STATE AND LOCAL TAXATION OF COMMERCIAL BANKS:
AN ECONOMIC ANALYSIS OF THE POLICY OPTIONS AND THEIR IMPLICATIONS FOR
THE STATE OF OHIO

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
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By

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CHAPTER I

INTRODUCTION

In taxing commercial banks (and financial institutions in general), Ohio has relied primarily on the intangible personal property taxes upon deposits and shares of stock. Intangibles taxation has been used in lieu of certain other state taxes, such as the corporation franchise tax, from which Ohio financial institutions are generally exempt (or at least taxed at a lower rate).¹ A major factor in the differential tax treatment of financial institutions, at least for banks, has been the federal restriction on the taxation of national banks until 1969 under title 12, section 548, of the United States Code, more commonly known as Section 5219.

Until 1923, Section 5219 allowed the states to tax only real property and shares of stock of national banks.² Although the restrictions were modified (and finally eliminated) in later years, the present method of taxation of banks reflects the legacy of Section 5219.³ Many states continue to use the share tax, probably through sheer inertia more than anything else. In the past, states desiring to equalize taxes between financial and other industries were forced to use taxes permitted under Section 5219 in lieu of other business taxes, in spite of possible differences in their economic effects. Today, however, following the relaxation of Section 5219 under
P.L. 91-156, states may tax a national bank just as they tax any other business.

Purpose and Scope

The purpose of the present study is to compare the policy alternatives open to Ohio in the tax treatment of commercial banks after the passage of P.L. 91-156 in 1969. Accomplishing this objective will involve an extension of the existing models of bank structure and performance to include measurement of the differential incidence of alternative bank taxes. The purpose is not to provide an absolute measure of final tax incidence; rather it is to provide a basis for comparison of various taxes, in a reinterpretation of the evidence from previous bank tax impact studies. Specifically, does incidence analysis lead to any modification of the conclusions of bank tax impact studies which have shown Ohio bank taxes to be high relative to other states?

Questions to be Answered

In an exploration of the foregoing problems, this study will seek answers to the following questions:

1. To what extent did the relaxation of Section 5219 affect the state and local tax impact ratio (taxes as a percentage of either taxable income or value-added) of banks relative to other U.S. corporations?

2. In terms of the effect upon the rate of return to banking capital, how heavy is the bank tax burden in Ohio relative to other states?

3. What are the economic effects and revenue consequences of the alternative methods of bank taxation available to the state of Ohio?
Historical Background

Any discussion of the state taxation of financial institutions must emphasize the great role that federal legislation has played in determining state tax policy in this area. Under the National Bank Act of 1864, national banks were established as instrumentalities of the federal government. As such, they were exempt from all state taxes except those authorized by the federal government, based upon the legal doctrine developed in the 1819 Supreme Court case McCulloch v. Maryland, which determined that state taxation of the Second Bank of the United States was actually state taxation of the federal government, and it was therefore unconstitutional.

Section 41 of the National Bank Act of 1864, which became Section 5219 after an 1875 codification of the United States statutes, allowed states to levy two types of taxes against national banks. States could impose real property taxes upon national banks at rates no higher than those imposed upon other real property. In addition, bank shareholders could be taxed at a rate no higher than the rate on either "other moneied capital in the hands of individual citizens of such state...[or]...shares in any of the banks organized under authority of the state where such association is located."  

At the turn of the century, states began to develop classified property tax systems with low rates upon intangibles. In an attempt to maintain higher rates upon bank shares, the taxes upon which were easily enforced, state legislatures adopted a liberal view toward the restrictions of Section 5219. The requirement that bank shares could be taxed at a rate no higher than the rate on "other moneied capital"
was interpreted to mean only that state banks could not be given pre-
ferential tax treatment. The Supreme Court rejected the narrow view of
"other moneyed capital" in a 1921 decision which expanded the concept
to include all funds competing with national banks.6

Pressure from the states eventually led to the amendment of Sec-
tion 5219 in 1923 to permit as alternatives either taxation of net in-
come or inclusion of dividends paid to stockholders in the income tax
base. The 1923 amendments did not satisfy the states, because the in-
come tax base excluded the income from federal government securities,
which comprise a significant portion of the income-earning assets of
banks. Such a direct tax upon the income from federal securities
would constitute a tax upon the issuing unit, and as such would be un-
constitutional, as determined in McCulloch v. Maryland. Consequently,
Congress again modified Section 5219 in 1926. This amendment permit-
ted the states to include bank income from all sources in the tax base
for an excise tax measured by net income. In addition, states were
permitted to tax dividends along with either a direct or an indirect
income tax.7 Alternatively, states could continue to tax banks under
the share tax.

