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**The Postwar Quality
of State and Local Debt**

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INTRODUCTION AND SUMMARY

The use of debt has been extremely important to economic development throughout the world. Debt has brought about opportunities for economic growth and prosperity. At the same time, it has entailed problems and risks. Attempts to measure either the beneficial or negative effects of indebtedness have been notoriously weak and inexact.

Both the creation of new indebtedness and the stock of outstanding debt instruments perform important economic functions. The creation of debt is the primary means by which funds are channeled from surplus to deficit economic units. Debt, therefore, enables deficit units to use and benefit from goods and services earlier than they would otherwise be able to. At the same time, the surplus units providing the loanable funds are encouraged to save by the interest payments they receive.

The rate of interest which deficit units pay surplus units for the use of their funds should allocate savings, and the real resources they can be used to purchase, to the most effective uses. By returning savings to the spending stream in an efficient manner, debt facilitates the mobility of capital and the continuous adjustment of economic activities through time and, therefore, encourages the steady growth of production and income. This effect tends to be continuous and self-reinforcing — increases in production and income usually lead to increased indebtedness by permitting more savings by surplus economic units and by promoting a greater willingness to borrow by deficit units.

In addition, debt instruments, as an asset, also perform important economic functions. They serve as a means of payment, as a source of liquidity or as a convenient way to store savings, or any combination of the three, while at the same time earning a return roughly commensurate with risk.

The vital role that debt assumes in a highly developed market economy does not negate the problems and dangers which debt may present to the

economy. Inadequate growth of debt may lead to retarded economic growth, inefficiencies in resource allocation and a low supply of liquid assets. The opposite extreme is no less undesirable. Excessive amounts of indebtedness may cause the downfall of numerous economic units and, at least temporarily, lead to some misallocations of resources. Debt payment problems resulting from debt excesses may contribute to cyclical instability either by helping to initiate a contraction in business activity or by prolonging and intensifying an economic depression.¹ Conversely, too rapid an increase in some forms of debt may lead to harmful inflation. Even if an appropriate balance of debt issued and outstanding is attained, there is the additional problem of achieving a balance in the structure and composition of debt.

The problems and dangers associated with debt, and the fact that they have not been thoroughly studied before, encouraged the National Bureau of Economic Research to undertake a quality of credit program. This study is one part of this extensive program.²

Purpose of the Study

One type of debt, state and local debt, is analyzed in this study. Since the end of World War II, outstanding state and local indebtedness has grown at a faster rate than any of the other principal forms of marketable debt instruments. The increase in state and local indebtedness has clearly contributed to the large growth in state and local services and, consequently, to over-all economic progress during the postwar period. No substantive studies, however, have examined the effects of this growth on the quality of state and local debt. Perhaps state and local governments have still not borrowed as much as they could productively and safely use; that is, perhaps the quality may still be too high. On the other hand, it is also possible that excessive amounts of state and local indebtedness have been issued relative to the resources available for meeting debt service payments. Such excesses, particularly if accompanied by excessive indebtedness in other sectors, might lead to intensified cyclical swings in the economy or to inflationary pressures. There might also be serious problems for the state and local sector, such as poor

¹See Geoffrey H. Moore, "The Quality of Credit in Boom and Depression," *The Journal of Finance*, XI, May 1956, pp. 288-300; Arthur F. Burns and Wesley C. Mitchell, *Measuring Business Cycles*, Studies in Business Cycles 2, New York, NBER, 1946, pp. 458-464; and Philip A. Klein and Geoffrey H. Moore, *The Quality of Consumer Installment Credit*, New York, NBER, 1967, pp. 138-173.

²Published studies in the quality of credit program include: Albert M. Wojnilower, *The Quality of Bank Loans: A Study of Bank Examination Records*, New York, NBER, 1962; Martin H. Seiden, *The Quality of Trade Credit*, New York, NBER, 1964; Thomas R. Atkinson, *Trends in Corporate Bond Quality*, New York, NBER, 1967; and Moore and Klein, *ibid.*

allocation of resources, inadequate growth of needed state and local services or loss of local financial control. The primary purpose of this study is to define and measure the postwar quality of state and local debt. The findings of this study should be useful in evaluating the over-all effects of the rapid postwar growth in state and local debt.

