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POSTWAR MARKET
FOR STATE AND LOCAL GOVERNMENT
SECURITIES



SUMMARY AND CONCLUSIONS

THE postwar market for state and local government securities accounted for approximately one-seventh to one-ninth of the gross volume of long-term funds (including real estate mortgages) raised through the capital markets. If measured on a net basis—new issues less retirement—the importance of this market was somewhat greater: between one-fifth and one-eighth of the net flow of funds into long-term uses. The relatively greater importance of net over gross state and local government capital financing is accounted for by the fact that the average maturity of state and local government securities marketed has been fairly long and the amount of refunding or repayment prior to maturity is less than in other segments of the capital market.

The unique feature of the market for state and local government securities, the one that sets it apart from other segments of the capital market, is that interest income from these securities is exempt from federal income taxes. The federal government stopped granting this privilege to investors on its own securities in 1941. Since then state and local governments have had a new-issue monopoly of this privilege. The other characteristics that influence this market, such as quality of securities and maturity distribution of offerings, are also encountered in other sectors of the capital market.

The exemption of state and local government securities from the taxation of the federal government originated in the constitutional division of sovereignty in the United States. Some constitutional lawyers, including a number of specialized municipal bond attorneys, feel that the doctrine of reciprocal immunity between the states and the federal government first stated in *McCulloch v. Maryland* in 1819 would make a federal tax on interest income from state and local government obligations unconstitutional. Many others, apparently including a majority of academic and federal government lawyers, feel that the passage of the 16th Amendment removed this bar and that thereafter the federal government could have taxed the income from state and local government obligations. Since Congress explicitly exempted taxation of such income by statute in 1913, that is where the matter has since rested. In effect, the issue has not been adjudicated.

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The popular defense of tax exemption is that it helps state and local governments finance meritorious capital expenditures: schools, roads, sewers, waterworks, and the like. Thus tax exemption has a powerful political appeal. At present the possibility that the exemption could be erased from the statute books seems remote. But viewed as a problem in economics rather than politics, this exemption seems to have become an increasingly ineffectual aid to state and local government finance. A rational investor will not accept a lower yield from a state and local government security unless it is offset by a more than equal tax savings. Since this comparison must stand the scrutiny of the marginal investor, intramarginal holders necessarily have tax savings considerably greater than the reduction of borrowing costs to state and local government. This margin may be viewed as a kind of "investors' surplus."

Over the five years from 1951 to 1955, state and local governments saved on interest cost at a rate averaging less than three-quarters of one per cent by virtue of tax exemption. During the same period, the federal government lost annually on reduced taxes an amount equal to about two per cent of the tax-exempt bonds sold. The amount at issue would, at a rough guess, be a sum in excess of half a billion dollars at present levels of interest rates. This amount is suggested by multiplying the one per cent differential by the outstanding debt of state and local governments which is now in excess of fifty billions of dollars. The revenue foregone by the federal government as a result of this exemption can be viewed as a way of aiding state and local governments to improve educational plants, build roads, and make other kinds of state and local government capital outlays. This indirect subsidy, however, has clearly become a quite inefficient one. It has helped state and local government finance only moderately but has cost the federal government substantial amounts. Furthermore, it has helped the most severely pressed local governmental units the least. This was particularly true in the case of lower-grade obligations where the need of subsidy or help may be particularly great. In other words, the toll roads, rapidly growing school districts, and expanding municipalities apparently gained less from tax exemption by way of reduced borrowing cost than the cities

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and states where borrowing needs were less pressing. The subsidy element in tax exemption has not been correlated with need.

It has been suggested that in the absence of tax exemption smaller local governmental units might have to pay a rate of interest even higher than that paid by corporations of comparable size and credit quality. (Corporate interest costs, fully subject to income taxes, have been used for comparative purposes at several points in this study.) This possibility exists and cannot be denied. Nevertheless it does not seem likely. In the 1920's when tax exemption was worth far less than now, smaller local governmental units apparently were able to borrow at rates below those applying to comparable smaller corporations. Rates for both were high but not excessively high for local government. Size probably affects the credit quality of local government less adversely than it does the credit quality of corporations. The logic of credit analysis supports this assumption.