Although Section 5219 provided that the tax rate applied to bank
income was not to be higher than the highest of the rates assessed
against other businesses, the courts upheld the right of the states to
impose a higher percentage, or "built-up" rate, on banks to equalize
the tax burden between banks (which were exempt from tangible personal
property taxation) and other corporations. In a test of the legality
of California's "in-lieu" tax on banks, the U.S. Supreme Court refused
to review a lower-court decision which liberally interpreted the provisions of Section 5219 to mean that the total state tax burden (taxes as a percentage of taxable income) on national banks could be no higher than the tax burden upon other businesses. Thus, income tax rates could be higher for banks than for other corporations, so long as the higher rates merely replaced other state taxes from which banks were exempt.

Section 5219 applied only to national banks; nevertheless, states often extended the same preferential tax treatment to state banks, to avoid discriminating against state-chartered institutions. A major exception was the sales tax on state bank purchases, from which national banks were exempted by Section 5219. Several states included national bank purchases in the sales tax base by recasting the sales tax as a tax on the seller rather than the consumer, and a few banks in other states avoided conflict by paying the sales tax voluntarily.

The apparent loophole was clarified abruptly in 1968, when the U.S. Supreme Court ruled in favor of a Massachusetts national bank which claimed that its status as a federal instrumentality protected it from sales and use taxes, even when the statutory impact was on the seller, rather than the buyer. The federal instrumentality issue could have made this an even more interesting case, considering the dubious role of national banks as federal instrumentalities after the passage of the Federal Reserve Act in 1913. National banks no longer issue legal tender, and they cannot claim to be fiscal agents for the government. National banks serve as depositories for government funds, but state banks also provide this service.
The Supreme Court failed to rule on the federal instrumentality issue, instead basing its decision upon the prohibition by the National Bank Act of 1864 of any state and local taxation of national banks, other than that which is expressly permitted by Congress. The resulting pressure upon Congress by state tax officials led to the passage of P.L. 91-156, which abolished the restrictions of Section 5219 that had prevented the states from developing rational, non-discriminatory tax policies. The new law originally set January 1, 1972 as the effective date for the permanent amendment of Section 5219, replacing the four allowable methods of taxation of national banks with a provision that for tax purposes, a national bank would be treated as a bank organized and existing under the laws of the state within which its principal office is located.

During the interim period following the passage of P.L. 91-156 on December 24, 1969, states were permitted to impose any generally applicable, nondiscriminatory taxes upon national banks, with the following limitations: (1) the ban on intangible personal property taxation of bank assets was continued; (2) banks whose principal office is outside the taxing state were not taxable under income or gross receipts-type taxes; and (3) any new bank taxes other than sales, documentary, and tangible property taxes required affirmative action of the state legislature."

Public Law 91-156 also directed the Board of Governors of the Federal Reserve System to study the probable impact on the nation's banking system of the relaxation of Section 5219. The following five recommendations resulted from the Federal Reserve Board's study:
1. Continue the prohibition upon the taxation of intangible personal property of national banks by the states, and extend this prohibition to other depository institutions to avoid discrimination.

2. Establish and enforce uniform criteria for the imposition of "doing business" taxes upon depository institutions by state and local governments other than the home-office state.

3. Prohibit discriminatory "doing business" taxes upon out-of-state depository institutions.

4. Allow the inclusion of federal government obligations in the tax base for direct income taxes levied by the states.

5. Establish a uniform classification of coins and currency as intangible personal property for state and local tax purposes.

As a result of the Board's recommendations for additional legislation, Congress on December 22, 1971, passed P.L. 92-213, which postponed the effective date of the "permanent amendment" to Section 5219 for an additional year, until January 1, 1973.

Faced with opposition from the states, Congress failed to enact the legislation recommended by the Federal Reserve Board, although a moratorium was imposed on "doing business" taxes on out-of-state depository institutions, in response to the Board's recommendation concerning such taxes. After one extension, the moratorium finally expired in September, 1976. As of December, 1977, no further action on the Federal Reserve Board's 1971 recommendations had progressed beyond the U.S. Senate Committee on Banking, Housing and Urban Affairs.

In summary, states may now tax national banks as if they were state-chartered, and any legislative changes in the near future will probably deal with banks subject to jurisdiction by more than one state. There is apparently little Congressional interest in the other recommendations from the Federal Reserve Board's 1971 report.
Thus, the federal government's posture with regard to state bank taxes appears to be relatively stable, at least for the foreseeable future. States desiring to change their bank tax structures under the current federal legal framework will find few restrictions on their choice of taxes, other than the statutory distinction between direct and indirect income taxes.

Statement of the Problem

The taxation of financial institutions has long been a problem for state and local government policymakers. The finance industry is unique in many ways. By their very nature, financial intermediaries deal primarily with intangible assets; their income comes largely from financial assets. Therefore, taxation of financial institutions must rely heavily on either property taxes on intangibles or taxation of income from these intangibles.

