debt Outstanding, by States and by an "Aggregate Tri-Classification," 1962 52

Foreword

This study appraises the effectiveness and some of the economic effects of state and local legal debt limitations. Professor Mitchell examines the origins of contemporary debt-limitation laws, the various legal and administrative devices that have been employed to get around the restrictions, and the degree of success in bypassing those laws. He then evaluates some economic implications of the debt-issuance practices that have evolved as a result of legal debt limitations.

The principal finding of this study is that the debt restrictions were not significantly changed—by repeal or revision of the laws—when subsequent demand pressures exceeded debt limitations. Instead, financial innovations—*i.e.*, "extralegal" methods—were employed to bypass the laws. These extralegal methods in effect served to repeal the restrictive laws, but not without certain political and economic costs and other consequences. Among the circumventing devices examined are the creation of special districts and statutory authorities and the use of nonguaranteed debt. The use of these extralegal devices not only evades debt limitations but also shifts the risk of default from taxpayers to bondholders and therefore involves additional interest costs.

The failure of the electorate or government officials to repeal the restrictive laws may be attributed to ignorance of the additional cost of nonguaranteed financing relative to the cost of repeal and to ignorance of the absence of marginal benefits from the restrictions. In practice state and local governments pay the higher interest rates on nonguaranteed debt and have not been restrained in their total borrowing by the restrictions on general debt. At the same time, however, they seldom allow default on the nonguaranteed debt, even though no legal obligation exists.

If the primary reason for legal debt limitations is protection for current and future taxpayers against "overzealous" politicians, then this objective has not been achieved. On a statewide basis, governmental units with relatively restrictive debt limitations have issued just as much debt as less restricted or unrestricted units. Debt limitations have merely changed the composition and increased the cost of financing capital expenditures. Viewed differently, the fact that relatively unrestricted states do not, on the average, abuse the debt financing instrument suggests that debt limitations are unnecessary. These limitations have simply forced the use of the higher cost nonguaranteed instrument for inappropriate reasons.

Professor Mitchell suggests that full borrowing power be restored to state and local legislatures. This proposal would not give governments any more ability to issue debt than they already possess, but it would increase the alternatives available to governmental units in the formulation of a sound and desirable debt policy; it would shift the focus of the safeguarding functions from formal, inflexible laws to legislative "good sense." If the adoption of a policy to allow complete freedom to borrow is politically infeasible, a second-best solution involving some diminution of legal restraints is favored as a movement in the right direction.

JOSEPH H. TAGGART, Director

The Effectiveness of Debt Limits on State and Local Government Borrowing

The Effectiveness of Debt Limits on State and Local Government Borrowing

I. Introduction and Summary

The principal causes of state and local government debt defaults have been overextension and perhaps ill-conceived capital projects, combined with financial crises—1837-1839 for state governments; the 1870's, 1890's, and the 1930's for local governments. Although defaults occur during most years, it was the huge proportions of them, caused by or coinciding with periods of financial crises, that eventually resulted in the enactment of legal limitations on general obligation debt. Section II briefly reviews the historical reasons for contemporary state and local government legal debt limitations.

Legal debt restrictions appear variously as (1) prerequisites for borrowing, (2) controls on the dollar amount of debt that could be issued or outstanding, and (3) stipulations on the terms and conditions of borrowing. The characteristics of these limitations were formulated in nineteenth-century legislation; they were augmented and increased in scope during the early twentieth century.

Compared with present-day conditions, debt provisions were framed with reference to small annual government budgets, little demand for public goods, and a low price level. As state and local government expenditures—particularly capital expenditures increased, government officials sought methods of bypassing the impinging debt limitations. The principal finding of this study is that the debt restrictions were not significantly changed (by repeal or revision of the laws) when subsequent demand pressures exceeded debt limitations. Instead, financial innovations—*i.e.*, "extralegal" methods—were employed to bypass the laws. The

7

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In section III we discuss the two principal types of political methods used to bypass debt limitations. Early attempts at circumvention usually took the form of shifting the financial responsibility for desired projects to less restricted or unrestricted governmental units within the state. This innovation included the creation of a new type of governmental unit, the *special district*. Statutory authorities and lease-financing techniques were two post-World War II variations of this financial innovation. In section III evidence is presented to demonstrate that the creation of special districts and statutory authorities is related, in part, to efforts to circumvent debt limitations.

It was the heavy demand for funds to finance sharp increases in state and local government expenditures after World War II, together with the still-existing legal limitations on general obligation debt, that caused the widespread adoption of another circumventing instrument: unrestricted nonguaranteed debt.¹ Existing debt limitations were also circumvented by the aforementioned shift of the responsibility for financing public functions to relatively unrestricted governmental and "quasigovernmental" units.

But the use of nonguaranteed debt cannot be attributed entirely to efforts to evade restrictive debt limitations. Taxpayers may not be willing, even if able, to assume the risk of default of particular public facilities by issuing general obligations. By issuing

Nonguaranteed bonds are not considered debt under the wording of the several state constitutions, as interpreted by the courts. See section III.

nonguaranteed debt, the risk of default is shifted from taxpayers to bondholders (*i.e.*, the "locus-of-risk thesis").² In the event of financial difficulties, bondholders have recourse only to the assets of the particular project in question. By issuing nonguaranteed debt, taxpayers benefit by avoiding potential tax payments to satisfy the interest/principal liabilities of a defaulted project. Presumably the cost incurred is the higher interest yield the less secured bondholders will require. Section IV examines the specific relationship of state and local government debt limitations to the level and composition of general obligation and nonguaranteed debt financing. We test the "restriction hypothesis": that legal debt limitations, imposed on the issuance of general obligation debt, will result in relatively restricted states issuing less general obligation debt, but sufficiently more nonguaranteed debt so as to *offset* the effects of legal debt limitations.

There are numerous loopholes to the laws regulating the issuance of general obligation debt which enable governmental units to issue general obligation debt in excess of specific limitations. Constitutional amendments and special referendums permit them to exceed the limits for specific issues. Many state laws exempt certain types of projects (e.g., utilities) from the debt-limitation laws. Moreover, in some cases, the percentage limits may be high enough so as not to impinge on general obligation financing. Finally, as stated above, governments may bypass the laws by shifting financial responsibility to less restricted units that are able to issue general obligation debt.

Thus it is an empirical question whether existing debt limitations have indeed restricted general obligation debt issuance. The critical question is: what debt experience would have resulted in the absence of debt limits? We cannot reconstruct such a hypothetical world, but we can examine similarly situated governments that have different degrees of restrictiveness of debt limits and

¹ General obligation bonds are debt for which the credit of the governmental unit, implying the power of taxation, is unconditionally pledged. It includes debt payable initially from specific taxes or nontax sources, but representing a liability payable from any other available resources if the pledged sources are insufficient.

Nonguaranteed or "revenue" bonds are debt payable solely from pledged specified sources—e.g., from earnings of revenue-producing activities (university and college dormitories, toll highways and bridges, electric power projects, public buildings, and school building authorities, etc.), or from specific nonproperty taxes. It includes only debt that does not constitute an obligation against any other resources of the political unit if the pledged sources are insufficient. See United States Bureau of the Census, Compendium of State Government Finances, annual.

² A. James Heins, Constitutional Restrictions Against State Debt (Madison: University of Wisconsin Press, 1963), pp. 56-60.

compare (correlate) this characteristic to their respective debtissuance practices.

Our statistical evidence suggests that the above loopholes or "exemptions" have not completely offset the restrictive effects of legal debt limitations.³ Total state and local *general obligation* debt outstanding is lower in states with more restrictive debt limitations.

We then test whether severely restricted states rely on *nonguaranteed* debt relatively more heavily than less restricted states (*i.e.*, is some nonguaranteed debt issuance unrelated to locus-of-risk considerations?). The evidence indicates that both state and local governments use nonguaranteed debt as a substitute for restricted general obligation debt purposes.

Finally, we examine the *extent* of this substitution. Does nonguaranteed debt substantially offset the legal restrictions on general obligation debt? We find that states are not differentiated in their total (general obligation plus nonguaranteed) debt experience when related to relative degrees of restrictiveness of legal debt limitations. These results fully corroborate the "restriction hypothesis."

In section V we examine some of the policy implications suggested by the foregoing findings. The question whether existing debt-limitation laws should be retained, expanded, or repealed turns on the political evaluation of the contemporary purpose or intent of these laws. For most purposes it seems that the community would benefit from a reduction, if not complete abolition, of legal debt limitations.

II. The Origin of Legal Debt Limitations

During the 1820's and 1830's state governments began for the first time to issue long-term debt in substantial quantities (see Table 1).⁴ The purpose of these debt issues was to finance public works, principally those related to transportation. The first such project to be financed in this way was the Erie Canal in New York. The subsequent success of this venture induced other states to construct canals and later highways and railways.⁵

In the late 1830's, several factors combined to place a number of state governments in financial difficulties. Some of their transportation ventures proved to be financially unsuccessful or only marginally successful. The 1837-1839 depression, protracted beyond expectations, provided additional pressure that eventually led the weak governmental units into default and debt repudiation. In addition, many states had only partially completed projects at the beginning of the depression; revenues had not yet materialized but debt-servicing costs had already begun. In spite of the economic downturn, these states continued construction. There was a general consensus that the economic downturn would be short-lived, and the result was that the state borrowing and construction did not abate with the beginning of the 1837-1839 depression. Bond sales finally reached a peak during 1838 and remained high until late 1839.⁶

With renewed economic decline in 1839-1840, project revenues fell while the high fixed-cost requirements, including debt-servicing costs, remained stationary. Some of the state governments at that time found that they were hopelessly overextended. They were unable (or unwilling) to meet these project deficits with general fund revenues. Nine state governments defaulted and eventually four of these governments repudiated portions of their outstanding debt. Many other states were having difficulty servic-

³ The statistical procedure employed was to rank ordinally governmental units according to their relative debt-restriction characteristics and to correlate these "dummy" variables with debt-outstanding data.

⁴ Prior to 1800, state debt was represented almost entirely by paper money or certificates incurred to meet war costs or to cover operating deficits. After 1820, states began to borrow for "internal improvements." See A. M. Hillhouse, Municipal Bonds: A Century of Experience (New York: Prentice-Hall, Inc., 1936), pp. 31-36; B. U. Ratchford, American State Debts (Durham, N.C.: Duke University Press, 1951), pp. 73-79.

⁵ See Hillhouse, op. cit., chap. 2; Ratchford, op. cit., chap. 4; Heins, op. cit., chap. 1; James A. Maxwell, Financing State and Local Governments (Washington, D.C.: Brookings Institute, 1965), chap. 8.

⁶ Ratchford, op. cit., p. 80.

The Effectiveness of Debt Limits on State and Local Government Borrowing

ing their outstanding debts. Fifty-three percent of state government debt outstanding was in default during 1842-1843. The ultimate dollar loss of principal and interest amounted to approximately 6 percent of state government debt outstanding.⁷ The broad political reaction to this experience was the enactment of legislation placing permanent restrictions on the debt-incurring powers of state legislatures.

