THE MUNICIPAL BOND PORTFOLIO AND CREDIT ANALYSIS

THE MUNICIPAL BOND PORTFOLIO AND CREDIT ANALYSIS

By

Raymond E. Hengren
Division of Research and Statistics
Federal Deposit Insurance Corporation

First Study Conference
The Mississippi Bankers Association
The University of Mississippi, Cooperating
at the
University of Mississippi
June 16, 1949

THE MUNICIPAL BOND PORTFOLIO AND CREDIT ANALYSIS

Introductory Comment. Current and prospective trends in municipal flotations suggest that the volume of new offerings will continue at relatively high levels for some time to come. Through most of the 1930's the amount of new offerings ranged in the vicinity of a billion dollars annually. During the wartime, new issues were greatly reduced in volume, but at the conclusion of the war new offerings practically doubled the prewar totals. The 1948 volume was almost three billion dollars. To be sure, the so-called Veterans Aid issues contributed substantially to the offerings both in 1947 and 1948. However, even if Veterans Aid issues were eliminated the totals would still be of record size.

The volume of municipal bond flotations in the post war years will continue, I believe, at a level at least twice as high as the one prevailing in the 1930's. This is merely a reflection of the expansion in the financial requirements of political subdivisions. High construction costs currently prevailing for public works is one of the most important facts contributing to the increased financial needs. Over a period of years it may be true that some declines in construction costs will occur, but it is rather clear that in the immediate future, and possibly for many years to come, costs will remain high. Furthermore, there is a tremendous volume of deferred capital improvements that will require financing by minor political subdivisions. The educational system, for example, is one of the major segments of activity by local government which now is greatly in need of enlarged capital investment.

Study of the data shows that deficits have been accumulating in the facilities of the educational system for at least 20 years or maybe longer. The need for additions to the school plant throughout the country should not be thought of simply as a backlog accumulating during the war. Building for school purposes was inadequate or neglected during the depression years of the 1930's. The recent sharp increase in the birth rate as well as some important shifts in population have brought the problem to an acute state.

Higher standards for public santiation and a growing recognition that the present system of highways is vastly in need of improvement will also contribute to the volume of municipal security flotations over the next few years. Sewage disposal systems require heavy capital investments and the need is widespread. Nor can construction of this character be greatly delayed. If progress is to be achieved in the national program designed to protect water supplies from continued pollution, many individual projects will require financing by minor political subdivisions. Moreover, highway construction will entail tremendous capital outlays.

Citizens are imposing a great variety of new demands upon their local governments. In many instances the satisfaction of these demands which frequently are related to a higher standard of living involves the use of proprietary corporations known generally as authorities. These authorities cover a range of activities from bridge and tunnel construction to water, sewer, electric services and housing. Not infrequently such agencies can be placed upon a self-sustaining basis by charging fees or tolls for the services rendered to the citizens. Thus, the operating costs and the debt service in connection with the financing of the projects, which ordinarily require substantial capital investments, may be covered without recourse to the customary areas of taxation.

An examination of the evidence indicates, I believe, that the volume of new municipal flotations over the years to come is likely to be sufficient, and the variety of issues will be great enough to supply the needs of any investment portfolio. However, the problem of security analysis will be complicated by the variety of issues as well as the volume of flotations. Buyers of municipal securities will require knowledge concerning a great many more issues than they have in the past. Furthermore, some of the issuers will present novel financial arrangements that will require exceedingly careful analysis on the part of the bond portfolio managers.

I. Descriptive Part

Bank Holdings of Municipals. Both in absolute and relative terms, the amount of municipal securities held by the insured commercial banks in the U. S. has never been very large. The record, presented in Chart 1, shows that since the mid-1930's the proportion of total assets invested in these portfolios has ranged from a low of 2½% to a high of slightly over 5%. The proportion remained more or less consistently near the latter figure for several years immediately preceding the war.