The two principal causes for the reduced efficiency of tax exemption as a borrowing aid are: first, the demand for funds by state and local governments increased enormously. Almost all borrowers increased their demands on the capital markets but none have had a more sustained impact than state and local governments. Second, the number of investors combining tax exposure and a natural investment interest in these obligations failed to expand equally and very likely shrank relatively. As a result of these two factors, yields on state and local government securities increased sharply, relative to other yields as well as absolutely.

STATE AND LOCAL GOVERNMENT DEMAND FOR FUNDS

During the postwar decade, 1946-1955, state and local governmental units borrowed increasingly large amounts. In the early postwar years, the backlog of deferred public construction was large. In addition, these governmental units have been called on to furnish a growing volume of services. Shifts in the housing and location of population combined with sustained prosperity have contributed to this situation. Still another factor was that public construction costs increased faster than the general price level. The high birth rate and rising incomes not only pushed families into the suburbs; they also led to enlarged demands for school and recreational facilities. The increased automotive popu-

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lation would have been even more crowded without added roads. To allow traffic on the roads a chance to move meant off-street parking facilities. And thus the chain of causation has run.

The immediate circumstance explaining most state and local government borrowing in the postwar decade has been some kind of governmental capital outlay. Borrowing, at least on a long-term basis, to finance deficits in current expenditures over current receipts has been rare. States borrowed rather large amounts for veterans' bonuses, but aside from this case noncapital financing accounted for only a small fraction of the postwar total.

State and local government capital expenditures have not been subject to any evident cyclical influence since World War II. They appear to have been unaffected by any of the three modest dips in business activity. This experience suggests that the basic demand for the services of these facilities is not geared closely to short-term income fluctuations. Furthermore, the planning and execution of these works has such a massive momentum that it is not likely to be disturbed by short-term business fluctuations. This has probably also been true in earlier periods, although during the Great Depression state and local government capital expenditures were drastically cut.

Indeed, it can be said that the borrowing by state and local government to finance capital expenditures has recently had more of a countercyclical than a cyclical character. State and local governments, sensitive to the level of interest rates, tend to defer financing in periods of tight money markets and to hasten to the market when interest rates decline. Since financing is undertaken well in advance of the actual capital expenditures, a prolonged period of tight money markets would have to elapse before this influence succeeded in much dislocation of the time pattern of state and local government capital expenditures. Ultimately, however, this influence seems to be felt.

Most state and local government capital expenditures are for a type of facility that is not directly revenue-producing. Free roads and school buildings and other public structures still dominate state and local government capital expenditures. However, an increasing proportion of the capital outlays of state and local governments are for revenue-producing facilities: toll roads and bridges, sewer and water systems, and sometimes such projects as

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ferryboat systems, intra-urban transportation systems, public parking facilities, and occasionally even facilities to attract new industrial ventures to a locality. Projects of this sort are frequently financed, not on the basis of the full faith and credit of the sponsoring state and local governmental unit, but rather on the basis of the revenue that these projects promise to produce. A later portion of this summary will mention a few of the other factors lying back of revenue bond financing. The influence of business conditions on the ability of these facilities to produce revenue, and therefore to service their bonds, is still largely untested.

SIZE OF THE MARKET: THE INVESTORS

Although the demand for funds has been formidable and insistent, the number of investors interested in this market has not kept pace. Only a limited number of institutional investors are able to take full advantage of the privilege of tax exemption. Price level fluctuations have convinced many individual investors that purchasing power preservation is more important than preservation of fixed-dollar after-tax income.

The composition of investor participation in the market for state and local government securities during the postwar decade changed largely because of the shifting value of tax exemption to various investors. Some investors are tax-exempt *per se*: nonprofit institutions, and qualified pension funds. Such investors obviously have no reason to accept a lower yield for the privilege of tax exemption. Life insurance companies are taxed according to a gross investment income formula which gives them only modest use of the privilege of tax exemption.¹ Commercial banks and fire and casualty insurance companies (both stock and mutual) are taxed at the full corporate rate on net marginal investment income; tax exemption is valuable to them and they are, as might be expected, leading buyers of such securities. Individuals vary; income level,

¹ In 1959, after this manuscript had been sent to the printer, Congress changed the formula by which life insurance companies compute their federal income tax liabilities. The new tax provisions are so complex that their effects are still being disputed by industry tax experts. The investment advantage of tax-exempt securities under this new legislation appears to be particularly ambiguous. The complexity of the law is so great that some industry representatives believe that it may be changed again soon. Accordingly, no effort has been made to analyze the new tax provisions for life insurance companies at this stage. Later references to the income taxation of life insurance companies are, however, made obsolete by this event.