About the same time-specifically in the early 1820'slocal governments also began issuing modest amounts of longterm debt. In contrast to state governments, however, there were few defaults in the 1838-1841 period, principally because local debt outstanding was quite small, representing only 14 percent of state debt outstanding (see Table 1).

In the 1860's and 1870's, local governments began issuing debt to aid and finance railroads and for such local improvements as waterworks, streets, and schools. The state pattern of overextension of debt and inefficiency in capital projects was repeated. Local government defaults (principally municipality railroad-aid bonds) during the depression period 1873-1879, amounted to \$100-\$150 million out of a total of \$750 million outstanding— 13 to 20 percent of the total.⁸ No actual dollar-loss estimate is available, but if the dollar loss corresponded with loss experience during comparable periods, we would expect a loss figure of \$10-\$15 million.⁹ These defaults led to nearly universal restrictions

⁸ See Carl H. Chatters (ed.), Municipal Defaults: Their Prevention and Adjustment (Chicago: Public Administration Service, 1933), p. 10; Hillhouse, op. cir., pp. 15-17.
 ⁹ Estimated dollar loss for state governments (1837-1841) and local government (1930-1936) was approximately 10 percent of the volume of technical defaults.

TABLE 1. State and Local Government Debt Outstanding, 1820-1932 (millions of dollars)

	Year	State	Local
	1820	\$ 6*	\$ n.a.
	1830	32*	n.a.
	1840	175	25
	1850	190	n.a.
	1860	257	200
	1870	353	516
	1880	275	821
	1890	211	926
	1902	239	1,630
	1912	346	3,476
	1922	936	7,754
	1932	2,374	15,216
*Estimated.			

n.a.==not available.

Source: A. M. Hillhouse, Municipal Bonds: A Century of Experience (New York: Prentice-Hall, Inc., 1936), p. 36.

being placed on local government debt issuance powers by state legislatures. These restrictions were usually stated in terms of a debt-to-property ratio and principally served to restrict municipalities.

During the same decade (1870's), Southern state governments also began to default on and repudiate outstanding debt.¹⁰ The reasons for their financial difficulties are attributed to the Civil War and Reconstruction, to debt burdens carried over from pre-Civil War days that were too large relative to their postwar financial condition, and to further overextension of public facility projects, especially railroad-aid bonds. (Local government defaults were not significantly related to post-Civil War problems.)

⁷ The states that repudiated portions of their outstanding debt were Mississippi (\$7 million), Florida (\$3.9 million), Arkansas (\$0.5 million), and Michigan (\$2.3 million). Indiana, Illinois, Maryland, Pennsylvania, and Louisiana temporarily defaulted but eventually resumed interest and principal payments. Pennsylvania and Maryland bondholders were eventually repaid all accrued interest, suffering only some dollar loss of interest due on accrued interest. Illinois, Indiana, and Louisiana bondholders mere pal payment losses for a period of years. In the 30 to 40 years following the Civil War, however, these Louisiana bondholders were scaled down to 50 to 60 cents on the dollar through several "reorganization" plans. Indiana bondholders initially lost \$998 thousand in interest (principally on canals) and years later lost at least 50 percent of the principal due. A conservative estimate of dollar losses would be \$15 million. See Ratchford, op. cit., pp. 98-120.

¹⁰ The states involved were Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Arkansas, and Tennessee.

During the 1870-1880 period, Southern state government repudiation amounted to an estimated \$155.5 million,¹¹ 44 percent of total state government debt outstanding at the beginning of the period. If we compare the peak debt outstanding for each of these states during the 1870-1880 period with the subsequent dollar loss via repudiation and scaling undertaken by 1880, the dollar loss amounted to 59 percent of the entire debt outstanding of these ten Southern states.

The next significant default period for *local* government coincided with the panic and depression of 1893. The percentage of defaults to outstanding debt was not as great as in the previous period. The significant feature of this default period—a prognosis of future problems in the 1930's—was that although railroad-aid bond defaults still predominated, the relative importance of general improvement bond defaults increased. In addition, the incidence of defaults was more widely spread geographically.¹²

Both state and local governmental units experienced rapidly rising expenditures during the 1902-1932 period. States sought especially to meet the demands for greatly improved roads created by rapid industrial change and the increased use of automobiles and trucks. They also assumed other responsibilities, such as higher education, conservation, and agricultural relief, that could not be met by local government. State government debt outstanding increased nearly ten-fold from 1902 to 1932 (see Table 1).

Local government debt during this period grew at nearly the same rate. Initially, municipalities were predominant in issuing debt among local governmental units. Much of the increased demand for public services supplied by municipalities can be attributed to urban growth-water supply, streets, sewage disposal, traffic, playgrounds, school systems, and government machinery.¹⁸

But municipal debt limitations, enacted after 1873, apparently restricted the ability of municipalities to finance these pub-

¹¹ See R. P. Porter, "State Debts and Repudiation," International Review (November 1880); William A. Scott, The Repudiation of State Debts (New York: Thomas Y. Crowell Company, 1893), chaps. 2-6.

12 Hillhouse, op. cit., p. 40.

13 Ibid., p. 37.

lic facilities. Thus from 1913 to 1932 financial responsibility was progressively shifted from municipalities to other units of local government—school and special districts and, to a lesser extent, counties (*see* Table 2).¹⁴ Debt limitations, therefore, did not appear to be effective in impeding the growth of *total* state and local debt.¹⁵

TABLE 2. Relative Shares of Long-Term Debt Outstanding, by Type of Government, Selected Years

- 1	Ρ	PT	CP	m	Ŀ١.
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			Lo	cal Governme	nt	
Years	State	County	Munici- pality	Township	School District	Special District
1963	27	07	32	02	17	14
1957	27	07	36	02	18	11
1951	24	07	44	01	12	11
1946	15	09	51	na	08	17
1941	17	10	50	01	09	13
1932	14	13	51	02	11	08
1922	12	13	57	01	10	07
1913	09	09	77	02	03	01
1902	12	09	73	03	02	negligibl

Source: William E. Mitchell, "The Use of Nonguaranteed Debt To Circumvent State and Local Government Legal Debt Limitations" (unpublished Ph.D. dissertation, Department of Economics, Duke University, 1967), p. 19.

Financial difficulties of local governments recurred during the depression of the 1930's; Arkansas was the only *state* government that defaulted during this period. It is estimated that by the mid-1930's (as in the 1870's) 10 percent of state and local government debt outstanding was in default. In terms of total volume, however, this wave of defaults was ten times larger than the 1870 period (\$100-\$150 million for the earlier period versus approximately \$1.5 billion in the 1930's).¹⁶

14 This shift of financial responsibility to school and special districts was also partly due to the desire to obtain the advantages of horizontal integration of local government functions. See also note 21, section III.

¹⁵ Maxwell, op. cit., p. 180. ¹⁶ Hillhouse, op. cit., pp. 30, 321-60. During this financial crisis, debt defaults occurred in all types of local governmental units, regardless of size. Defaults characterized both general and special obligation debt.¹⁷ All geographic areas of the country were affected. Particularly hard hit were obligations stemming from: (1) special assessment districts, particularly the more speculative varieties—reclamation, levee, irrigation, and drainage districts; (2) one-industry towns; and (3) real estate boom towns. As a result of these widespread financial difficulties of local governments, additional and more inclusive debt-limitation legislation was enacted.

The pattern of the origins of state and local legal debt limitations thus appears to be a function of both economic and political variables. The principal economic factors causing variation are: (1) reliance on debt to finance rapidly rising expenditures, especially capital facilities;¹⁸ (2) defaults during subsequent economic crises by overextended political units.¹⁹ The principal political variable is the enactment of legal debt restrictions on various units as a result of debt defaults. Contemporary legal debt limitations are thus largely

18 Note that governmental units can alternatively finance capital expenditures internally (principally through tax revenue) or through intergovernmental revenues (e.g., federalstate aid). Typically, under "normal" conditions, state and local governments finance 50-70 percent of capital formation by methods other than debt issues (state governments rely less on debt financing than local governments). But during periods of rapidly rising capital expenditures, the relative reliance on debt financing correspondingly increases. Once capital expenditures stabilize at a new, higher level, the relative reliance on debt financing falls back to the "normal" range. This relationship is also operative, in reverse, during periods of rapidly falling capital expenditures. Most likely the other sources of capital financing are less elastic, in the short run, than debt financing. On an overall basis, 92 percent of the year-to-year variation in debt financing can be associated with variation in capital expenditures. See William E. Mitchell, "The Use of Nonguaranteed Debt To Circumvent State and Local Government Legal Debt Limitations" (unpublished Ph.D. dissertation, Department of Economics, Duke University, 1967), pp. 9-12. See also Morris A. Copeland, Trends in Government Financing (Princeton, N.J.: Princeton University Press, 1961), pp. 77-78, Table 22; Investment Bankers Association of America, "Forecasting Municipal Bond New Issue Volume," IBA Statistical Bulletin, Occasional Paper No. 6, February 1964, pp. 1-7.

¹⁹ Note that defaults occurred almost continuously over the 1830-1930 period in both good and bad economic environments. *See* Hillhouse, *op. cit.*, *p.* 3. It was only in major depression periods, however, when the volume of defaults reached startling proportions, that legislation to prevent future such occurrences was enacted. the product of the state and local borrowing experience during the 1830-1930 period.

A second political variable evolved as a result of the enactment of legal debt limitations. Whenever debt limitations subsequently restricted further debt financing, means were found to bypass the laws.

1. The principal method of avoiding debt limitations before 1930 was to shift the financial responsibility to less restricted or unrestricted governmental units. This included the creation of new governmental units, e.g., special districts. After World War II, variations of this innovation to bypass debt limitations included the increased use of statutory authorities and lease financing.

2. Beginning in the mid-1930's, unrestricted nonguaranteed debt was used in increasing amounts to bypass debt limitations. We turn next to analysis of these two financial innovations.

III. Financial Innovations To Circumvent Legal Debt Limitations

Financial innovations to bypass debt limits principally take the form of (1) shifts in the responsibility of financing desired projects to less restricted units of government and "quasi-governmental" units and (2) a greater reliance on the use of nonguaranteed financing. In this section we will discuss these financial devices more fully and present some evidence that shifting financial responsibility is partially caused by restrictive debt limitations. In section IV we will demonstrate the relationship between general obligation-nonguaranteed debt and restrictive debt limitations.

SHIFTING FINANCIAL RESPONSIBILITY

There have been several outstanding changes in the relative shares of the responsibility for debt financing by type of government (*see* Table 2). The state share has increased notably rela-

16

¹⁷ True special obligation issues (then called "special-specials") were the forerunners of what we now refer to as nonguaranteed or "revenue" issues. A special-special obligation was not supported by the full faith and credit of the taxing district. In addition to straight general obligations, many governmental units at that time issued "general-special" obligations, which were primarily a special assessment obligation. This obligation was ultimately backed up by the full faith and credit of the taxing unit.

tive to the local share since World War II. This is principally a postwar phenomenon, although the trend toward state concentration may have begun during the financial difficulties experienced by local governments during the early 1930's.