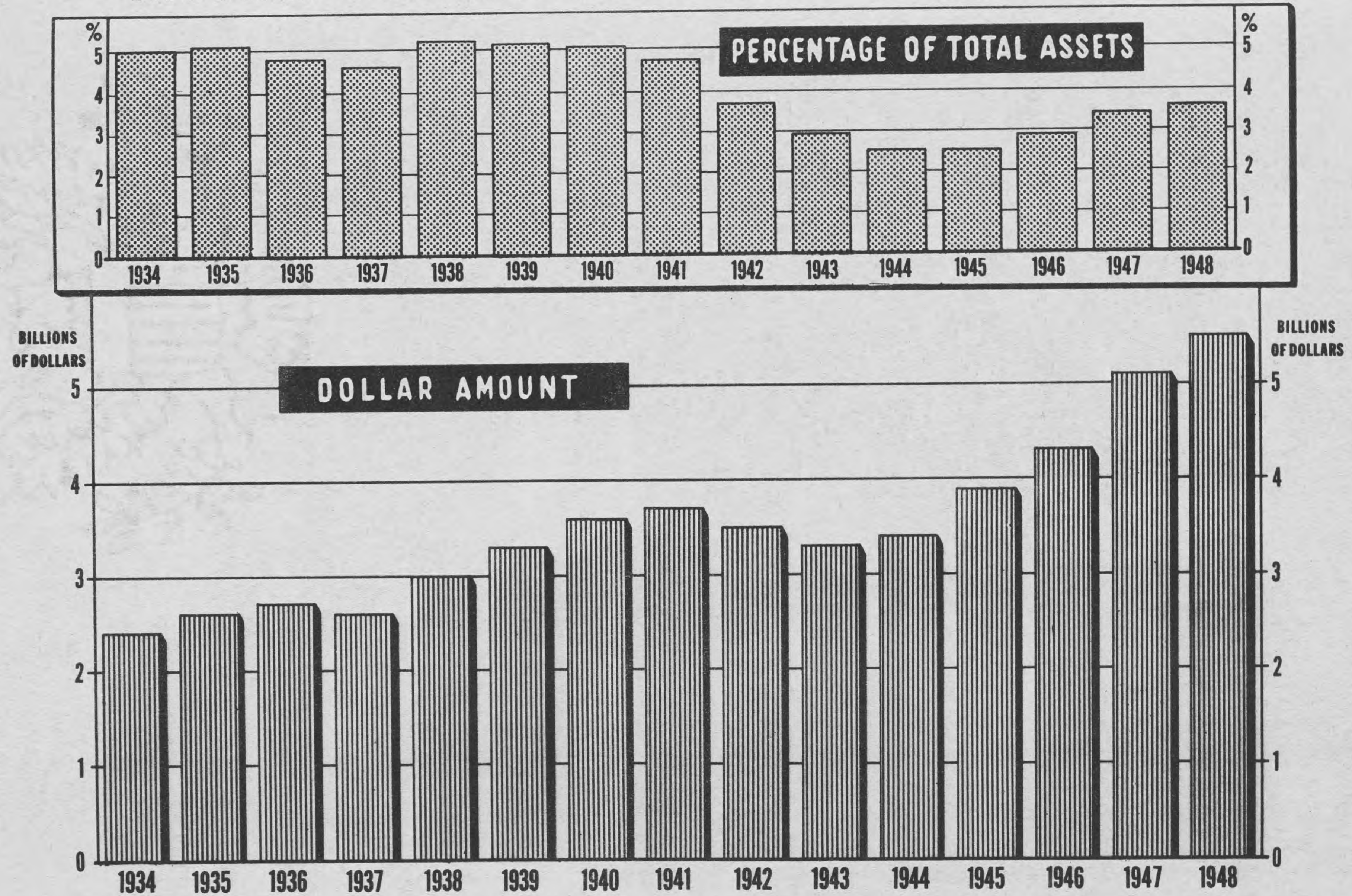
The sharp expansion in the total resources of banks during the war which coincided with a shrinkage in the volume of new offerings of municipals accounted largely for the decline in the relative importance of the municipal portfolio. Since then, the municipal portfolio has been growing in importance.

Considering the dollar amount of bank investment in municipal securities over the years 1934 to 1948, the trend has been more or less steadily upward. Declines occurred both in 1942 and 1943, but even before the end of the war the increases became evident. At the close of the period, commitments were practically double the level of the mid-thirties.

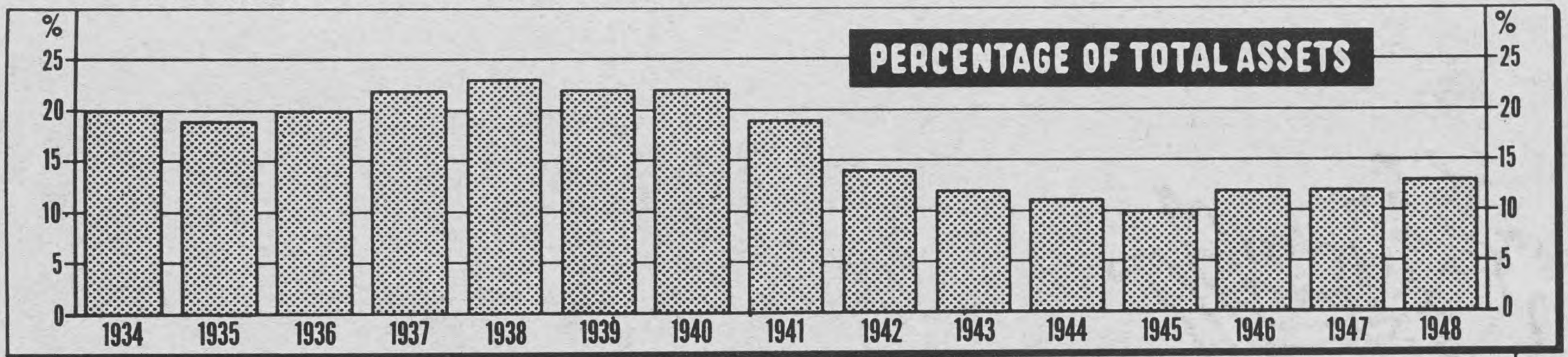
There is every reason to believe that the combined municipal portfolios for all banks in the U. S. will continue to grow for some time to come. It would be conservative to anticipate that banks will increase their holdings to something like the prewar level of 5% of assets in these securities. Barring an unusual shrinkage in the resources of the banking system, an investment equal to 5% of this total would result in a combined portfolio amounting dollarwise to nearly eight billion.