Scope of the Study

Five basic tasks are undertaken in this study: (1) a clear explanation of "quality" as used in the study; (2) an examination of the past performance of state and local debt; (3) the identification of instrument and borrower characteristics which measure the prospective quality of state and local debt; (4) an examination of the levels of the significant characteristics in recent years; and (5) an analysis of some evaluations of the level of and changes in these characteristics and the economic environment in which they exist.

The concepts of credit quality and the methods used to measure the quality of state and local debt are discussed in Chapter 2. A simple formulation of the instrument and borrower characteristics which should be indicative of the quality of state and local debt is presented in this chapter.

The past payment performance of state and local debt is examined in Chapter 3. The incidence of payment difficulties, the converse of positive payment experiences, is studied since most state and local debt has been repaid as contracted. The record of payment difficulties from the first recorded default in 1839 through the mid-1960's is examined, with special emphasis placed on those periods when the magnitude of defaults and losses became so serious that many normal state and local financial practices were ineffective.

The primary purpose of Chapter 4 is to identify instrument and borrower characteristics which measure the quality of state and local debt. Two types of evidence are examined: (1) the performance of aggregate instrument and borrower characteristics in periods when the magnitude of defaults and losses was a serious problem and (2) the performance of instrument and borrower characteristics for a cross-section of individual state and local units during the major default period starting in 1929.

The performance of the pertinent aggregate instrument and borrower characteristics is examined in Chapter 5. The figures for the period since World War II are emphasized; however, when it is available, relevant information from earlier periods is used for perspective.

The postwar performance of pertinent instrument and borrower characteristics for several major classifications of state and local debt are examined in Chapter 6. The methods of classification include: geographic region, type of governmental unit and type of resources used to pay debt service charges. This analysis helps to indicate more specific areas of strength and weakness.

The evaluations of instrument and borrower characteristics and the external environment by agencies paid to rate the quality of state and local issues is presented in Chapter 7.

The money and capital markets' evaluation of the quality of state and local debt as indicated by market yield relationships is the subject matter of Chapter 8. The relationships between the yields on state and local issues and the yields on U.S. government bonds, and the relationships among the yields on state and local debt in different rating categories and on different classifications of state and local debt are studied.

Findings of the Study

The following list summarizes many of the most pertinent findings of this study.

1. Since the amount of state and local indebtedness became significant, debt payment problems occurred nearly continuously under both good and bad economic conditions. It was only in major depression periods, however, that the extent of state and local debt payment problems rose to a level that affected state and local finance in a material way. The incidence of debt payment problems generally did not appear to be significantly affected by milder cyclical declines.

2. In each of the four major depression periods in which there were serious state and local debt payment difficulties — 1837-43, 1873-79, 1893-99 and 1929-37 — the extent of such difficulties became a serious economic problem only in the later stages of the depression. This timing characteristic indicates that state and local debt payment difficulties were at least partially caused by the severe declines in wealth and income in these periods. Furthermore, it seems to support the hypothesis that state and local debt payment difficulties add to the severity of major economic declines rather than occur as a major element leading to these declines.

3. Both time series and cross-sectional analyses of historical instrument and borrower characteristics indicated that there was a pattern among these characteristics indicative of debt payment problems. The amount of debt outstanding, a surrogate for debt service charges, increased rapidly before each of the four major default periods and prior to many individual default situations. Wealth and income measures that are indicative of potential cash inflows appear to have risen less rapidly than estimated debt service charges before the major default periods and many individual default situations. These measures then declined absolutely in the economic decline immediately preceding each of the four major default periods. Cash outlays that were paid prior to debt service charges failed to decline as rapidly as cash inflows before major default periods and for many individual default situations. Finally, the

use of state and local debt for essentially private purposes and a continuing deficit in the current account preceded both major default periods and many individual default situations.