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ownership of equities or direct ownership of a business, access to investment outlets such as oil royalties or rental real estate account for these basic differences. Some individual investors are aggressive builders of wealth; tax-exempt securities hold little appeal for them since capital gains are likely to be their goal. The rate of capital gain accrual they seek is likely to be quite a bit in excess of prevailing yields on all fixed interest obligations whether or not tax-exempt. Aggressive investors are also likely to demand portfolio mobility. They shy away from many tax-exempt obligations because of their limited marketability. Investors with relatively high incomes who aim mainly at capital conservation are the principal individual buyers of tax-exempt obligations. One of the most significant bits of evidence of a declining interest of individual investors in this market is the smaller proportion of tax-exempt securities in large estates.

The changes in ownership of state and local government securities during the postwar period reflected each of these influences. During the early years of the decade, life insurance companies were active sellers of the state and local government obligations they had accumulated when yields were higher and commercial banks were avid buyers. Individuals were relatively neutral. Until the closing year of the decade commercial banks were important buyers of new issues; they were deterred only by interludes of monetary tightness. Fire and casualty insurance companies bought rather more common stocks than tax-exempt securities during the early part of the decade; but in the later part, when equity prices were quite high, they put more of their newly accruing funds into tax-exempt securities. The shift from equities to tax-exempts also appears to have been true of personal trusts administered by corporate fiduciaries. Individuals bought tax-exempt securities directly whenever the yields on them approached fully taxed yields but withdrew from the market when the margin widened. The direct market to individuals seemed to show viability primarily when tax-exempt yields were close to the yields on comparable fully taxed securities.

Investors have been broadly logical in their treatment of the privilege of tax exemption. But in their treatment of risk they have by no means been so clearly rational. The market seems to require high premiums to assume even moderate degrees of credit risk.

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While the credit of some state and local government units is not beyond reproach, the general quality of such credit is high. "Intermediate-grade" Baa or A securities are of respectable quality. They simply do not have the wide margin above reasonable standards possessed by very high-grade securities.

Presumably this emphasis on quality reflects the character of the investors who buy tax exempts. They are not the aggressive and capital-gains maximizing type; they are conservative and cautious. This is true of the institutions that invest in this market as well as of the individuals who use it. As a result, intermediate or lower-grade tax-exempt securities are less benefited by tax exemption than the high-grade ones. Endowing the financing of toll roads, bridges, tunnels, ferries, and other revenue-producing projects with the privilege of tax exemption has thus proved to be a rather barren subsidy; many investors have gained rather materially from the privilege, but these projects have not retained a respectable proportion of this amount by virtue of their ability to offer this privilege to the market. The most impressive demonstration of this fact is that quite a few toll-road bonds have been bought by life insurance companies which are subject to a $6\frac{1}{2}$ per cent marginal rate of taxation on income.

THE MARKETING OF NEW STATE AND LOCAL GOVERNMENT ISSUES

The marketing of new-issue state and local government securities cuts across both the capital and money markets. The marketing institutions include investment banking institutions and a number of commercial banks. These institutions are organized to compete in public bidding to acquire these issues and to resell them to investors. Many high-grade state and local governments raise capital at a marketing cost of less than 1 per cent; most of them achieve a cost of less than $1\frac{1}{2}$ per cent. Only in periods of capital market tension do marketing costs go much higher. Lower-grade and longer-term obligations meet somewhat higher costs, anywhere from 2 to 3 per cent. Only rarely does one encounter a cost for marketing capital issues in excess of 4 per cent, and then generally for marginal projects based on revenue financing.

The marketing institutions constitute a refined and sensitive

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system. The underwriters do not seem to discriminate against governmental units in any clearly irrational way. In fact it can be said that the market is remarkably adaptive to the many complexities of state and local government finance; that the marketing institutions, in most cases, tend to have a constructive influence on the financial policies of governmental units; at the same time they help to educate and persuade investors to accept the peculiar and the unusual types of securities that grow out of the exigencies of such finance.