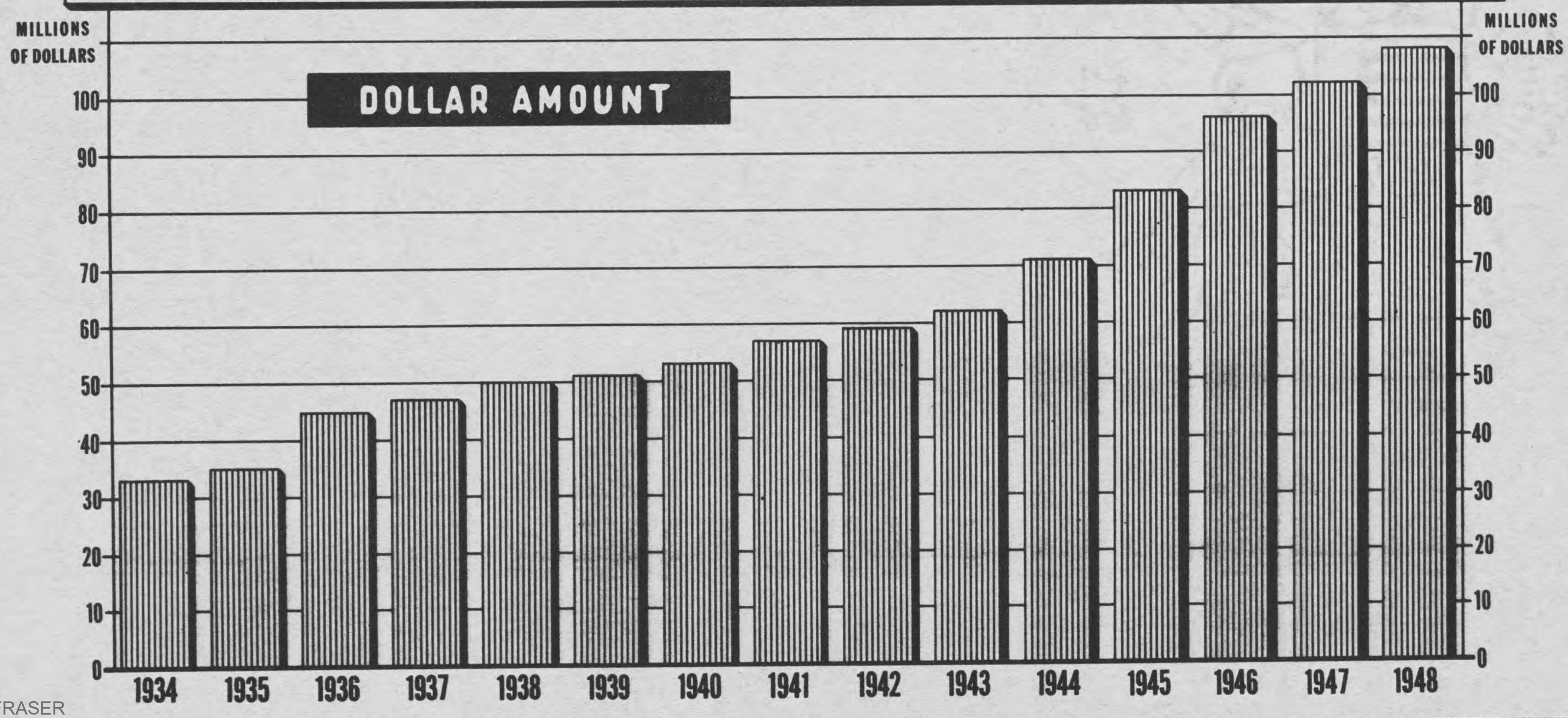
A review of the data with respect to the municipal portfolios held by banks in Mississippi, as shown in Chart 2, reveals two interesting facts. In the first place, banks in this State have always invested a relatively high proportion of their total assets in municipals as compared with the nationwide average. Over the period 1934-1948,

① STATE, COUNTY AND MUNICIPAL OBLIGATIONS HELD BY INSURED COMMERCIAL BANKS – UNITED STATES



② STATE, COUNTY AND MUNICIPAL OBLIGATIONS HELD BY INSURED COMMERCIAL BANKS – MISSISSIPPI





this proportion has ranged from a low of 10% to a high of 23%. Secondly, the dollar amount of municipals has increased to a much greater extent relatively for Mississippi banks than for the nation as a whole. Nor was there any reversal in trend during the period. At present, holdings of municipals totaling $108 million are approximately three times as great as the 1934 low of $33 million. This rapid growth is merely one phase of the expansion in the size of the banking institutions. Relatively at least, the proportion of total assets invested in municipals is now substantially below the level of the 1930's, that is 12% or 13% as compared with more than 20%. However, assets have grown to such an extent that the smaller percentage results in a much larger dollar amount of securities.

Recent Shifts in the Composition of Municipal Portfolios. For many years students of bank investments by Mississippi institutions have recognized that commitments in municipal issues were on the average definitely high. The size of these commitments was explained by reference to the fact that banks were obliged to serve the credit needs of their communities. Outside sources of capital were considered virtually closed to the minor subdivisions of government. The issues were quite small in size and practically unknown in the nationwide financial markets. Furthermore, according to the traditional explanation, Mississippi banks were in a strategic position to evaluate the relative merits of local issues and to select the best ones for their portfolios.

Generalizations regarding investment policy raise this basic factual question: To what extent have banks in Mississippi actually limited their commitments to obligations issued by this State or its minor subdivisions? The question is not easy to answer because it presents statistical complications growing out of reporting difficulties. However, the available data have been analyzed and the following summary depicts the situation with reasonable accuracy:

Municipal Obligations Held by Insured Nonmember Banks in Mississippi in 1942 and 1949 Classified by Issuer1/

	1942		1949	
	Par value (in 000's)	Percent of total	Par value (in 000's)	Percent of total
Total	$38,071	100.0	$69,576	100.0
Issuers				
In Mississippi	30,250	79.5	46,401	66.7
State	9,911	26.0	14,319	20.6
County	11,479	30.2	15,365	22.1
All other	8,860	23.3	16,717	24.0
Outside Mississippi	7,821	20.5	23,175	33.3

About four-fifths of the securities in the municipal portfolios of the banks in this State could be classified as Mississippi issues in 1942. These securities were almost equally divided between obligations of the State, the counties, and others. Thus, the evidence clearly supports the view that Mississippi banks did employ the resources assigned to the municipal portfolio largely to serve local credit needs.