Differential tax treatment of banks at the state and local government level has raised serious questions regarding the possible lack of tax neutrality with regard to banks, especially in light of the "in-lieu" nature of state and local bank taxes under Section 5219. Identification and evaluation of the major options in bank taxation at the state and local level today requires an understanding of the conceptual issues resulting from the use of special bank taxes on intangibles and "built-up" income tax rates in lieu of tangible personal property taxes (from which banks were exempt under Section 5219). Without such an understanding, one cannot properly evaluate the trend away from special state and local bank taxes following the relaxation of Section 5219.
Tax Neutrality

Neutrality is an important criterion for the evaluation of any bank tax system. A tax is economically neutral if it does not provide an opportunity for the taxpayer to reduce his tax bill by altering his behavior. Of course, even a neutral tax alters behavior by making the taxpayer feel poorer by the amount of the tax bill. Specifically, a neutral tax causes an income effect only; there is no substitution effect. The tradeoffs that the taxpayer faces are not affected by a neutral tax.

The rationale for using neutrality as a criterion for evaluating alternative taxes is that with the exception of specific taxes designed to correct market imperfections (such as effluent charges to internalize the social cost of pollution), the market may be presumed to produce an efficient allocation of resources, and any tax that distorts that allocation reduces economic efficiency. The distortion caused by a nonneutral tax is the "excess burden" or social cost exceeding actual taxes paid. One criterion to be considered in the evaluation of a tax system is the excess burden that characterizes (in varying degrees) all taxes other than the hypothetical lump-sum tax.

Three types of economic neutrality that might be of particular importance for the analysis of the taxation of financial institutions are industrial neutrality, geographical neutrality, and technical neutrality. According to Shoup, industrial neutrality exists if a tax does not induce a flow of resources to or from an industry, relative to other industries. One might argue that this
definition ignores distortions within an industry; however, in many cases, the industry is really several related industries, or the distortion is really a deviation from technical neutrality. For a tax to be technically neutral, it must not affect the capital/labor ratio, nor in any other way affect the financial structure and operating methods of firms in the industry. Geographic neutrality requires that a tax neither impede nor stimulate interregional flows of resources or finished products. As applied to state taxation of banks, geographic neutrality of a tax means that it does not affect the flow of banking capital and services across state lines.

To minimize such deviations from tax neutrality requires careful design of tax systems. Even the income tax, which in concept is relatively free of nonneutral effects, in practice can be quite nonneutral. To the extent that tax shelters are available to banks that are unavailable to other firms, for example, the corporation income tax encourages capital flows into the banking industry. The tax also violates technical neutrality by encouraging a shift in earning assets to those that receive special tax treatment (tax-exempt government securities, for example). Another problem is that the income tax discriminates against equity capital in favor of borrowed capital (because of the interest deduction), which encourages undercapitalization in the industry.

Dividend taxation is industrially nonneutral, because it discriminates against incorporated firms, including banks. Such taxation also violates technical neutrality, since it encourages banks to expand undivided profits in place of raising new equity capital,
especially in view of the preferential treatment that the resulting capital gains receive under the income tax.

The industrial neutrality of the bank share tax depends on equality between the share tax rate and other property tax rates, even if one accepts the argument that taxation of intangible assets imposes an additional layer of taxation on real assets already subject to taxation. All else equal, a discrepancy between the tax rates on intangibles and other income-earning assets would alter the relative rates of return on the two types of investments, which would induce capital flows into industries that were relatively lightly taxed. If all property tax rates change in the same proportion, so that all forms of investment are taxed relatively equally by the rate changes, there will be little tax incentive for capital and labor flows between industries.

Reduced tax rates on intangible assets would primarily benefit financial institutions, which deal mainly in intangibles. In the absence of a state income tax, the intangible property tax is a feasible instrument to reach the income from intangibles, making it possible to equalize effective tax rates (as a percentage of income) between industries with varying proportions of tangible to intangible assets.

To the extent that it is paid by the depositor, the deposits tax encourages economizing on the use of demand deposits and substituting other less heavily taxed assets such as stocks and bonds for time and savings deposits, to the extent that the substitutes are subject to lower tax rates or reduced probability of enforcement. The resulting
loss of deposits will reduce bank earnings, driving labor and capital out of banking. Banks can deter removal of deposits by absorbing the tax or by paying higher interest, although competition may limit the amount that banks can absorb by raising loan rates or lowering the return to capital, if competitors in lending or capital markets do not face similar taxes.

On the other hand, if interest paid on deposits is below equilibrium because of federal interest rate ceilings (such as Regulation Q, in the case of savings deposits at commercial banks), the resulting excess demand for deposits may mean that banks will absorb the entire deposit tax without passing it on to the depositors. Absorption of the tax is a legal means for banks to pay an effective interest rate that is slightly higher than the legal maximum.