During the early history of debt financing, state government debt outstanding increased faster than that of local government. Table 1 shows that state government debt outstanding grew from about \$6 million in 1820 to \$175 million in 1840. Although data are not available for local government debt outstanding during this 1820-1840 period, by the end of 1840 it amounted to \$25 million. However, during the next two decades state debt outstanding grew by only 47 percent, while that of local government increased by 400 percent. By 1870, local government (principally municipality) debt outstanding exceeded state debt by nearly 50 percent. Some of the increase in local government debt outstanding during the mid-1800's was the result of shifting financial responsibility caused by restrictive state debt limitations enacted after their default experience following the 1837-1839 depression.²⁰

Within the local share, municipality debt financing has decreased relatively since 1913. What has happened, of course, is that the responsibility for financing certain functions has been shifted to other types of local government units—school districts and special districts.²¹ This maneuver was necessary when municipality debt limitations, imposed as a result of their defaults of the 1870's and the 1890's, impinged on further financing of the great surge in demand for government capital facilities in the early 1900's.

Shifting financial responsibility in the post-World War II period comprises several trends: (1) shifts between various local governmental units—from more restricted to less restricted units; (2) shifts in responsibility back to the state government level through the device of combining statutory authorities and/or the use of lease financing with the issuance of nonguaranteed debt; (3) a net shift in responsibility from restricted state governments to less restricted local governments in the state.

1. As a result of the local government default experience during the 1930 depression period, debt-limitation legislation was expanded for previously restricted local governments and extended to previously unrestricted units. Within the local sector, the *relative* share of municipality debt financing declined further after 1946. This decline was offset by substituting a greater use of school and special district debt financing. Much of the additional special district financing was made possible by passing enabling legislation, creating special districts that had the power to issue nonguaranteed debt. This procedure did not violate existing debt-limitation laws.

2. Some financial responsibility was shifted back to state governments. Previously restricted state governmental units now combined the concept of the statutory authority with the use of unrestricted nonguaranteed debt to bypass legal debt limitations effectively. These "quasi-governmental" units, usually called "statutory" authorities or "public" authorities, are corporate agencies created by states to finance, construct, or operate public facilities and services.

Statutory authorities were originally designed to provide "quasi-business" services (*i.e.*, those with strong exclusion-principle or private-good characteristics) that presumably would be more efficiently administered if removed from political control. The enabling legislation usually provides these authorities with the power to incur nonguaranteed debt, but not to tax. Most of the early authorities constructed revenue-producing facilities, and net receipts were used to secure and service the bonded indebtedness.

More recently, authorities have been used to finance and construct facilities for governmental units that are restricted by legal debt limitations from performing their own financing. The source of funds for security and debt servicing are earmarked special funds, such as taxes, rents, fees, and departmental appropriations. The covert purpose of these latter authorities, of course, is to circumvent

²⁰ Hillhouse, op cit., p. 4; Paul Studenski, Public Borrowing (New York: National Municipal League, 1930), pp. 8-9.

²¹ School and special districts have apparently assumed some new functions, but mostly have taken over existing functions of municipalities. See Copeland, op. cli., chap. 5. At the same time, county governments assumed some responsibility for financing state high-way systems, principally because of state government debt restrictions.

The Effectiveness of Debt Limits on State and Local Government Borrowing

legal debt limitations. Table 3 shows the relative growth in statutory authority debt in recent years.

TABLE 3. Statutory Authority Debt Issued, 1957-1964 (\$ millions)

Year	Debt Issued by Statutory Authorities	Total Debt Issued by States	Statutory Authority (Percent of Total)
1957	\$ 722	\$ 7,149	10
1958	999	7,831	13
1959	1,418	7,904	18
1960	1,301	7,368	18
1961	1,693	8,571	20
1962	2,031	8,874	23
1963	2,584	10,564	24
1964	3,109	10,638	29

NOTE: According to the Investment Bankers Association definition, the statutory authority classification includes all political organizations that are not "normal" units of government and do not have independent taxing power.

Source: Investment Bankers Association of America, IBA Statistical Bulletin, quarterly, 1957-1964.

A. J. Heins provides 1958 nonguaranteed debt-outstanding data on state government authorities that were compiled from unpublished Bureau of the Census data and his own survey of state authorities.²² He distinguishes between two types of authorities. The first category (toll roads and bridges, water and power, and port authorities) operate as well as finance public projects, and they rely on public user charges for revenues. The second category (nontoll highways and bridges, educational and office buildings) normally function only for financial purposes; the operation of the projects is left to regular state agencies. Those in the latter category generally rely on revenues from state appropriations, rentals, and special taxes.

In devising the foregoing distinction Heins assumed that

the second category of authorities is created expressly to evade legal debt limitations, while authorities in the first category exist for other reasons (e.g., administrative, jurisdictional, or economic efficiency). However, we found that 92 percent of the nonguaranteed debt outstanding of *all* state authorities, regardless of assumed purpose of creation,²³ were in the twenty-two states with the most restrictive debt limitations.²⁴ This result strongly suggests that the underlying reason for most state government authorities is the circumvention of legal debt limitations, rather than for administrative or economic efficiency.

The methodology of lease financing constitutes a special use of the statutory authority form. Where debt financing by a particular governmental unit is barred by legal debt limitations, a statutory authority issues the necessary debt and constructs the desired facility, which is then leased to the governmental unit. The nonguaranteed bonds issued by the statutory authority are secured and serviced by the rental payments called for in the lease contracts. "Where these arrangements are in force, state supreme courts have usually held that neither the payments called for by the lease contracts nor the bonds issued by such non-profit bodies violate any debt or taxing limits in force in the state."²⁵

3. On balance, however, state governments that are severely restricted tend to shift the responsibility of financing public facilities to less restricted local governmental units within the state. The group of twenty-two most restricted state governments only issue, on average, 22 percent of the *total* debt of state *and* local units within the state. The nineteen less restricted state governments finance 28 percent of the total, while the seven state governments that are relatively unhampered by legal limitations account for 45 percent of the total. The classification of state governments by type of debt restriction and relative share of total debt financing is sta-

²² See Heins, op. cit., pp. 24-25. See also Table 8.

 $^{^{23}}$ These data exclude interstate and international authorities, which are quite obviously created because of jurisdictional discontinuities.

²⁴ See section IV below for discussion of relative ranking of state governments by restrictiveness of legal debt limitations.

²⁵ J. L. O'Donnell, "Some Postwar Trends in Municipal Bond Financing," Journal of Finance, 17 (May 1966), 261.

tistically significant²⁶—that is, the relative state-local financing share is significantly correlated with the severity of legal debt restriction.

Thus one of the principal methods of bypassing state and local legal debt limitations has been to shift financial responsibility to relatively unrestricted governmental units within the state. A post-World War II variation of this innovation has been to create political subdivisions (rather than new autonomous governmental units),²⁷ which then issue unrestricted nonguaranteed debt.

NONGUARANTEED DEBT

The other principal method of avoiding legal debt limitations is to issue nonguaranteed or "revenue" debt.²⁸ Through the courts, by a process of trial and error, it was rationalized—principally through the "special fund doctrine"—that this method of borrowing was not really borrowing at all under the wording of the state constitutions. The burden of risk on the taxpayers was avoided or bypassed by the special fund which was the source of payment of the interest and principal; such borrowing, therefore, was not restrained by legal debt limits.²⁹

²⁷ According to the Bureau of the Census, to be counted as a government, an entity must possess all three of the following attributes: (1) existence as an organized entity; (2) governmental character; (3) substantial autonomy. See United States Bureau of the Census, Census of Governments: 1962, I, "Governmental Organization" (Washington, D.C.: United States Government Frinting Office, 1963), 15. Typically, statutory authorities do not qualify as separate governmental units but are merely considered political subdivisions of the controlling government (usually a state government).

²⁵ These two terms are generally used interchangeably in contemporary writing, but a number of earlier authors (including the Bureau of the Census) used several significantly different definitions of "revenue" and nonguaranteed bonds.

²⁹ See John F. Fowler, Revenue Bonds (New York: Harper and Brothers, 1938); Laurence S. Knappen, Revenue Bonds and the Investor (Prentice-Hall, Inc., 1939); B. U. Ratchford, "A Formula for Limiting State and Local Debts," Quarterly Journal of Economics, 51 (November 1936), pp. 71-89; Iver C. Olsen, Revenue Bond Financing by Political Subdivisions (Washington, D.C.: Federal Emergency Administration of Public Works, 1936); Ratchford, American State Debts, op. cit., chap. 18; Frederick L. Bird, Revenue Bonds (Los Angeles, Calif.: The Haynes Foundation, 1941); Hillhouse, op. cit., chaps. 6, 9, 12; William L. Raymond, State and Municipal Bonds (2d ed.; Boston: Financial Publishing Company, 1932); Heins, op. cit., chaps. 1, 2.

Reasons for Issuing Nonguaranteed Debt. The use of nonguaranteed debt cannot be attributed entirely to the evasion of restrictive general obligation debt limitations. Nonguaranteed debt can also be used solely to shift the burden or locus of risk from taxpayers to bondholders (*i.e.*, the "locus-of-risk thesis").³⁰

It is often desired that certain public projects be supported only from user charges placed on the beneficiaries of the services supplied by the facilities in question. It is additionally asserted that these projects should be financed with nonguaranteed debt, secured and serviced exclusively by the facility itself. In this case, the responsibility for the risk of default is shifted from taxpayers to bondholders. In the event of financial difficulties, bondholders have recourse only to the assets of the particular project. Risk is assumed by the bondholders in proportion to their holdings. The *benefit* to taxpayers is that they will not have to provide additional tax dollars to satisfy potential future liabilities of the public facility.

For general obligation debt, on the other hand, taxpayers, through their government, pledge full support (usually with substantially unlimited taxing power) for all liabilities. The only risk assumed by the bondholders is that the governmental unit will not honor the contract (repudiation).³¹ For general obligation bonds, the possible risk of loss because of project failure is borne by some set of taxpayers in some proportion to their actual or potential tax liability.

General obligation financing of projects possessing strong "exclusion principle" characteristics should occur only if sufficient external economies (benefits) from the particular project are received by the taxpayers within the constituency as compensation for giving the project their tax-supported backing. If *no* external economies accrue to taxpayers as compensation for a potential tax-dollar loss, then the rationale itself for government support of the project—and thus the question of government financing—dis-

²⁶ The computed F-ratio is 6.00. The critical value of $F_{.09}$ for 2/45 degrees of freedom is 5.12. The F-ratio essentially tests, on a probability basis, whether the variances under comparison could have been obtained by random sampling from the same population. In this problem, the expected value of F would be 1.0 if the relative difference in debt limits had no systematic effect (correlation) upon the state-local shares of debt outstanding. Significant correlation exists when the value of the computed F-ratio exceeds the critical or table value of F.

³⁰ Heins, op. cit., pp. 56-60.

³¹ This statement abstracts from the risk of loss via change in capital values.

appears. In the absence of the criterion necessary to justify general obligation financing, however, sufficient external economies may be present such that taxpayers would be willing to grant the project the privilege of tax exemption but not of guarantee (*i.e.*, nonguaranteed financing).