1/ Estimates based upon data obtained from examination reports that appeared to be representative of these periods.

A study of the current data shows that a very definite change has occurred in the composition of the portfolios held by Mississippi banks. Local issues continue to predominate but the amount has declined from four-fifths to about two-thirds of the total. Very roughly, the commitments are still divided about equally between State, county, and other obligations. However, State obligations declined somewhat in relative importance as compared with the other two categories.

Equally important but much more difficult to answer satisfactorily is the question: To what extent do the banks in Mississippi finance the local governments? A scrutiny of the statistics with respect to debts and the composition of the portfolios suggests that the banks now hold about one-quarter of the obligations issued by the State, about one-half of the county obligations, and at least two-fifths of the obligations issued by the other political subdivisions in Mississippi.

Variations in the Relative Size of Municipal Portfolios Held by Mississippi Banks. In Mississippi, all insured banks not members of the Federal Reserve System reported municipal portfolios in 1948 equal to 13% of their total assets. This statistic is useful only in a general and descriptive sense. It tells very little about the actual situation for any bank in the State.

In order to illustrate precisely the variations in these portfolios of municipal securities, the individual banks are arranged by relative size of portfolio in Chart 3. According to this Chart, there were three banks without any investments in municipals, and a total of 67 with less than 10% so invested. Another 65 banks held municipal portfolios ranging from 10% to 20% of their total assets. In other words, almost three-fourths of the banks have municipal portfolios amounting to 20% or less of total assets as compared with one-fourth with portfolios of more than 20%, including one bank in the top bracket of 40% to 50%.

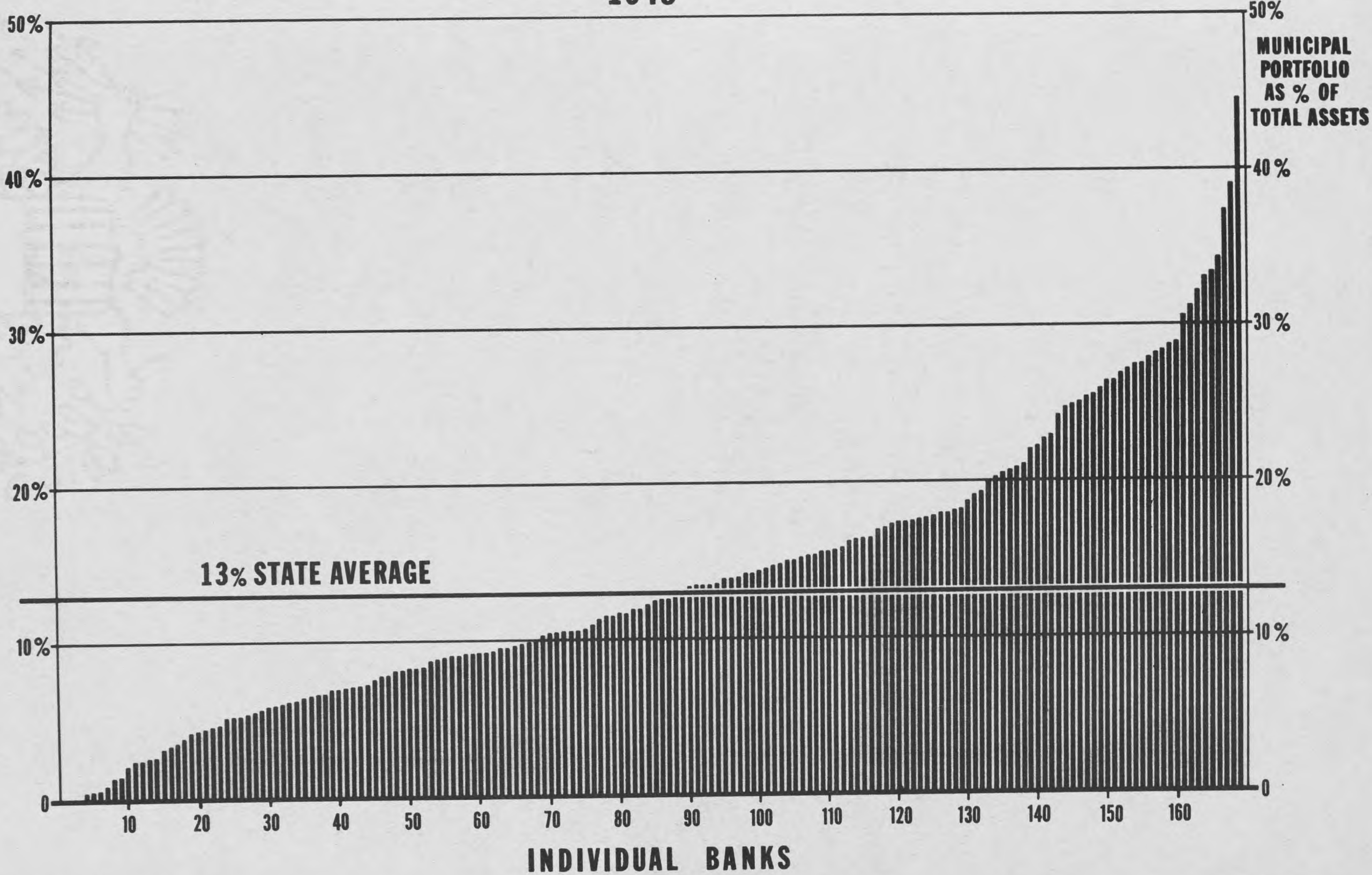
Any individual banker in appraising his policy would be well advised to ascertain the precise reasons for the relative size of investments in municipals by his institution. A careful evaluation of the reasons may lead to steps which will improve his investment policy.