We could find no evidence that these marketing institutions were other than neutral with respect to the pricing process—with one possible exception. That exception grows out of the inventory practices of dealers. By the nature of this market dealers are forced to take net long positions. Short positions are rare and dangerous. Because dealers' inventories may be a source of loss to the investment banking community, the short-term price record of this market is often erratic. This factor may also help to explain the frequent and wide price fluctuation of state and local government securities.

Nothing found indicated that the existing organization of the marketing institutions has an enduring influence on the level of tax-exempt yields. The ultimates of price and yield determination are clearly a combination of the demands for funds, of investor supply of them, and of Federal Reserve policy. The dealer community sometimes seems to have a mild low-rate bias: dealers bid actively, and are happier when yields are declining because they gain more than they lose from movement in this direction. But this is mostly sentiment; there is no evidence that they have enough ultimate economic power to give much effect to such an influence.

The personnel of this market are thoroughly sophisticated and aware of the several elements of irrationality mentioned at various stages of this study. But, being realists, they accept the existence of these irrational factors and allow for them. They bid for new issues on the basis of what they believe investors will pay for them. If investors will pay more for the bonds of a midwestern city that is an infrequent borrower than for PHA contract Housing Authority bonds supported by a federal government contract to service the debt, investment bankers reflect this preference in their bid-

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ding actions, even though they believe such an investor judgment to be partly irrational.

THE SECONDARY MARKET IN TAX-EXEMPT SECURITIES

The degree of marketability of state and local government obligations is disputed. Defenders of this market claim that these obligations are reasonably marketable, but critics of it do not agree. Evidence is hard to marshal, but the facts collected in this study suggest that the time required to market any appreciable volume of these securities is considerable (unless the owner is willing to cut prices drastically) and that the marketing cost in the secondary market is higher than in the new issues market.

The principal quantitative conclusion reached with respect to the secondary market is that it apparently parallels closely the new issues market as respects yields but moves conversely as respects volume. Unlike corporate securities, the obligations of state and local governments do not go through a "seasoning" process. The only systematic comparison of new-issue and secondary market yields possible is one based on a very short time series of new-issue yields prepared by the Investment Bankers Association. No clear difference in yield between securities offered in the new issues market and those offered in the secondary market could be detected in this short-term comparison. Revenue obligations based on projects under construction and for which there is no operating experience are an exception to this rule. But such revenue obligations, as we shall find, are more like corporate obligations than like full-faith-and-credit obligations of states and local governments.

When the new issues market is dormant, the secondary market takes on life and vitality. Investors seek to meet their portfolio needs in this market and dealers actively seek offerings. When the supply of new issues is ample, the secondary market tends to become less active.

The one great exception to this rule was the development of tax "swaps" near the end of the postwar decade. The tax rules applying to commercial banks permit them to deduct the security losses from current income in computing tax liability. On the other hand, they continue to have the privilege of treating capital gains on a preferred tax basis. As a result, commercial banks engage in exten-

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sive tax "swaps," booking losses in tax years of declining prices on the securities they sell.

PRICING THE PRIVILEGE OF TAX EXEMPTION

When in 1941 the federal government elected to make the income from its own obligations taxable, it left tax exemption to be exploited by state and local governments. With a monopoly of this privilege for subsequent new issues, the yields on state and local government obligations were driven down to a very low level in the postwar period. In 1946 the computed yield on 20-year Aaa state bonds went to 0.9 per cent; the *Blue List* of that period showed offerings of 30- to 40-year obligations at 1 per cent yields and even less. By the fall of 1957, the yield on a comparable obligation was about three and one-half times as high.

In retrospect, 1946 yields were at an absurdly low level. They were only about two-fifths of the yields on fully taxable high-grade obligations; the other three-fifths was the premium paid for tax exemption. If this premium seems high in retrospect, it might have seemed even higher in prospect. In the 1920's and 1930's when securities of the federal government generally offered partial tax exemption (and in some cases complete tax exemption), the value of the privilege was generally modest. Even though tax rates in 1946 were well above the levels of the 1920's and 1930's, many were confidently expecting tax reductions. In other words, the high premium paid for tax exemption at the beginning of the postwar decade should not be viewed as normal, but rather as a special circumstance that happened to prevail at the time our formal analysis begins.