It is, however, a widely recognized fact that legal debt limitations are extremely difficult to change. As previously explained, contemporary limitations are the product of legislation enacted during the century before World War II. Even though economic conditions have changed dramatically since then, state and local officials have been reluctant to revise or enlarge debt limitations, especially those that are constitutionally provided. Even if state legislatures are willing, the difficult constitutional amendment procedure usually prevents revision. Statutory limitations on local government debt issuance have proved to be only somewhat less difficult to revise. Instead of pressing for revision, it is politically and economically more expedient to issue nonguaranteed debt. In addition, when a general obligation debt authorization requiring an enabling referendum fails to achieve the necessary majority, government officials are then frequently able to issue nonguaranteed debt to finance the project. It is the latter extralegal uses of nonguaranteed debt that are referred to as circumvention of general obligation debt limitations.

Thus the growth of nonguaranteed debt, especially in the post-World War II period, can be attributed both to shifting risk and to debt-limitation circumvention factors. The proportion in which nonguaranteed debt outstanding can be attributed to each factor has important economic consequences, as we shall see in section V.

Trends in Nonguaranteed Financing. The historical increase in nonguaranteed debt is demonstrated in Figure 1. Before 1935 the use of state and local nonguaranteed debt relative to general obligation debt averaged about 2.5 percent. Typically, these issues financed revenue-producing projects such as waterworks and electric utility facilities. The use of nonguaranteed debt during this period can generally be attributed to locus-of-risk factors.



24

The Effectiveness of Deht Limits on State and Local Government Borrowing

During the 1935-1942 period, the relative use of nonguaranteed debt jumped to an average of 12.1 percent. The sharp jump in this period is partially due to the fact that during 1933 and 1934 the Roosevelt administration (specifically the P.W.A.) encouraged state and local governments to utilize the nonguaranteed method of financing in order to stimulate the growth of capital expenditures (presumably because the P.W.A. thought that constitutional and statutory restrictions hampered financing by general obligations).³² Only fifteen states permitted local governments to use nonguaranteed debt in 1931. By 1936, forty states allowed the use of nonguaranteed financing. Today nonguaranteed debt is used in every state.³³

The World War II period is atypical. Apparently the sharp increase in the relative share of nonguaranteed financing during this period can be attributed to heavy refunding of nonguaranteed bonds, together with the overall decline in total new issue financing because of wartime restrictions on state and local capital expenditures.

It was during the post-World War II period that state and local financial requirements increased sharply to meet the huge increase in demand for public facilities (*see* Figure 2). It was then that impinging general obligation debt limitations forced the shift to substantial amounts of nonguaranteed debt (*see* section IV).

State, municipality, and special district governments, the principal users of nonguaranteed debt (98 percent of the total), have all become increasingly more dependent on nonguaranteed debt in the post-World War II period. In 1945 nonguaranteed debt represented only 13 percent of total state government debt outstanding. By 1963 their relative use of nonguaranteed debt had increased to 53 percent. Relative use of nonguaranteed debt by municipalities during the same period increased from 7 to 36 percent. Special district relative use went from 44 to 83 percent.

State governments have increasingly used larger amounts

⁵² Maxwell, op. cit., pp. 59-60. ³³ Ibid., pp. 199-200.

FIGURE 2. Total Dollar Volume of State and Local Government Long-Term Debt Issued, 1892-1966 (\$ millions)



Source: See Figure 1.

of nonguaranteed debt, relative to the total local government share. In 1945 state governments' nonguaranteed debt outstanding represented 15 percent of all nonguaranteed debt, whereas in 1963 their nonguaranteed debt outstanding was 37 percent of the total. The special district nonguaranteed debt outstanding share declined by 25 percent. The municipality and county government shares increased slightly, 1 and 2 percent, respectively. Thus in terms of dollar volume, state and, to a lesser extent, municipality governments have contributed the most to the sharp rise in nonguaranteed financing.

The Interest Cost of Nonguaranteed Financing. Evidence of significantly higher interest costs for nonguaranteed issues is substantial.³⁴ Heins' study of state government issues³⁵ found that nonguaranteed issues carry higher interest costs than general obligations. This differential was 0.56 percent in 1957, 0.48 percent in 1958, and 0.66 percent in 1959. Over the life of an issue, this represents a considerable difference in interest costs. For example, a 0.50 percent difference (from 3.00 to 3.50 percent) in the net interest cost of a thirty-year, level-payment, serial bond raises the aggregate interest cost by 19 percent.³⁶

Several other studies have presented limited evidence of this general obligation-nonguaranteed interest rate differential. Ratchford compared isolated cases where a state or local governmental unit issued both general obligation and nonguaranteed bonds at the same time to finance a single facility.³⁷ Robinson compared a few governmental units with similar credit ratings issued within a week or so of each other.³⁸ The Public Health Service estimated that nonguaranteed debt financing of water and sewer systems by local governmental units cost 0.5-0.6 percent more than comparable general obligation debt financing.³⁹ A study of selected municipalities, using secondary market yield data, found that nonguaranteed utility (e.g., electric, water) issues traded at a 0.25 percent premium over comparable general obligation issues.⁴⁰ O'Donnell estimated that Indiana School Holding Corporation (nonguaranteed) bonds had differentially higher yields than comparable general obligation issues that amounted to approximately 0.50 percent during the first ten years of serial maturities and reached 1.25 percent for longer maturities.⁴¹

A recent small sample test yielded further evidence that both state and local government nonguaranteed debt financing entails significantly higher interest costs than comparable general obligation financing.⁴² The average "net interest cost"⁴³ premium paid by nonguaranteed issues was 0.27 percent for Aa-rated issues, 0.28 percent for A-rated issues, and 0.24 percent for Baa-rated issues.

The additional interest cost of nonguaranteed debt is a risk-of-default premium that compensates lenders for the possible income loss (failure to pay interest and/or principal and changes in capital values) from nonguaranteed issues as opposed to comparable general obligation issues.

Differential default experience between general obligation and nonguaranteed bonds should partially explain this risk differential. As stated in section II, limited-liability issues probably had a greater frequency-of-default record during the 1930 depression period. There have been only thirty known defaults since

³⁴ In addition to interest costs, it is asserted that there are other costs primarily connected with nonguaranteed borrowing, specifically (1) additional administrative (including litigation) costs; (2) additional insurance costs; (3) "excessively" long maturities. See Heins, op. cit., chap. 7; Ernest Kurnow, "The Nonguaranteed Debt of State and Local Governments," National Tax Journal, 15 (September 1962), 239-45.

³⁵ See Heins, ibid., chap. 5.

³⁶ Maxwell, op. cit., p. 204.

³⁷ B. U. Ratchford, "State and Local Debt Limitations," National Tax Association, Proceedings, October 1958, p. 223.

³⁸ Roland I. Robinson, Postwar Market for State and Local Government Securities (Princeton, N.J.: Princeton University Press, 1960), pp. 210-12.

³⁹ United States Department of Health, Education and Welfare, *Health, Education and Welfare Indicators* (Washington, D.C.: United States Department of Health, Education and Welfare, 1961), p. 16.

⁴⁰ W. H. Tyler, "Revenue Bond Financing: Advantages and Disadvantages," Municipal Finance, 32, No. 1 (August 1959), 76-77.

⁴¹ J. L. O'Donnell, "The Tax Cost of Constitutional Debt Limitations in Indiana," National Tax Journal, 15 (December 1962), 409-10. See also Manuel Gottlieb, "The Revenue Bond and Public Debt," Quarterly Review of Economics and Business, 1, No. 2 (May 1962), 38-41; Robert J. Porter, Factors Influencing the Cost of State and Local Borrowing in Kentucky (Lexington: University of Kentucky, Bureau of Business Research, 1965), chap. 5. ⁴² See Mitchell, op. cit., chap. 3.

⁴³ Essentially "net interest cost" is a simple ratio of coupons-to-principal, weighted by the period the principal is outstanding. See Robinson, op. cit., p. 217; Gordon L. Calvert (ed.) Fundamentals of Municipal Bonds (Washington, D.C.: Investment Bankers Association of America, 1959), pp. 132-33.

The agency ratings used were Moody's and Standard and Poor's. If an issue was rated by both services, the Moody rating was chosen when the ratings differed. There does not seem to be any systematic bias when the rating services differ on a particular issue. Out of 81 issues that were rated by both services, 19 differences were noted (all differences were of a single rank). Of these 19 differences, the Moody rating was higher than Standard and Poor on eight occasions and lower on 11 occasions. The Moody rating was preferred because it seems to be more widely used and accepted.

World War II. The predominant type of defaulting obligation has been the special purpose, limited liability issue. Frequency of default, by purpose of issue and type of security, is listed in Table 4.

TABLE 4. Post-World War II Local Government Defaults, by Purpose of Issue and Type of Security

Purpose of Issue	Type of Security	Number of Defaults
Toll facilities	Nonguaranteed	7
Marina facilities	Nonguaranteed	3
Water systems	Nonguaranteed	3
Industrial aid	Nonguaranteed	2
Natural gas systems	Nonguaranteed	2
College dormitories	Nonguaranteed	1
Aerial tramway	Nonguaranteed	1
Irrigation districts	Guaranteed	6
Cities or counties	Guaranteed	4
Fire district	Guaranteed	1

Source: Jackson Phillips and Roger Baum, "Postwar Default Experience of Municipal Bonds," United States Congress, Subcommittee on Economic Progress of the Joint Economic Committee, State and Local Public Facility Needs and Financing, Vol. 2, Public Facility Financing, 89th Cong., 2d Sess., December 1966, p. 245.

Nineteen of the thirty defaults occurred with nonguaranteed bonds. In terms of dollar volume of outstanding debt, all the defaulted general obligation issues were less than \$5 million. The two major defaults, in terms of dollar volume, were the nonguaranteed issues of the West Virginia Turnpike (\$133 million) and the Chicago Skyway (\$101 million). Of the other defaulted nonguaranteed issues, a California marina, a toll bridge in West Virginia, and the aerial tramway had debt outstanding of \$5 million or more.⁴⁴

Thus the chance of dollar loss because of a nonguaranteed bond default is greater than a general obligation issue during a relatively favorable economic period. This experience most likely would hold true and perhaps be significantly intensified during a serious economic depression.

A nonguaranteed risk differential ranging from 0.25 to 1.25 percent results in substantially higher dollar costs of borrowing over the life of an issue. Table 5 provides estimated *additional*

TABLE 5. Estimated Additional Interest Costs From State Government Nonguaranteed Bonds Issued, 1956-1959

State	Added Interest Payments over the Life of the Issue
Alabama	\$ 2,342,400
Georgia	9,046,030
Illinois	37,318,610
Indiana	8,427,477
Pennsylvania	8,964,069
Washington	21,460,761
Wisconsin	2,191,597

Source: A. James Heins, Constitutional Restrictions Against State Debt (Madison: University of Wisconsin Press, 1966), pp. 50-56.

interest costs from nonguaranteed financing for all of the bonds of seven state governments issued over the years 1956-1959. The added interest costs, amounting to nearly \$90 million, resulted from 59 nonguaranteed bonds, representing total debt issued of approximately \$629 million.