II. Analytical Part

Three important facts are high-lighted by the foregoing description of municipal bond portfolios held by Mississippi banks. In the first place, these institutions have for many years maintained relatively heavy commitments in the obligations of States and minor political subdivisions. Currently these holdings stand at record dollar totals. Relatively, however, the percentage of resources committed to municipal securities is only a little more than half as large as it was in the period 1934-1940. Secondly, it is now clear that bankers have made an important shift in the composition of their portfolios. Whereas hitherto the investment consisted mostly of issues which were local in character, recently banks have acquired an increas-

③

INDIVIDUAL MISSISSIPPI BANKS (Insured, Not Members F.R. System)
ARRANGED ACCORDING TO THE PERCENTAGE OF TOTAL ASSETS IN THE MUNICIPAL PORTFOLIO
1948



ing amount of obligations floated by out-of-State issuers. Securities in the latter category accounted for only one-fifth of the portfolios in 1942 as compared with one-third in 1949. The third important fact concerns the variation in the relative size of municipal portfolios from bank to bank. These data testify to the need for a reappraisal of the investment policies followed by some institutions.

Criteria for the Municipal Portfolio. As you have learned elsewhere in the course of these meetings, a careful analysis of many factors is required to determine the amount of bank resources available for investment in securities. For the purposes of this discussion, we shall assume that determination has been made, and consider the important factors which bear upon the choice of municipal securities, vis-a-vis, all other types in the investment program.

Now with respect to the question: How large should the municipal portfolio be? there are two important considerations. In the first place, the duty to serve the credit needs of the local community is widely recognized by banks. Secondly, there is the fact that income derived from municipal obligations is not subject to Federal income taxation. To be sure, tax exempt income is not valuable *per se*--although a study of bank investment policies suggests that some portfolio managers probably entertain that singular belief. However, in evaluating the yield on a tax exempt security, the root of the matter is simply this: Does the particular issue add more substantially to the net income of the bank than any of the alternative opportunities for investment? All aspects, including maturity, quality, and marketability are entitled to consideration in this comparison.

When a bank serves the credit needs of its community by acquiring the obligations of local issuers, it greatly simplifies the problems of credit analysis and issue selection. Basic financial information can be obtained from nearby municipal authorities. Knowledge of general business conditions bearing upon credit quality is accumulated in the ordinary course of business. Furthermore, when the bank is called upon to finance a municipal subdivision in circumstances which do not result in the acquisition of securities having the best investment quality, the bank is in a position to calculate its risk with reasonable precision. Frequently steps may be taken which will strengthen an unsatisfactory local credit. Contacts with public officials enable the bank to insist upon the adoption of sound financial policies. Thus, municipal credits otherwise subject to serious deterioration may be salvaged. There is, to be sure, a danger that commitments will be too heavily concentrated in a given locality. But this is readily apparent, and steps can be taken to mitigate the risks by observing the principles of diversification.

The financial requirements for capital improvements by local governments in Mississippi may be expected to grow over the next few years. However, I do not believe that the reasonable demands for financing by minor political subdivisions in this State will impose any insuperable burdens upon the banks. This type of investment furnishes employment for funds under terms which are distinctly advantageous. Generally the rate of return is more closely allied to the interest rates on loans than to the yields available from securities traded actively in a national market. Furthermore, these returns are sheltered from competition with funds seeking investment in the principal financial centers. Large investors cannot afford the expense of the credit research needed to find and select out the small issues of acceptable quality. Nor are the amounts of these individual offerings large enough to be attractive for the great investment funds.

The growing importance of out-of-State issues in the municipal portfolios of Mississippi banks is a fact which suggests the need for a re-study of investment policies by portfolio managers. Possibly this development is the result of well conceived and deliberately adopted investment programs. In that event, there need be no cause for alarm. On the other hand, it could be that the shift results merely from a series of inadvertences.

A preliminary review of the municipal portfolios held by Mississippi banks discloses the fact that a substantial part of the out-of-State securities consists of large issues well known in the leading financial centers and actively traded on a nation-wide basis. However, some of the issues were floated by small and more or less unknown obligors. The marketability of the large issues usually is good, and the yields conform rather closely to the pattern of basic money rates. During periods of so-called "cheap money"--the current one has persisted now for upwards of 15 years--the yields on these large municipal issues tend to be quite low. In fact the yields are so low that the advantage of tax exemption is likely to be fully discounted for bank portfolios of institutions even in the higher brackets of income. Thus, the only features of real advantage are marketability and diversification, assuming that the issues are of acceptable bank quality.

Out-of-State issues floated by small and comparatively unknown municipalities in the nature of the case do not enjoy any broader marketability than the obligations of similar issuers in Mississippi. Nor would one expect the yields to be much different. Furthermore, the problem of ascertaining the credit quality of these small issues is quite difficult. Usually adequate information is not available or it can be secured only at great expense. In short, these obligations have all the disadvantages of local securities, and none of the advantages. The opportunity to diversify investments appears to be the only exception to this general statement.