4. If it is assumed that the risk of a serious over-all economic decline has remained constant (the major factor in the external environment has not changed), aggregative instrument and borrower characteristics affecting the quality of state and local debt indicate that this quality has weakened since the end of World War II. State and local debt, and the resulting debt service charges, generally have increased moderately faster than state and local general revenues and estimated usable cash inflows and substantially faster than the measures indicative of potential usable cash inflows. State and local tax rates have increased rapidly in this period. The increased contribution of federal financial aid to state governmental units, of state financial aid to local governmental units and new sources of revenues based on the recipient paying for the service may strengthen revenues sufficiently to offset in part the increased debt burden. On the other hand, increased reliance by state and local units on cyclically vulnerable revenue sources and decreased flexibility in applying many state and local revenues because of earmarking and revenue declination would seem to call for greater rather than lesser coverage of debt service charges. The increased downward inelasticity of state and local expenditures also contributed to the relative decline in the quality of state and local debt. The evidence on financial prudence and willingness to pay was mixed. Prudent debt retirement practices and fewer deficits in state and local current accounts are indicative of good financial management; however, the increasing use of state and local debt to build private industrial facilities and the increased amount of indebtedness issued without voter approval are causes for concern.

5. Comparing the level of and changes in aggregate instrument and borrower characteristics in the mid-1960's with similar available measures for the late 1920's indicated that state and local units were more vulnerable to debt payment problems in the later period. As in finding 4, this higher vulnerability is based on the assumption that the risks of an over-all economic decline were the same in both periods.³

6. Instrument and borrower characteristics for selected classifications of state and local debt were also examined. The characteristics of state and local debt classified by type of governmental unit showed that incorporated municipalities and special districts had much higher debt burdens than other state

³The postwar weakening in the relative quality of state and local debt does not necessarily mean a net economic loss to society. The debt has provided certain services which have benefited the area. These benefits should be weighed against the absolute vulnerability to loss of state and local debt. Such a direct comparison is not feasible at the present time.

and local units. Instruments and borrower characteristics for state and local units in statewide geographic regions demonstrated that some states had much heavier debt burdens; however, these states were spread throughout the United States and seemed to change over time. The type of resources used to pay debt service charges proved to be the most fruitful classification in analyzing the over-all quality of state and local debt. Federally guaranteed debt has remained a constant proportion of all state and local debt over the postwar period. Short-term state and local debt has increased rapidly in the postwar period; however, so have state and local liquid assets and other measures of the ability to repay such debt. By far the most rapid relative and absolute increase in state and local debt was in the limited liability obligation. While cash flow coverage of the service charges on such indebtedness has improved moderately in the last decade, this increase may weaken the over-all quality of state and local debt. The security behind most limited liability obligations is generally weaker than full faith and credit debt. Furthermore, since all revenues from the pledged source are usually restricted to one specific project or purpose, unrestricted revenues may cover the service charges on general obligations less than before the rapid postwar growth in limited liability obligations. Unfortunately, no data on aggregate unrestricted revenues are available at the present time.

7. Most economists feel that the probability of a serious over-all economic decline has decreased. There is no consensus on the magnitude of this decrease. However, if a serious over-all economic decline should occur, another period of widespread payment difficulties in state and local debt is likely to follow, according to our findings.

8. Aggregations of agency quality ratings and market yield relationships were used to appraise the significance of instrument and borrower characteristics and to assess changes in the external environment (particularly, the possibility of a serious over-all economic decline). The rating agencies, buyers and potential buyers seem to analyze the same instrument and borrower characteristics examined in this study. In reaching a final decision, they obviously also estimated the probability of a serious over-all economic decline. Both agency ratings and market yield relationships indicated that the quality of state and local debt was at least as high in the mid-1960's as in the early postwar years. This conclusion would seem to indicate further that these agencies and the money and capital markets felt the weakening in instrument and borrower characteristics was at least offset by the decrease in the probability of a serious economic decline.

9. Agency ratings and market yield relationships also helped to identify sectors of state and local debt which would be more likely to face payment problems. Both agency ratings and the money and capital markets evaluated the average quality of limited liability obligations as slightly below that of general obligations. The average quality of toll road revenue bonds and industrial aid revenue bonds appeared particularly weak.