Whatever the degree of effectiveness of nonguaranteed debt in circumventing legal debt limits, it is not a costless alternative.

IV. The Use of Nonguaranteed Debt To Circumvent Legal Debt Restrictions

The "restriction hypothesis" states that legal debt limitations, on the issuance of general obligation debt, will result in

⁴⁴ Jackson Phillips and Roger Baum, "Postwar Default Experience of Municipal Bonds," United States Congress, Subcommittee on Economic Progress of the Joint Economic Committee, State and Local Public Facility Needs and Financing, Vol. 2, Public Facility Financing, 89th Cong., 2d Sess., December 1966, pp. 244-45.

The Effectiveness of Debt Limits on State and Local Government Borrowing

relatively restricted states issuing less general obligation debt but will cause an increase in the use of nonguaranteed debt that will offset the effects of legal debt limitations.

The mere fact that total debt outstanding (general obligation *plus* nonguaranteed) in severely restricted states may be statistically undifferentiated from that in less restricted states is not sufficient to corroborate the "restriction hypothesis" proposition that nonguaranteed debt *offsets* general obligation debt restrictions. The lack of correlation may be due to factors unrelated to the problem and not accounted for by variance-reducing variables such as population and income. Three steps are necessary for a rigorous test of the "restriction hypothesis."

First, we must determine whether states in fact are relatively restricted in issuing general obligation debt. There are several ways in which governmental units can operate under these legal limitations and still issue general obligation debt. (1) Through the various means of shifting financial responsibility, on the basis of *state totals*, states may not appear to be relatively differentiated in issuing general obligation debt. (2) Various exemptions from limitations are quite often present in the legislation concerning debt; these exemptions are usually for specific types of projects.⁴⁵ (3) Debt limitations can be exceeded for specific issues by a constitutional amendment or an enabling referendum. (4) Finally, the percentage limitation on general obligation debt may be generous enough so as not to impinge significantly on the issuing ability of the governmental unit.

Second, we must test whether severely restricted states rely on nonguaranteed debt relatively more than less restricted states. Since nonguaranteed debt is issued for both locus-of-risk and debt-limitation circumvention reasons, it is not at all obvious whether and to what extent nonguaranteed debt usage is related to debt limits per se. Suppose we assume that the locus-of-risk factor is not correlated to debt-limitation variables. If states with very restrictive debt limits are then seen to issue more nonguaranteed debt than less restricted states, this result would provide strong evidence that a portion of nonguaranteed debt is used to circumvent legal debt limitations. The implication would be that some of the growth in nonguaranteed debt, especially in the post-World War II period, is the result of restrictive limitations.

Third, if some states are restricted in general obligation debt issuance and substitute nonguaranteed debt, does this use of nonguaranteed debt indeed have the effect of substantially offsetting the legal restrictions on general obligation debt? Is *total* debt in severely restricted states statistically undifferentiated from total debt in less restricted states?

STATISTICAL TESTING PROCEDURES

States vary widely in their use of different types of governmental units to finance public services. Financial services provided by the state government in one state may be handled by county or municipal government in another state. In addition, as demonstrated in the previous section, state governments often shift financial responsibility to less restricted local governmental units. Thus, in a realistic analysis of whether legal limitations truly restrict general obligation debt financing, one must consider state and local government together, within a state, as the primary economic decision unit.

But state governments do not always have the same type (degree of restrictiveness) of legal debt provisions as their respective local governmental units. For this reason, we will first examine state and local governments separately and then aggregate the two levels for interstate comparisons.

In the attempt to hold relatively constant unexplained variance in debt financing that is due to factors other than legal debt provisions, we employed two variance-reducing variables—

⁴⁵ "The common exclusion pertains to municipal utilities, with the scope of specification ranging from debt for water supply only (e.g., Colorado and Wyoming) through water supply and sewers (Montana) to a relatively broad version of debt for revenue-producing facilities or self-sustaining improvements in such states as New Jersey, New York, and Virginia." Advisory Commission on Intergovernmental Relations, *State Constitutional and Statutory Restrictions on Local Government Debt* (Washington, D.C.: Advisory Commission on Intergovernmental Relations, 1961), p. 90.

population and income.⁴⁶ Obviously the more populous and richer states have more need and especially more ability to borrow, quite apart from the question of debt restrictions. For purposes of comparing relative debt experience, while "neutralizing" the populationincome effects, we have constructed a composite value, combining debt outstanding, population, and income.⁴⁷ This value will be referred to as a "debt/capacity" index:

$$C = \frac{D/Y}{Y/P}$$

where:

C = debt/capacity indexD = debt outstandingY = personal incomeP = population

This measure relates debt outstanding per dollar of personal income to a "capacity to support debt," per capita personal income.

The *debt/capacity* index weights income more heavily than population (via the squaring of income). Since income is the single most important variable in explaining state and local government activity,⁴⁸ this procedure is designed to place the various states on a more comparable basis for studies of their relative debt experience. Comparing two states with equal levels of population and income, that state with the larger amount of debt outstanding will have the higher *debt/capacity* index (larger amount of debt relative to the capacity to support such debt). Similarly, comparing two states with identical levels of debt and income, that state with the larger population will have the higher index. Finally, for states with equal levels of debt and population, that state with a lower income will have the higher index.

In addition to measuring debt experience by debtoutstanding data, we will measure the percentage of general obligation and the percentage of nonguaranteed debt financing to total debt financing.⁴⁰ The procedure attempts to reflect the relative weight of general obligation and nonguaranteed debt-financing decisions in total debt-financing decisions. This type of measure does not weight sharply skewed observations as heavily.⁵⁰

Essentially, we assume that a governmental unit has decided to finance some expenditure through a formal debt obligation. The sum of these decisions is measured by debt outstanding. To the extent that a governmental unit cannot issue general obligation debt (legal restraint) or does not wish to issue general obligation debt (locus-of-risk reasons), these factors together are assumed to be measurable by the volume of nonguaranteed debt outstanding.

STATE GOVERNMENT LEGAL DEBT PROVISIONS

It is possible to group state governments into three categories according to the similarities (relative restrictiveness) of

⁴⁶ The use of total population as an explanatory variable of "demand" for public services or "demand" for external financing is, of course, an extremely rough measure. Among other things, age distribution and degree of urbanization affect public expenditure and financial requirements. See, for example, Advisory Commission on Intergovernmental Relations, Measures of State and Local Fiscal Capacity and Tax Effort (Washington, D.C.: Advisory Commission on Intergovernmental Relations, 1962), p. 9; Glenn W. Fisher, "Interstate Variation in State and Local Government Expenditures," National Tax Journal, 17, No. 1 (March 1964), 61-62; Alan K. Campbell and Seymour Sacks, Metropolitan America: Fiscal Patterns and Governmental Systems, preliminary manuscript, April 1966 (mimeographed), especially chap. 5.

The distribution of income within the various states and the particular concept of income flow ufilized (e.g., personal income, disposable income, corporate income, or income produced) may have relevance as variance-reducing variables. See Advisory Commission on Intergovernmental Relations, *ibid*, p. 10 ff.

⁴⁷ This measure is similar in concept to the "sacrifice index" of state tax burdens constructed by Frank. See Henry J. Frank, "Measuring State Tax Burdens," National Tax Journal, 12, No. 2 (June 1959), 179-85.

⁴⁸ For example, see Glenn W. Fisher, "Determinants of State and Local Government Expenditures: A Preliminary Analysis," *National Tax Journal*, 14, No. 4 (December 1961), 350-52.

⁴⁹ Since total long-term debt is composed of only general obligation and nonguaranteed debt, the percentage general obligation debt is the complement of the percentage nonguaranteed debt. Using either measure, the results of any statistical test of correlation will be identical (with suitable changes in interpretation).

⁵⁰ Statistical coefficients computed from debt-outstanding data can be greatly blased by a few sharply skewed observations. For example, the group of five states, New York, Washington, Connecticut, Delaware, and Massachusetts, have an average *per capita total debt* over double the average for forty-eight states. Washington has almost 50 percent more debt per capita than Massachusetts, the state with the lowest per capita debt in this group. Measures of nonguaranteed debt per capita show even greater dispersion. The state of

Measures of nonguaranteed debt per capita show even greater dispersion. The state of Washington has per capita nonguaranteed debt of \$608, compared to \$14 for Vermont, \$22 for North Carolina, and \$23 for New Hampshire and South Dakota. Washington's per capita figure of \$608 is nearly twice as large as the next highest state, Nebraska, with \$316.

their legal debt-incurring provisions.⁵¹ Group I: "legislative action" states can borrow through legislative actions with generally no limits concerning amount or purpose of debt they may incur. Group II: "referendum" states can generally borrow any amount for any purpose but only after each specific debt proposal has been approved by the electorate in a referendum.⁵² Group III: "constitutional amendment" states can generally only borrow after constitutional amendments have been effected, exempting particular issues from debt-limitation restrictions.⁵³

There is one additional feature in some state government constitutions, maturity limitations, which exert a substantial degree of debt-limiting power. Only 68 percent of state government debt matures, on the average, within twenty years from date of issue, whereas 82 percent matures within twenty-five years from date of issue.⁵⁴ Thus a twenty-year maturity limit, for example,

Changing the assessed valuation of real property would also change the ability of local governments to incur debt because this is the most common base for their percentage debt limitations.

 52 Virginia provides for the issuance of debt in the same manner as other "referendum" states but debt outstanding cannot, in any case, exceed 1 percent of the assessed value of taxable real property. (Virginia State Constitution, Article XIII, Section 184-a) On the basis of 1957 assessed value of taxable real estate, Virginia had a general obligation debt limit of \$35 million, whereas their total long-term debt outstanding exceeded this limit fivefold. This 1 percent limit, in effect, eliminates the *debt issuance for any purpose and in any amount by referendum* feature that other "referendum" states possess. Since it would take a constitutional amendment to issue general obligation debt in excess of this limitation, we placed the state government of Virginia in the "constitutional amendment" group.

⁵³ Louisiana provides an exception to the proposition that constitutional amendments are extremely difficult to execute. Louisiana is the only state in the Union whose legal system is based on civil rather than common law. The origin of Louisiana's civil law is the Napoleonic Code of France. Civil law is a code of written law. Whereas the purposes of constituitions in other states are to provide the *basic* structure of government and the *principles* upon which government should operate, Louisiana's constitution is its civil law. Therefore amending and augmenting Louisiana's constitution is a matter of course rather than an infrequent and difficult fundamental undertaking. Between 1921 and 1958, for example, 462 amendments have been proposed—376 have been adopted. Many of these amendments provided for general obligation bond issues in excess of the constitutional limitation. For these reasons we have reclassified Louisiana under the less restrictive "referendum" group. See Kimbrough Owen, "The Need for Constitutional Revision in Louisiana," Louisiana Law Review, 8 (November 1947), 47-58; Louisiana Legislative Council, The History and the Government of Louisiana (Baton Rouge: Louisiana Legislative Council, 1964), pp. 53-58.