To sum up then, it seems to me that future expansion in the size of the municipal portfolios held by banks in Mississippi should be undertaken only when it is indicated by sound investment considerations. The wisdom of any policy which would build up portfolios to the levels percentage-wise of the 1930's would appear to be quite dubious. Banks will certainly meet the legitimate credit needs of the political subdivisions in the region. Quite apart from that, however, is the question of extending investments through the vehicle of municipal securities to areas far beyond the confines of the State. In making such investments, the feature of marketability on the larger issues may appear important. Naturally, marketability will entail come concession in yields. As a point of reference I suggest comparisons always with the corresponding maturities of U. S. Government obligations reduced, of course, to tax free bases. The benchmark in such a comparison eliminates all uncertainties with respect to quality and degree of marketability.

Quality. Banks can only afford to acquire issues of top investment quality for the securities portfolio. This generalization applies to all segments of the investment program. Study of municipal securities has shown that the range in terms of quality is as great in this area of investment as elsewhere.

Most of the discussions with respect to quality tend to center upon issues which for one reason or another are obviously not at the head of the list. If, as a matter of fact, it is difficult to justify the classification of an issue as suitable for bank investment, the answer is easy--the security should not be included in the portfolio. There is no dearth of high quality issues for bank investment.

Any investment policy which allows a certain amount of experimentation with marginal or substandard issues in the composition of a portfolio is fraught with risks of serious losses. As you know only too well, banks on the average are not conspicuously effective profit makers. Accordingly, they do not accumulate large cushions of earnings to absorb losses. Even some securities of the highest quality and acquired under auspicious circumstances through the ordinary course of events will fall into evil days. To these unfortunate selections a banker cannot afford to add the weight of securities lacking in quality at the time of acquisition. The optimist who expects to balance the normal deterioration qualitywise by the purchase of a few substandard issues which he expects to improve in quality is likely to be disappointed.

Now and then it may be necessary to deviate from the rule that the municipal portfolio should consist wholly of top quality issues. Attention has already been called to the fact that a bank is under some obligation to serve the credit needs of the local community. At times this may entail a calculated risk. However, there are always possibilities for buttressing credits in such a situation. These opportunities should not be ignored.

Maturity. In the selection of the items for the municipal portfolio, the question of maturity is entitled to very careful consideration. As you know, one of the important characteristics of municipals is the fact that they are normally issued with serial maturities. As a consequence these securities are especially well adapted to the needs of banks. By an appropriate selection of maturities, dependence upon the market for the release of investment funds can be almost completely avoided.

Elsewhere in the course of these discussions your attention has been directed to the importance of estimating future trends in the ebb and flow of cash requirements for your bank. A successful investment program presupposes that the manager of the portfolio can estimate his requirements with reasonable precision. Given such estimates, it is a comparatively simple job to select the appropriate maturities for the municipal portfolio.

One very simple method of handling the maturity problem is to divide the portfolio into equal parts over the period of the longest acceptable maturity date. For example, if the bank wishes to confine its investments to maturities of not more than 10 years, it could arrange the portfolio so that 10% of the total amount matured in each year. Once this schedule has been established, thereafter the problem of new acquisitions involves simply the addition of bonds in the longest maturity equal to the amount of bonds maturing currently, adjusted for changing needs.

As a general plan of management, this policy has a number of distinct advantages. In the first place, it greatly simplifies the problem of acquisitions. Furthermore, it enables the banker to average his rate of return for a 10-year period. To be sure, in times of rising interest rates the average return will be lower than the return on new issues but the opposite will be true when interest rate trends are downward. In any event, a banker is better advised to accept the rate of interest as datum and to conduct his operations in such a way as to take the best advantage he can of the situation than to speculate on the outlook for interest rates.

Yield. The rate of interest income on the items composing the municipal portfolio depends upon the factor of quality and maturity as well as tax considerations. In general, yields tend to be higher on securities of inferior quality and long maturities than on high quality short term issues. Some investors, including possibly a few bankers, are disposed to sacrifice both quality and appropriate maturities for a high rate of return. The history of portfolio management is redundant with evidence that such a policy of "rate buying" is an almost certain road to disaster.

Always it is important for the portfolio manager to bear in mind the historical pattern of yields on municipal securities. Only with this information at hand can he decide whether currently the yields are relatively high or low. Study of the recognized indexes published by sources of investment information such as the Bond Buyer and the Wall Street Journal will furnish helpful benchmarks.

The relationship between the interest coupon and the maturity date of a security as expressed in prices is a subject which more properly belongs in a course devoted to the principles of business mathematics. I am sorry to say, however, that my studies of some portfolios suggest that the managers did not know how to calculate yields--given prices, coupons and maturity dates. At least, that is the most charitable reason I can advance for the record of management.

When yields declined to their historical low points in 1946, astute issuers of securities marketed substantial volumes of bonds with relatively long maturities and almost unbelievably low coupons. Those were the days of 1's of 1980 which were sold at prices near par. Nothing more complicated than the proper use of a bond yield table was necessary in order to forecast the price behavior of such a security, assuming that the going rate of interest were to increase by a full percentage point--or about what has happened in the meantime. Securities bearing 1% coupons and maturing thirty years hence are now quoted at prices in the 70's. The decline does not reflect any change in quality. It is simply the result of putting a 1% 30-year bond on a 2% yield basis.