As the postwar decade advanced, the fear of a shortage of tax-exempt obligations diminished and finally vanished. The premium on such obligations accordingly shrank. This was not a steady trend; it came in spurts and was reversed at least once. In 1948 when a tax cut was being debated at length in Congress, the premium shrank; tax-exempt securities declined in price more than other securities. Their recovery in 1949 was parallel only to that of taxable obligations (and possibly less than that). In late 1950 the fear of taxes induced by the involvement in Korea brought about a reversal and the prices of tax-exempt obligations moved

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contrary to other security prices. But this was a short-lived move; it was reversed in early 1951.

Starting in 1951 and reaching a climax in 1953, the money markets experienced their first real tightness in two decades. The prices of tax-exempt securities dropped greatly. But the significant fact was that they dropped more than those of fully taxable obligations of about the same credit quality. This experience suggested that state and local government security yields were unusually sensitive to Federal Reserve credit policy.

This impression was deepened in 1954 when, in money markets made easy by Federal Reserve policy, the prices of state and local government securities recovered somewhat more than those of taxable obligations. In 1955, 1956, and early 1957, when money market conditions tightened, the prices of state and local government obligations again went down more than those of comparable taxable securities.

In a technical market sense, this sensitiveness of state and local government obligations might be explained largely by commercial bank investment policy. Commercial banks bought tax-exempt securities actively when loan demand was modest but reduced their purchases (or even sold) when loan demand became urgent. While this fact may be a plausible explanation of the greater short-term sensitivity of the state and local government security market, the more fundamental reason seems to be that the proportion of investors having rational tax reasons for being interested in this market has remained constant or even declined while the demand for funds has been broadening. State and local governments have had to bargain away an increasing proportion of the advantage of tax exemption to investors.

The yield differential between high-quality state and local government securities and those of intermediate quality continued to be relatively wide. They ended the decade just about as far apart as when it started. On the other hand, the differential between grades of corporate obligations narrowed. It can be argued that the absolute credit quality of "intermediate" corporations improved considerably during this decade. But in many ways the same thing could be said of local governmental units. The shifts of population and the demands for public services strained the finances of many governmental units. At the same time the fundamental economic

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situation of many of these governmental units probably improved. It is hard to support the view that corporate credit has improved so much more than state and local government credit as indicated by the changes in these yield differentials.

The more convincing explanation seems to be that the principal investors in state and local government obligations tend to be temperamentally conservative. Risk-takers find little in this market to attract them. Thus the differential between the highest grade securities and those of intermediate grades is not a reflection of a rational judgment of risk, but an expression of investor preference. The price for finding risk-bearers for investment in tax-exempt obligations appears to be much higher than any actuarial valuation that might be put on the risk.

Offering scales on tax-exempt obligations are a measure, of a sort, of maturity-yield interest rate differentials. They might be thought of as yield curves. The evidence collected in this study showed that the shape of the maturity-yield functions for state and local government serial offerings often varied from the shape of the similar function for U.S. Treasury obligations or other fully taxable securities.

Neither the shape of these curves nor their variations from the more conventional yield curves seemed to square with the principal interest rate hypotheses. Liquidity preference certainly could not explain it since the spread between early and intermediate maturity tax-exempt obligations has often exceeded that of U.S. Treasury obligations, whereas the liquidity preference hypothesis would lead one to expect the opposite relationship. The forecasting hypotheses as an explanation of maturity-yield relationships also fails to square with observed differences. Past differentials have been poor harbingers of later yield changes. The most reasonable explanation, a purely institutional rather than theoretical one, is that this market is highly segmented. Investors have strongly held maturity preferences. The relative participation of various investor groups fluctuates and seems more often than not to furnish the most reasonable explanation of shifts in the maturity-yield relationship.

The prices of state and local governmental obligations have been somewhat more variable than those of other securities, both in frequency of price changes and in the range of price movements.

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This volatility apparently has been due to the fact that state and local government obligations are influenced both by changes in the general levels of interest rates and by the changing yield discount of the privilege of tax exemption. Compounding two factors of variability (which sometimes coincide and sometimes do not) makes them more volatile than is true of those securities which are influenced by just one of these factors.