54 Estimated from Census of Governments, 1962, 4, No. 4, Table 17, 37.

bars the use of general obligation issues for 32 percent of all projects in which the amortization period is longer. It has been asserted, for instance, that the state of Maryland—which has a fifteen-year limit—has turned to the use of nonguaranteed bonds and to public authorities in order to escape that limit.⁵⁵

For classification purposes, we will consider that *either* a constitutional restriction on debt issuance or a constitutional provision limiting maturities to twenty years or less will constitute a "very restrictive" debt-limitation provision (*i.e.*, a *Group III* classification). The state governments included under each category are listed in Table A1 of the Appendix.⁵⁶

The assumption in the foregoing classification is that the ranking of states by Groups III, II, and I, in that order, is an ordinal ranking of the relative restrictiveness of legal general obligation debt limitations faced by the various state governments.⁵⁷

To support the first part of the "restriction hypothesis," we must have significant inverse correlation between the relative use of general obligation debt financing and the relative degree of restrictiveness of the legal (general obligation) debt-incurring ability of these governmental units. State governments with the most restrictive laws should have the least amount of general obligation debt—by whatever measure of debt we use. Less restrictive states should use more general obligation debt and the least restrictive states should issue the greatest amount of general obligation debt. In fact, governmental units that are virtually unhampered by legal restrictions should issue general obligation debt for all projects but those involving locus-of-risk considerations.

For the second part of the "restriction hypothesis," we must have significant positive correlation between the relative use of nonguaranteed debt and the relative restrictiveness of legal debt

55 Heins, op. cit., p. 31.

⁵¹ In this study we will concentrate only on legal restrictions that relate rather directly to debt limitations. Other factors can indirectly affect the debt-incurring ability of governmental units. Tax-rate limitation legislation, for example, is not always enacted specifically to limit debt issuance. But restrictive effects are exerted to the extent that taxes are needed as the source of principal, interest, and/or security for debt issues.

⁵⁶ We have excluded Alaska, Hawaii, Washington, D.C., and the insular possessions from our analysis.

⁵⁷ A similar classification was originally formulated by the Council of State Governments, and aggregate measures of state government debt according to the CSG classification were computed by Ratchford, "State and Local Debt Limitations," op cit., p. 226. A slightly revised version of the CSG classification was utilized by Heins, op. cit., p. 29.

limitations. We assume that all states issue nonguaranteed debt for locus-of-risk considerations but that the extent to which this practice is employed should be unrelated to the degree of restrictiveness of legal debt limitations. Thus if nonguaranteed debt usage is correlated to debt limits, then this relationship is explained by debt-limitation circumvention activities.

Finally, if general obligation debt is restricted and nonguaranteed debt is used as a substitute, does this substitution completely offset the restrictive effects of legal limitations? Is total debt related or unrelated to the restrictiveness classification? If the first two conditions of the "restriction hypothesis" are satisfied, then a no-correlation result would imply that the limitations have been successfully offset via nonguaranteed substitution activities.

In Table 6 we list the relevant statistics for state governments, classified by legal debt restrictions. The mean general obligation debt/capacity index for Groups III, II, and I are, respectively, .048, .109, and .274 (row 1, columns 1-3). This classification is significant (row 1, columns 4-5), so we accept the hypothesis that state government general obligation debt issuance is restricted (negatively correlated) in accordance with the degree of restrictiveness of legal debt limitations. The mean percentage general obligation debt for Groups III, II, and I are, respectively, .22, .48, and .79 (row 2, columns 1-3), and the classification is significant. Thus the hypothesis is accepted on the basis of both measures of state government general obligation debt.

The state government nonguaranteed debt/capacity index, with means of .121, .114, and .092 is not significantly related to our tri-classification (row 3), although the percentage nonguaranteed debt outstanding statistics are significant (row 4). We are thus not provided with uniform evidence on the use of nonguaranteed debt to circumvent legal debt limitations by state governments.

Finally, the total debt/capacity index means for Groups III, II, and I of .169, .223, and .365 are statistically significant. Thus we accept the hypothesis that legal debt provisions have indeed restricted state government total debt issued.

of Legal Debt Provisions State Government Statistical Data for Restrictiveness 6. TABLE

	Ξ	(2)	(2)	(†)	(3)	(9)
Debt Measure	Group III Mean	Group II Mean	Group I Mean	Computed F Value	Critical Value of F*	Hypothesis Accepted†
1. General obligation debt/capacity index	.048	.109	.274	15.77	F. ₉₉₉ =8.13	inverse correlation
2. Percentage general obligation debt	.22	.48	61.	11.46	F.999 = 8.13	inverse correlation
3. Nonguaranteed debt/capacity index	.121	.114	.092	.18	F. ⁸⁰ = 2.43	no correla- tion
4. Percentage non- guaranteed debt	.78	.52	.21	11.46	$F_{.999} = 8.13$	positive correlation
5. Total <i>debt/capacity</i> index	.169	.223	.365	4.84	$F_{.95} = 3.21$	inverse correlation
*For 2/45 degrees of freedom. †The group means for general oblig classifications. Results. for example.	gation and no	onguaranteed Mrr < Mr. v	debt conforn vhere M is a	n to the propos mean, although	ed ordinal ranking fo statistically significant	r statistically significan , would falsify the pro

posed hypothesis.

41

See App Source:

39

From the above analysis we can conclude that (1) legal debt limitations have restricted the use of general obligation debt; (2) the evidence is unclear whether or not state governments have used nonguaranteed debt as a result of this constraint; but (3) nonguaranteed debt has not completely offset the total debt-limiting function of the provisions. At the state government level, the third part of the "restriction hypothesis" is falsified and the second part is uncertain.

LOCAL GOVERNMENT LEGAL DEBT PROVISIONS

It is possible to classify local government debt-financing constraints according to the degree of restrictiveness of their respective state government debt-limiting legislation on the rationale that either (1) local governments in a state are subject to identical or similar degrees of restrictiveness of legal provisions as their corresponding state government, or (2) administrative, traditional, or other restraints imposed by state government debt legislation influences local governmental officials. If part of the level and composition of state and local government debt outstanding is a function of this second factor, it will appear in our analysis as a residual—*i.e.*, as variation that we cannot explain by our independent variable, legal debt provisions. The first proposition is easily rejected by an examination of the relevant legal materials (*see* below).

The state laws (constitutional and/or statutory) which empower and control debt issuance by local governmental units, though diverse, can be classified according to several *general* characteristics of their respective main provisions.⁵⁸ The laws relating to local government debt provisions can be classified as (1) those relating to debt-authorizing methods and (2) those directly related to debt limitations.⁵⁹ The primary assumption, for our purposes, is that the provisions relating to debt-authorization methods (constitutional amendment, referendum, or legislative action), have an indirect "limiting" effect on debt—to the extent that the particular method of debt authorization required is especially difficult to execute successfully.

By incorporating both the characteristics of debt-authorizing methods and the type of legal debt limitation (constitutional or statutory), we can again construct a "tri-classification" of restrictiveness of local government legal debt limitations as follows:⁶⁰

- Group III Most restrictive. Constitutional limitation with a simple or special majority referendum.
- Group II Less restrictive. Constitutional limitation but legislative action to authorize debt issues or a special majority authorization requirement coupled with a statutory debt limitation.
- Group I Least restrictive. Statutory debt limitation and either legislative action or a simple majority referendum necessary to authorize debt issues.

The local governments included under each category are listed in Appendix, Table A2.

A summary of the statistical results from the above classification is presented in Table 7. General obligation debt outstanding, measured in the *debt/capacity* index, is not significantly correlated with our ordinal ranking of relative restrictiveness. The percentage general obligation debt statistics, however, are inversely

⁵⁸ No extensive attempt is made in this study to take account of the myriad exceptions and special provisions embodied in constitutional and statutory laws regulating local government borrowing. To the extent that these factors are quantitatively important, the empirical results of any analysis utilizing only several general principles of classification of legal characteristics will be weakened or obscured.

⁵⁹ The following classifications were based, in part, on the results of a survey of the Council of State Governments and summarized in: Advisory Commission, *State Constitutional and Statutory Restrictions on State Debt*, Appendix A. Material from this source was revised and reclassified, as needed, for this study. Supplementary material was obtained from: Council of State Governments, *State Constitutional Restrictions on Local Borrowing and Property Taxing Powers* (Albany, N.Y.: Government Affairs Foundation, 1965); various state constitutions and statutes.

⁶⁰ A discussion of the methodology employed in formulating these classificational criteria is contained in a mimeographed Appendix available on request to the Institute of Finance.

inverse correlation

no correla-tion

Hypothesis Accepted†

ତ

of Restrictiveness of Legal Debt Provisions

"Tri-Classification"

3

Ξ

Hean

TABLE 7. Local Government Statistical Data for a

positive correlation

F.899=8.13

9.36

25

37

51

positive correlation

= 3.21

F.95

3.35

082

206

.216

no correla-tion

=2.43

F.90

1.76

432

613

560

5. Total debt/capacity index

4. Percentage non-guaranteed debt

correlated with our classification. Both the nonguaranteed debt/ capacity index and the percentage nonguaranteed debt are correlated (positively) with the classification. Finally, local governments are not differentiated according to their relative total debt outstanding experience.

Thus we are provided with conflicting evidence on the restrictiveness of general obligation debt limitations, but relatively restricted local governmental units do issue more nonguaranteed debt. The lack of uniformity of evidence, however, does not allow us to conclude that the absence of correlation between local government total debt outstanding and their relative restrictiveness variables is due to nonguaranteed debt offsetting general obligation debt limits.

It is suspected that the shifting financial responsibility factor (heavily restricted state governments rely more on local government financing) has significantly affected the local government statistical results. This contention is supported in the following discussion.

COMBINED STATE-LOCAL COMPARISONS

By aggregating the debt of the state and local governmental units within the state we eliminate the effects on our statistics of shifting financial responsibility.

The principal problem in making interstate comparisons of combined state and local debt experience is that many states do not have equally restrictive legal debt provisions at both the state and local levels.⁶¹ Sixteen states have the characteristics of Group III legal debt restrictions at both the state and local levels, but only three states have similar provisions under Group II and four states are comparable under Group I.

F.90 = 2.43 F.999=8.13 Critical /alue of F* ନ mputed F Value 62 9.36 € Mean roup 350 C 75 Group II Mean

407

345

General obligation debt/capacity

index

Debt Measure

63

49

Percentage general obligation debt

3

Nonguaranteed debt/capacity

÷

index

Ŕ •Por 2/45 degrees of freedom. †See Table 6, note 2. Table

Source: See Appen

⁶¹ Indeed, the forms of limitations are not strictly comparable. For example, except for South Carolina, which requires a two-third's majority, debt authorization referendums only require a simple majority at the state level, compared to the numerous special majority provisions at the local level. Further, the state governments with legislative action do not have debt limitations, whereas the local governments that can authorize debt issues by legislative action do have debt limitations.

The Effectiveness of Debt Limits on State and Local Government Borrowing

We have constructed a three-way classification that includes forty-eight states. Those states with Group III characteristics at both the state and local levels were placed in the most restrictive group (again designated Group III). Those states with Group I characteristics at both the state and local levels were placed in the least restrictive Group I. States with a combination of Group III-Group II or Group III-Group I characteristics were placed, ordinally, in the middle (Group II). Finally, a few states had Group II-Group I combinations. Of the latter, those states with a special-majority characteristic at one level of government were placed in Group II. The states with only a simple majority requirement were placed in Group I. The foregoing classification can be referred to as an "aggregate tri-classification."