A few minutes ago, I called attention to the fact that income from municipal securities is exempt from Federal taxation, and--in judging alternative investment opportunities,--to the importance of making an appropriate allowance for the effect of taxes on yields when securities lacking the feature of tax exemption are compared with municipals. As you know, banks with net taxable incomes of less than $25,000 are subject to a Federal income tax rate which averages about 25%. On the next $25,000 of income, i.e. the amount between $25,000 and $50,000, the incremental rate is 53% as compared with a rate of 38% on all additional net income. Thus, it is evident that the advantage of tax exempt income depends upon the status of the bank with respect to earnings.

To illustrate, let us consider some cases. First, there is the bank whose earnings are only sufficient to cover operating expenses.

Generally speaking, income exempt from Federal taxation will confer no special benefit upon such an institution. Operating expenses are always an allowable deduction in computing net taxable income and it is pointless to cover such expenses with income from tax exempt securities. This is especially true if, as is usually the fact, yields on tax exempt securities are lower than on securities subject to taxation.

Next, there is the case of the bank whose income subject to taxation is less than $25,000. Incidentally, a study of the information at hand suggests that such a case is more or less typical of two-thirds of the banks in this State. For such a bank the yields on the best quality of municipal issues trading actively in the markets are not likely to be attractive. You can readily see the reason. For example, thus far in 1949 the Bond Buyer's index of yields on 11 bonds (described qualitywise as equivalent to securities classified in the second grade by the rating agencies) has ranged between a low of 1.84% and a high of 1.99%. For a bank in the 25% tax bracket, yields ranging from 2.45% to 2.65% on securities subject to taxation would be necessary to produce an equivalent tax free yield. To be sure, the range of yields on comparable maturities of U. S. Government obligations is slightly lower, e.g. 2.27% to 2.37% on the bank eligible 2½'s of 1972-67, and the investment requirements of these banks could not all be satisfied by this issue. But is the differential in yields wide enough to offset completely the differences in quality and marketability? The importance of this question is emphasized by the fact that half of the banks in Mississippi with taxable incomes of less than $25,000 maintain heavy commitments in municipal securities. Moreover, this group holds about one-fourth of all the municipals in the bank portfolios.

Banks with net incomes falling in the bracket subject to the 53% incremental tax rate are likely to find a certain amount of tax exempt income exceedingly attractive. Now let us return to the illustration in the preceding paragraph wherein it was shown that given tax exempt yields of 1.84% and 1.99% the equivalent return on a taxable basis was 2.45% to 2.65% for banks whose tax rates averaged around 25%. The equivalent yields for a bank in the 53% tax bracket is 3.90% to 4.20%. Unquestionably a bank would be well advised to acquire municipal securities in these circumstances.

Finally, there is the case of the bank with net income subject to tax in excess of $50,000. These are the larger banks and they are more or less typical of the institutions which tend to comprise an important segment of the national market for municipals. In the main, it would appear that the activities of these institutions in bidding for securities would tend to discount the 38% tax advantage in municipal securities when the other factors such as maturity and quality are taken into consideration. Accordingly, such institutions are obliged to appraise the alternative investment opportunities carefully in each instance to make certain that the yields on municipals are really advantageous.

That bank investment policies should take cognizance of the need for tax exempt income is abundantly clear. Nevertheless, it is important to recognize that the benefits of tax exemption vary with the tax status of the institution viewed as a whole. Thus, the problem really comes to focus as securities are compared upon the basis of net yields after taxes.

Methodology of Credit Analysis. Portfolio managers are more likely to arrive at a sound judgment if they follow an orderly procedure in appraising the credit quality of an investment in municipal securities than if they are hit or miss in studying a situation. In general, there are three areas to be covered in analyzing credit quality. First of all, it is important to judge the basic economic situation prevailing in the area where the issuer is situated. Secondly, there are the historical facts regarding the financial performance of the issuer which may be helpful in appraising the current situation and in judging the future prospects. Finally, it is important to understand and appreciate the current financial situation of the issuer.

The areas of investigation in credit analysis need not be covered in any particular order. The experienced portfolio manager is likely to sense the weakest spot and he can greatly simplify his problem by confining his efforts to this area. As soon as he comes to the conclusion that the security does not measure up to bank standards, further investigation may be discontinued.

Appraisal of the economic background supporting the credit of municipal securities sounds like a formidable task, but it need not be so. Fundamentally it involves nothing more than distinguishing between the appearance of a prosperous situation and one that is truly sound. Little need be said about areas which are deteriorating. The facts in such cases are far too obvious to escape the attention of any but the most inattentive analyst.

In judging the economic background, the question really centers on the adequacy of the income produced by the area. Data evidencing population growth are usually relied upon as indicative of a prosperous situation. Generally speaking, this is a reasonable inference. However, attention should be directed to the fact that sometimes an exceedingly rapid growth in population may create problems which are formidable. On the other hand, a stable population or one which is declining slightly should not be seized upon without corroboration as evidence of weakness in the economic background.

<u>History of Financial Performance</u>. The fact that an issuer of securities at some time in the past has treated its obligations in a cavalier fashion cannot be ignored by the analyst of securities. Other days may have presented other problems, but there is a certain continuity in financial practices. Some communities, just as some individuals, will make a great effort to meet obligations.

Recent defaults generally are enough to tell the analyst what to think of a municipal credit. On the other hand, the absence of a default record does not necessarily guarantee good credit quality. The municipality may have changed greatly over the period of years, or for that matter, it may never have faced a really serious problem.

When there is a record of defaults, the analyst should attempt to reconstruct in his own mind the situation at the time and to take a reasonable view of the total situation. For example, the 1930's were trying years. One should not be surprised to discover that communities experienced financial troubles.