Estimates of the reduction in cost of borrowing by state and local government compared with the loss of revenue by the federal government suggested that soon after World War II most of the advantage of reduced borrowing costs was being retained by state and local government borrowers while investors obtained relatively little advantage from the purchase of tax-exempt securities. The amount of new-issue borrowing was small in this period and most of the advantage of low yields accrued to investors who sold out their holdings in the secondary market. Life insurance companies were important sellers at this juncture. As the decade wore on, however, the reduction in the cost of borrowing grew relatively smaller when compared with the loss of revenue by the federal government. This was particularly true during years of heavy state and local government borrowing. Although the estimation of both these magnitudes is necessarily crude, it seems quite clear that the revenue lost by the federal government was two to three times the reduction of borrowing costs. The differential between revenue lost and borrowing cost reduction was particularly great in the case of lower-grade obligations. The problem, therefore, was that those state and local government units most in need of good borrowing terms were least able to make full use of the privilege of tax exemption.

Although the differential widened over the decade and therefore suggests a trend, this is probably an unwarranted conclusion. Prior to World War II state and local government obligations did not have a monopoly on tax exemption so the experience then cannot be used to lengthen our historical perspective. On the other hand, it seems quite safe to conclude that in periods of heavy borrowing most of the advantage of tax exemption must be passed along to investors and relatively little of it can be retained by state and local governments. In other words, an average of the annual figures weighted by the volume of financing in each year is consid-

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erably below a simple average of the annual figures. In fairness, it should be made clear that the erosion of the benefits of tax exemption may have been partly due to the fact that changes in tax law during the decade opened up other means by which investors could minimize tax liability.

While tax exemption can be viewed as a boon to state and local governments, it is not an unmixed advantage. Because so many investors have no logical reason for investing in tax-exempt securities, the market is necessarily smaller than for fully taxed obligations, and, furthermore, it is more erratic. The relatively small savings in borrowing costs netted by state and local governments must be offset against the fact that they must finance in a more confined and less stable market.

Those who feel that tax exemption is an important factor in reducing state and local government borrowing costs may be giving too little weight to the intrinsically high quality of these credits. While there have occasionally been defaults on these obligations, most of them were cured without great delay. Ultimate losses on these obligations have been small and rare. State and local government credit would deserve a high credit standing apart from tax exemption and would deserve relatively low interest rates.

THE MARKET FOR REVENUE OBLIGATIONS

Citizens, acting through their state and local governments, apparently believe that some governmental activities should be self-financing and self-supporting. Revenue financing is an expression of this belief. The special authorities established by states to operate harbors, bridges, toll roads, and the like exemplify such circumstances. The market for revenue obligations is much more like the corporate bond market than that for full-faith-and-credit obligations of state and local governments. First, a much larger proportion of them are in term rather than serial form. Second, a larger proportion of them are handled as negotiated deals rather than by public competitive bidding. Third, investors usually judge the quality of a security by its ability to earn income.

Revenue financing has also been used to escape the debt limits imbedded in state constitutions and financing statutes. When the political obstacles to the removal of debt limits are great, revenue obligations have been used in circumstances where full-faith and

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general credit obligations would ordinarily be appropriate. One state has a constitutional debt limit which has, in effect, required it to do all of its borrowing in revenue form. School districts and other special-purpose districts have sometimes been unable to borrow and so have had to arrange complex lease contracts or other devices so as to establish the financial foundation on which a revenue financing project could be undertaken. Whenever financing is supported only by a pledge of revenue, it costs more than it would if based on a pledge of full-faith and general credit. This penalty is often material.

Although all commercial banks may purchase revenue state and local government obligations, members of the Federal Reserve cannot participate in the underwriting of them. For this and other reasons they frequently do not take an active interest in this market even as investors. Commercial banks which are members of the Federal Reserve System have recently been seeking legislation to permit them to underwrite revenue obligations.

Revenue bonds have attracted somewhat different investors than those that buy full-faith and general credit obligations. Although individuals constitute the larger part of the market for these securities, there is a general feeling that it is a different group of individuals from the one that purchases full-faith and general credit obligations. The revenue bonds used to finance toll roads and other quasi-speculative ventures have unquestionably attracted individuals of somewhat more aggressive character than those that typically buy full-faith and general credit tax-exempt obligations.