The "aggregate tri-classification" yields the following results (see Table 8): (1) general obligation debt in the debt/ capacity index and the percentage general obligation debt are both correlated (inversely) with our debt-restriction variables; (2) both the nonguaranteed debt/capacity index and the percentage nonguaranteed debt are correlated (positively) with our classifications; (3) there is no relationship between the total debt/capacity index and the degree of restrictiveness of legal debt limitations.

SUMMARY

Our statistical evidence, using either debt outstanding data in the debt/capacity index or the percentage general obligation-percentage nonguaranteed debt, corroborates the "restriction hypothesis." General obligation legal debt limitations have been ineffective in restricting total state and local government debt, although they have been successful in restricting total state and local general obligation debt. Nonguaranteed debt has been used to circumvent and essentially to offset legal debt limitations.

Within the state government share, this nonguaranteed debt substitution does not completely offset the restrictive effects of legal debt limitations. Within the local government share, nonguaranteed debt substitution does offset the legal debt restrictions.

	TABLE 8. Combined State and Local Government Statistical Data	and Local Government Statistical Data lassification" of Restrictiveness of Debt Provisions (3) (4) (5) (6) Group Computed Critical F Palue Critical Nature Critical F Provess Mean Value Critical F Provess Mean Value Critical F Provess (3) (4) (5) (6) Group Computed Critical F Provess (4) (5) (6) Group Computed Critical F Provess (4) (5) (6) (6) (7) (6) (7) (7) (7) (7) (7) (7) (7) (7	Sined State regate Tri-lega Croup II Mean .501 .53 .53 .53	ABLE 8. Coml for an "Agg (1) EIII Mean .372 .386 .58	T/ Debt Measure General obligation <i>debt/capacity</i> index Nonguaranteed <i>debt/capacity</i> index Percentage non- guaranteed debt
	for an "Aggregate Tri-Classification" of Restrictiveness of Legal Debt Provisions $\begin{array}{c cccc} 1 & (1) & (2) & (3) & (4) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (5) \\ \hline 1 & (2) & (3) & (4) & (5) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (4) & (5) & (5) & (6) \\ \hline 1 & (1) & (2) & (3) & (6) & (7) & (7) & (5) & (6) \\ \hline 1 & (1) & (2) & (7) & (7) & (7) & (7) & (6) \\ \hline 1 & (1) & (2) & (2) & (1) & (7) & (7) & (7) & (6) \\ \hline 1 & (1) & (2) & (2) & (1) & (7) & (7) & (7) & (7) \\ \hline 1 & (1) & (2) & (2) & (1) & (7) & (7) & (7) & (7) \\ \hline 1 & (1) & (2) & (2) & (1) & (7) & (7) & (7) & (7) \\ \hline 1 & (1) & (2) & (2) & (1) & (7) & (7) & (7) & (7) & (7) \\ \hline 1 & (1) & (2) & (2) & (1) & (7) & (7) & (7) & (7) & (7) & (7) \\ \hline 1 & (1) & (2) & (2) & (2) & (1) & (7) & (7) & (7) & (7) & (7) & (7) \\ \hline 1 & (1) & (2) & (2) & (2) & (1) & (7) & (7) & (7) & (7) & (7) & (7) \\ \hline 1 & (1) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2) & (2)$	correlation .24 9.01 F. ₉₉₉ =8.13 positive	.47	.58	ercentage non- guaranteed debt
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Source: See Appendix, Table A3 *For 2/45 degrees of freedom. *iSee* Table 1, note 2.

no correla-tion

=2.43

F.90

22

659

44

45

But as demonstrated in section III, state governments that are relatively restricted rely more heavily on local governments to finance public projects. Consequently, since local government issues nearly three times as much debt as state governments and has completely offset restrictions within its share, when we bring state and local government data together, the local effect overcomes the remaining restrictive effects felt by state government. Hence on a statewide basis, interstate comparisons show that legal restrictions have been successfully circumvented. States are not differentiated in their debt experience when related to degrees of restrictiveness of legal debt limitations. These results corroborate the "restriction hypothesis."

V. Policy Conclusions

The results of this study suggest that state and local legal debt limitations do not restrict total debt issuance. Nor does the absence of debt limitations result in "excessive" debt issuance, measuring "excessive" on a comparative basis with similarly situated but more restricted governmental units. In this section we examine the alternative implications of the issuance of nonguaranteed debt to circumvent legal debt limitations that derive from different political conditions or assumptions.

First, we might assume that taxpayers, acting through their elected officials, are willing to assume the risk of default of general obligation debt up to some prescribed limit (as provided in the current debt-limitation legislation), after which the risk of default of further debt is shifted to other economic decision units *e.g.*, bondholders—through nonguaranteed financing. If the intent of general obligation debt-limitation legislation is *solely* to limit the issuance of general obligation debt (which it has done, at least on a relative basis), then the higher cost of nonguaranteed debt issued in excess of the prescribed debt limit—is the payment (cost) of obtaining the benefit of shifting risk. If, as is the case, the laws were created by a previous generation, the fact that they are not repealed should reflect the desire of the present generation to retain these laws. Or they may reflect the fact that the cost of repeal, in an additive cost-benefit sense, is greater than the anticipated benefit in the post-repeal environment—the interest-cost saving of being able to issue lower cost general obligation debt. This latter assumption would appear to be particularly weak, given the example of the estimated additional dollar cost of nonguaranteed debt presented in section III. We could, however, assume that less-than-perfect knowledge of alternative costs/benefits exists. The electorate or the governmental officials may underestimate the extent of the additional cost of nonguaranteed financing, relative to the cost of repeal. The resultant incremental dollar expenditure of nonguaranteed debt is then the cost of ignorance.

Second, if instead a governmental unit *implicitly* guarantees nonguaranteed issues, then a real cost will be incurred in choosing nonguaranteed debt financing for the purpose of (a)locus-of-risk or (b) shifting the risk of issues in excess of some prescribed limit. Past experience with technical defaults and subsequent dollar-loss experience on nonguaranteed bonds suggests that this is a realistic occurrence. Some students contend that substantially all states have in the past—and will in the future make good on nearly all defaulted nonguaranteed issues or come to the aid of threatened projects (issues) before actual default.⁶²

If this situation exists, then the actual risk is borne by the taxpayers in either case. All issues would be, in effect, general obligations, but the uncertainty of this fact (generated by the form of the nonguaranteed bond indenture) would cause the nonguaranteed obligations to have higher interest rates. This situation creates a "risk-gap—a gap between the actual risk that a state might repudiate its revenue bonds as determined by its intentions, and

⁶² See Robert G. Smith, Public Authorities, Special Districts and Local Government (Washington, D.C.: National Association of Counties Research Foundation, 1964), pp. 33-37; Heins, op. cit., pp. 25-26.

the risk envisioned by the investors in revenue bonds."⁶⁸ This gap (real cost) may be approximately measured by the differential interest costs between homogeneous general obligation and nonguaranteed issues.⁶⁴

Third, the constituency may desire legal debt limitations as a control on the issuance of all debt. If the primary reason for legal debt limitations is protection for current and future taxpayers against "overzealous" politicians, then this objective has not been achieved. On a statewide basis, governmental units with relatively restrictive debt limitations have issued just as much debt as less restricted or unrestricted units. Debt limitations have merely changed the composition and increased the cost of financing capital expenditures. Viewed differently, the fact that relatively unrestricted states do not, on the average, abuse the debt financing instrument suggests that debt limitations are unnecessary. They have simply forced the use of the higher-cost nonguaranteed instrument for inappropriate (*i.e.*, nonlocus-of-risk) reasons.

From our analysis, the only clear-cut control of debt by legal limitations has been to restrict general obligations and—to a lesser extent—total debt at the state level of government, whose aggregate debt financing represents only one fourth of total state and local debt financing.

A POLICY PROPOSAL

One student of state and local debt financing has suggested "that full borrowing power be restored to state legislatures, with no referendum requirements, nor any other restriction currently found in state constitutions."⁶⁵ Presumably, from the foregoing evidence, this policy proposal could be extended to local government and to restrictions provided in statutory laws. This proposal would not give governments any more ability to issue debt than they already possess, but it would increase the alternatives available to governmental units in the formulation of a sound and desirable debt policy. Nonguaranteed bonds, used for reasons of shifting the locus-of-risk or shifting risk in excess of some prescribed limit,⁶⁶ would still be issued. But those nonguaranteed bonds, formerly issued solely to circumvent legal limits, would then be issued as general obligations, with lower interest costs.

This proposal shifts the focus of the safeguarding function from formal, inflexible laws to legislative "good sense." There would appear to be no loss of control (cost) in making this adjustment, since essentially no control formerly existed. The benefits would be lower capital costs and a more desirable composition of debt outstanding. Control of mismanagement in either case ultimately lies in (a) choosing high-quality, responsible government decision-makers who will be responsive to the wishes of the electorate and (b) adopting sound auditing procedures.

This proposal would not preclude shifting financial responsibility to other units of government or establishing "quasigovernmental" units with the power to incur nonguaranteed debt but not to tax. Such a move, however, would have to be justified on the basis of efficiency—lower costs, expediency, quality improvement, and so on—rather than merely as a means of circumventing inflexible legal limitations.

If the adoption of a policy to allow complete freedom to borrow is politically infeasible, a second-best solution involving some diminution of legal restraints would at least represent a movement in the right direction.

⁶³ Heins, op cit., p. 27.

⁶⁴ Robinson, op. cit., chaps. 6-7; Heins, op. cit., chaps. 2-4.

⁶⁵ Heins, op. cit., p. 85. The remainder of this section draws heavily on Heins, chap. 6.

⁶⁶ Determination of the desirable limit would then be the result of legislative evaluation, rather than a constitutional/statutory law. Legislative rules, formal or informal, would presumably be more elastic with respect to changing environmental conditions.