Current Finances. The most important single fact in a credit analysis is the amount of debt currently outstanding. The analyst should make a genuine attempt to determine this figure with reasonable precision. Sometimes this entails a considerable amount of research because the data are confused by the existence of overlapping and underlying obligations as well as by so-called self-sustaining debt for utility purposes.

Not only is it important to ascertain the current amount of debt, but in times such as the present it is even more important to judge the prospective trend in debt. Today debts generally are increasing. Some credits are becoming impaired simply because issuers are over-optimistic in judging their ability to meet future obligations.

How much debt is too much? That is the puzzling question in all credit analysis. For many, many years the relative debt burden has been measured in terms of a ratio between outstanding debt and assessed valuation. This relationship is sensible when the primary source of income is the ad valorem tax rate. By expressing the debt as a percentage of the assessment roll, in effect one can appraise the size of the lien which has been placed upon local property by the public authorities.

To an increasing extent, however, communities no longer rely solely upon ad valorem taxes for income. Sales and income taxes, a variety of levies on businesses, and often contributions from other governing authorities such as the States, now contribute to the income of minor political subdivisions. The ratio of debt to assessed value certainly is not very satisfactory as a measure of debt burden when an issuer derives from a quarter to a half of the income from sources other than the ad valorem taxes. At best it serves as a very crude measure. Recently there have been comments in the literature of municipal credit analysis suggesting that an entirely new set of measures are needed to evaluate the financial ability of the obligors. While the observation is probably sound, the proposals for improvement thus far advanced have not been very workable.

Sometimes per capita debt or the percentage of income required for debt service are used in appraising credit quality. These measures also have limitations as well as advantages. They are helpful in comparing communities but they are not amenable to any very scientific standards. Here again high ratios may suggest the need for further study, but low ratios do not prove that the credit is *ipso facto* good.

Ultimately municipal credits are tested by the analysis of current income and expenses. Municipal accounting leaves much to be desired but it is possible to study the financial records and reports of an issuer and to answer the crucial questions, viz. (a) Does the community cover all of its operating expenses with current income; and (b) Is the debt burden reasonable? Answers to these questions cannot be obtained automatically by means of ratio analysis.

The variations in municipal accounting are so great that it is impossible to do anything more than to urge upon credit analysts that they search the accounts for answers to these basic questions. Much though it would be desirable that the communities follow uniform accounting practices, the fact remains that they do not. When the analyst finds that the accounts are in particularly bad shape or horribly confusing, he should insist upon improvement. If the situation is bad enough, it can be argued that the securities are not worthy of consideration as bank investments irrespective of an inherent quality.

Sources of Credit Information. Probably the greatest help to the analyst seeking to assemble the pertinent credit data with respect to municipal securities is a good, lively imagination. This should not imply that the facts are to be conjured into existence. Rather it suggests that every available source of pertinent data be exploited. Official records of finances tell an important part of the story and they should, of course, be exploited, but in addition to the accounts maintained by fiscal officers, there is a wide variety of information in census publications, market services, and elsewhere which can be used to good effect by the student of municipal credits.

Local Issues. The banker managing a securities portfolio is in a peculiarly favorable position in analyzing the credit of municipalities in his own area. To begin with, he will of necessity be quite familiar with the basic economic forces at work. As a matter of fact, he should know more about those forces than any other single person in the community. Not only is the banker well able to obtain and judge the facts regarding the general economic background of the area he serves, but the banker may easily obtain the available data on the financial status of local units of government. Frequently this involves nothing more burdensome than a trip to the city hall or the county building. Here the bond ledger may be inspected and total amount of securities outstanding as well as maturity schedules compiled with a minimum of difficulty. Furthermore, it is possible to secure statements of receipts and disbursements and to analyze the information regarding the status of the various funds where accounting is in that form.

Out-of-State-Obligations. The problem of securing information for municipal credit analysis when the issuer of securities is situated hundreds or even thousands of miles away is never easy for the portfolio manager. The recognized sources of credit information such as Moody's Investors Service, Dun & Bradstreet, Inc., and other fact gathering agencies covering the finances of minor political subdivisions in various sections of the country are helpful. Unfortunately, much of the information actually required for analytical purposes does not become available in the published sources. Moreover, there is a very considerable time lag in publication.

It would seem that the only alternative in judging the credit quality of remotely situated issuers is to maintain even higher standards than are applied to local issues. In short, if the available records do not indicate that the credit is of top quality, it definitely should be disregarded as a bank investment.

III. Summary

Portfolios of municipal securities in Mississippi banks have always been relatively large as compared with the nationwide averages. At present the dollar total for these portfolios stands at a record level although percentage-wise municipals do not constitute as large a portion of total resources as was true before the war. During the 1940's, the segment of the portfolio composed of out-of-State issues increased substantially.

From bank to bank within the State, there is a wide variation of investment policy with respect to municipal holdings. This variation suggests the importance of the re-examination of basic policies by each institution.

Satisfactory credit quality is the primary consideration in selecting issues for the municipal portfolio. Deviations from this rule, if frequent, certainly will lead to disaster. Furthermore, it is necessary to fit the bits of the investment portfolio together into a pattern of maturities which will free the institution from excessive dependence upon markets.

Municipal securities are a source of income exempt from Federal taxation. The manager of a portfolio, however, should never lose sight of the fact that the need for tax exemption depends upon total bank earnings. In judging a municipal investment, he should compare the alternatives reduced to a net yield basis. Failure to do so may produce some very unfortunate results.