TABLE A1. State Government Debt/Capacity Indexes* and Percentage Nonguaranteed Debt Outstanding, by Type of Legal Debt Limitation, 1962

		Group III			1	G	roup II					Group I		
State	Gen. Obli. C†	Ng. C‡	Total C§	Per- cent Ng.¶	State	Gen. Obli. C†	Ng. C‡	Total C§	Per- cent Ng.¶	State	Ger Obl Ct	L Ng. C‡	Total C§	Per- cent Ng.¶
Ala. Ariz Colo Fla. Ga. Ind. Min Neb Nev N.D Ohia Ore. Pa. S.D. Tex. Utal Va. Was		.279 .028 .060 .180 .344 .167 .201 .176 .015 .025 .006 .029 .128 negl. .187 .028 .047 .046 .122 .231 .303	342 028 060 180 344 168 318 203 119 025 012 045 05 028 105 046 127 261 505	.81 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1	Ark. Calif. Idaho Ill. Iowa Kan. Ky. La. Me. Mo. Mont. N.J. N.M. N.Y. N.C. Okla. R.I. S.C. Wyo.	.146 .185 .006 .039 .024 .018 .127 .297 .143 .024 .013 .024 .013 .095 .056 .106 .171 .078 .210 .342 0	.092 .013 .019 .069 .012 .175 .485 .109 .227 .011 .140 .027 .123 .110 .011 .287 .014 .108 .071	.238 .198 .025 .108 .036 .193 .612 .406 .370 .035 .153 .153 .153 .153 .182 .216 .182 .224 .450 .071	.38 .07 .75 .64 .34 .91 .79 .27 .61 .31 .91 .47 .69 .51 .06 .78 .06 .24 1.00	Conn. Del. Mass. Miss. N.H. Tenn. Vt.	.211 .422 .233 .300 .299 .122 .324	142 .034 .142 .294 .005 .009 .015	.353 .460 .379 .596 .295 .131 .343	.40 .07 .37 .49 .02 .07 .04
Wis. Mea	n .048	.053	.169	1.00		.109	.114	.223	.52		.274	.092	.365	.21

* For convenience, all debt/capacity indexes are presented as: $C = \left(\frac{b/r}{r/p}\right) \left(10^{-4}\right)$. We have excluded school district debt because nonguaranteed debt is † General obligation debt/capacity index. ‡ Nonguaranteed debt/capacity index. \$ Total debt/capacity index.

50

§ Total *debt/capacity* index. ¶ Percentage nonguaranteed debt outstanding.

Source: Computed from data in the United States Bureau of the Census, Census of Governments: 1962, Vol. IV, No. 4.

4 TABLE A2. Local Government Debt/Capacity Indexes* and Percentage Nonguaranteed Debt Outstanding, by States and by Degree of Restrictiveness of Legal Debt Provisions, 1962

	Gr	III avo				G	TI mum				G	Toup I		
	Gen.	oup III		Per-		Gen.	toup II		Per-		Gen.			Per-
	Obli.	Ng.	Total	cent		Obli.	Ng.	Total	cent		Obli.	Ng.	Total	cent
State	Ct	C‡	C	Ng.¶	State	Ct	C‡	C	Ng.¶	State	Ct	C‡	C	Ng.¶
Ala.	.365	.486	.851	.61	Calif.	.301	.104	.405	.41	Conn.	.264	.059	.323	.19
Ariz.	.339	.458	.797	.79	Me.	.207	.110	.317	.37	Del.	.217	.077	.294	.38
Ark.	.429	.216	.645	.68	Mass.	.224	.095	.319	.31	Kan.	.436	.150	.586	.40
Colo.	.461	.112	.573	.33	Miss	.875	.223	1.098	.27	Md.	.434	.098	.532	.18
Fla.	.289	.400	.689	.71	Neb.	.238	.557	.795	.85	Minn.	.509	.101	.610	.31
Ga.	.337	.275	.612	.52	Nev.	.278	.076	.354	.17	N.H.	.245	.040	.285	.21
Idaho	.299	.165	.464	.66	N.Y.	.505	.158	.663	.29	NJ.	.241	.113	.354	.46
III.	.257	.147	.404	.55	N.D.	.387	.048	.435	.26	N.C.	.430	.060	.490	.12
Ind.	.156	.175	.331	.62	Tenn.	.659	.460	1.119	.41	R.I.	.338	.069	.407	.17
Iowa	.274	.068	.342	.42	Va.	.395	.230	.625	.37	Vt.	.280	.020	.300	.08
Ky.	.348	.290	.638	.64										
La.	.887	.278	1.165	.35							5			
Mich.	.350	.077	.427	.32										
Mo.	.276	.126	.402	.49										
Mont.	.268	.102	.370	.53										
N.M.	.370	.235	.605	.48										
Ohio	.358	.079	.437	.30						1				
Okla.	.487	.143	.630	.29										
Ore.	.259	.089	.348	.41	· · · · · ·									
Pa.	.232	.279	.511	.60										
S.C.	.241	.180	.421	.53										
S.D.	.166	.026	.192	.26										
Tex.	.650	.246	.896	.29										
Utah	.349	.244	.593	.61										
Wash.	.258	.745	1.003	.88						1				
W.Va.	.162	.165	.327	.74										
Wis.	.405	.060	.465	.17						1				
Wyo.	.378	.175	.553	.53										
Mean	.345	.216	.560	.51		.407	.206	.613	.37		.350	.082	.432	.25

* See notes to Table A1.

Source: See Table A1.

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Appendix: Statistical Tables

		-tert	Ng.1	2	55	285	ŝ	LV	Ē	:=	90	2																.24	
		Total	5	676	421	779	580	PES	673	631	643	2											5-	2				.659	
roup I		Ne.	ö	201	111	325	045	108	071	083	035																	.134	
G	Ler	Ubli.	ζ	475	643	454	535	336	109	548	608																	.525	
									7																				
			State	Conn.	Del.	Kan.	N.H.		UZ	R.I.	Vt.																		
_	Per-	cent	Ng.1	.50	.26	.67	.58	.41	.73	.33	.51	.35	.34	.26	.37	.47	.70	-86	39	54	.35	.24	.50	.36	33	.47	.62	.47	
		Total	ືຍ	.883	.603	.489	.512	.378	1.250	1.571	.687	.850	698	.729	1.694	.437	.523	.820	.366	.784	.879	.480	.995	.871	1.250	.752	.624	.746	
II dno.	ĉ	Ng.	IJ	.308	.117	.184	.216	.080	.775	.387	.337	.299	.237	.116	.517	.137	.242	.582	.082	.358	.268	770.	.430	.288	.469	.352	.246	.296	
5	Gen.	Obli.	ţ	.575	.486	.305	.296	.298	.475	1.184	.350	.551	.461	.613	1.177	.300	.281	.238	.284	.426	.611	.403	.565	.583	.781	.400	.378	.501	
		ţ	State	Ark.	Calif.	Idaho	III.	Iowa	Ky.	La.	Me.	Md.	Mass.	Minn.	Miss.	Mo.	Mont.	Neb.	Nev.	N.M.	N.Y.	N.D.	Okla.	S.C.	Tenn.	Va.	Wyo.		
	Per-	cent	I.gu	.67	.81	.43	.78	12.	.76	.57	.50	.15	.67	.42	.31	.65	88.	.64	.28	A.								.58	
		Total	5	1.193	.825	.633	.869	.956	.499	.630	.591	.707	.744	.220	1.001	.639	1.264	.832	.518									.758	
III dno.		NB.	5	.765	.486	.172	.580	.619	.342	.253	.207	.089	.466	.054	.293	.290	.976	.468	.113									.386	
Q	Gen.	Obli.	5	.428	.339	.461	.289	.337	.157	.377	.384	.618	.278	.166	.708	.349	-288	.364	.405									.372	Table A1.
		i	State	Ala.	Ariz.	Colo.	Fla.	Ga.	Ind.	Mich.	Ohio	Ore.	Pa.	S.D.	Iex.	Utah	Wash.	W.Va.	WIS.									Mean	* See notes to Source: See Ta

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Selected References

- Advisory Commission on Intergovernmental Relations. *Measures of State and Local Fiscal Capacity and Tax Effort*. Washington, D.C.: Advisory Commission on Intergovernmental Relations, 1962.
- Advisory Commission on Intergovernmental Relations. State Constitutional and Statutory Restrictions on Local Government Debt. Washington, D.C.: Advisory Commission on Intergovernmental Relations, September 1961.
- Bird, Frederick L. *Revenue Bonds*. Los Angeles, Calif.: The Haynes Foundation, 1941.
- Chatters, Carl H. (ed.). Municipal Defaults: Their Prevention and Adjustment. Chicago: Public Administration Service, 1933.
- Copeland, Morris A. Trends in Government Financing. Princeton, N.J.: Princeton University Press, 1961.
- Council of State Governments. State Constitutional Restrictions on Local Borrowing and Property Taxing Powers. Albany, N.Y.: Government Affairs Foundation, 1965.

Fowler, John F. Revenue Bonds. New York: Harper and Brothers, 1938. Gottlieb, M. "The Revenue Bond and Public Debt," Quarterly Review of Economics and Business, 1, No. 2 (May 1962), 31-42.

Heins, A. James. Constitutional Restrictions Against State Debt. Madison: University of Wisconsin Press, 1963.

Hillhouse, A. M. Municipal Bonds: A Century of Experience. New York: Prentice-Hall, Inc., 1936.

Knappen, Lawrence S. Revenue Bonds and the Investor. New York: Prentice-Hall, Inc., 1939.

Kurnow, Ernest. "The Nonguaranteed Debt of State and Local Governments," National Tax Journal, 15 (September 1962), 239-45.

- Maxwell, James A., Financing State and Local Governments. Washington, D.C.: Brookings Institute, 1965.
- Mitchell, William E. "The Use of Nonguaranteed Debt To Circumvent State and Local Government Legal Debt Limitations." (Unpublished Ph.D. dissertation, Department of Economics, Duke University, 1967.)

O'Donnell, J. L. "Some Postwar Trends in Municipal Bond Financing," Journal of Finance, 17 (May 1962), 259-68.

---. "The Tax Cost of Constitutional Debt Limitation in Indiana," National Tax Journal, 15 (December 1962), 406-12.

- Olsen, Iver C. Revenue Bond Financing by Political Subdivisions. Washington, D.C.: Federal Emergency Administration of Public Works, 1936.
- Phillips, Jackson, and Roger Baum. "Postwar Default Experience of Municipal Bonds." United States Congress, Subcommittee on Economic Progress of the Joint Economic Committee, State and Local Public Facility Needs and Financing, Vol. 2, Public Facility Financing. 89th Cong., 2d Sess., December 1966, pp. 243-47.
- Porter, Robert J. Factors Influencing the Cost of State and Local Borrowing in Kentucky. Lexington: University of Kentucky, Bureau of Business Research, 1965.
- Porter, R. P. "State Debts and Repudiation," International Review, November 1880.
- Ratchford, B. U. "A Formula for Limiting State and Local Debts," Quarterly Journal of Economics, 51 (November 1936), 71-89.
- ----. American State Debts. Durham, N.C.: Duke University Press, 1941.
- ----. "State and Local Debt Limitations," National Tax Association, Proceedings, October 1958, 213-29.
- Raymond, William L. State and Municipal Bonds (2d ed.). Boston: Financial Publishing Company, 1932.
- Robinson, Roland I. Postwar Market for State and Local Government Securities. Princeton, N.J.: Princeton University Press, 1960.
- Scott, William A. The Repudiation of State Debts. New York: Thomas Y. Crowell, 1893.
- Smith, Robert G. Public Authorities, Special Districts and Local Government. Washington, D.C.: National Association of Counties Research Foundation, 1964.
- Studenski, Paul. Public Borrowing. New York: National Municipal League, 1930.
- Tyler, W. H. "Revenue Bond Financing: Advantages and Disadvantages," *Municipal Finance*, 32, No. 2 (August 1959), 72-82.
- United States Department of Health, Education and Welfare. *Health*, *Education and Welfare Indicators*. Washington, D.C.: United States Government Printing Office, 1961.

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