Not all banks pay the ceiling rates, however, and the ceiling varies for different classes of deposits (disappearing for very large deposits), which indicates that excess demand does not exist for all deposits at all banks. One would expect to find banks generally absorbing the tax during periods of tight money, such as 1966 and 1974, with depositors paying a larger share of the tax when interest rates are low. The effectiveness of restrictions such as Regulation Q is limited also by the ability of banks to find loopholes in the regulations, even to the extent that one Federal Reserve member bank\textsuperscript{14} has paid full passbook interest on a checking plan for the past nineteen years, by renaming it as a savings account and referring to the checks as "interest-free loans," with the savings account as collateral. More recently, the development of Negotiable Order of Withdrawal (NOW)
accounts and automatic fund transfer mechanisms in the 1970's have reduced the effectiveness of the prohibition of interest on demand deposits.

To the extent that the tax on deposits is paid by the bank, technical neutrality requires that shares and deposits be taxed at the same rate, and industrial neutrality requires that comparable property taxes be levied against other industries. For all the bank taxes, at least to the extent that they are paid by the shareholders, geographic neutrality requires that the overall state and local tax burden be comparable, unless differences can be linked clearly to differences in the benefits of the government spending.

"In-lieu" Taxes

As indicated by the foregoing analysis, different taxes often have varying effects upon taxpayer behavior. The special bank taxes that were assessed under Section 5219 in lieu of other business taxes, such as tangible personal property and sales taxes, generally did not have the same economic effects as the taxes which they replaced. Even when they were designed to equalize tax burdens between industries, such "in-lieu" taxes were only second-best attempts at neutrality.

Under Section 5219, California established a built-up income tax rate to be used in lieu of taxes upon the personal property of banks. Use of the built-up rate upon bank income continues today. Banks pay income taxes at the standard corporate rate, plus a second payment at a rate set annually by the Franchise Tax Commissioner to equalize effective interindustry tax rates (as a percentage of taxable income). Under the somewhat unusual California system, banks pay an "in-lieu"
tax at a rate based not upon their own personal property, but upon the personal property of other corporations.

The California system ignores the possibility that taxes differ in ease of shifting, and that taxes may distort resource allocation even when completely shifted, because shifting is not costless. Weston\(^{16}\) concluded that equal tax burdens as a percentage of income across industries is an inappropriate goal of taxation, because taxes assessed against different bases cannot be expected to result in identical tax burdens as a percentage of income. One can argue that if income is the appropriate basis for comparison, it is also the appropriate tax base. If property ownership is a relevant criterion for taxation, then one should expect industries holding relatively more property to pay relatively more to the tax collector. In such a case, equal treatment of equals may actually require unequal ratios of taxes paid to income.

Even if income were recognized as the only appropriate tax base, additional problems would remain under a policy of equal tax burdens as a percentage of income. First, such a policy would ignore the benefits received from government, which could be proportionate to taxes paid, regardless of the relationship between taxes and income. Relatively high federal taxes on banks perhaps could be justified as a payment for the monopoly power to create money, which Congress has granted to the banking system. In fact, some taxes are actually user charges, or charges for services rendered by government (F.D.I.C. insurance payments, for example). Finally, a policy of equalization of effective tax rates apparently would eliminate the role of excise
taxes designed to alter consumption patterns of certain goods, such as alcohol and tobacco. If one takes as given the social preferences leading to the establishment of such sumptuary taxes, then higher taxes upon the industries involved are socially efficient, in the sense that distortion of resource allocation is the objective.

In summary, "in-lieu" taxes designed to equalize tax burdens across industries are at best only crude attempts at tax equity that fail to consider real differences between industries. The distortions that such taxes create may cause problems greater than those that they correct. Furthermore, the rationale for such taxes today is not clear—under P.L. 91-156, states are permitted to assess tangible personal property taxes against all firms, including banks. A reassessment of state tax policy is in order in those states that exempt banks from tangible personal property taxes, including even those states (such as Ohio) without explicit "in-lieu" taxes.

Intangible Property Taxes

The final problem to be considered in the state and local taxation of banks is determination of the proper role of intangibles taxation in the tax structure. The relaxation of Section 5219 provides a rationale for a reevaluation of state tax policy toward banks, particularly in Ohio and other states that have concentrated on intangibles (deposits and shares of stock) in the taxation of banks.

Intangibles taxation involves serious problems of administration, measurement, enforcement, and equity, causing many states to turn away from this form of taxation. This trend has been encouraged by the federal government, through the prohibition until 1973 of state and local
taxes on the intangible assets of national banks. Under Section 5219, the only intangibles taxes that could be levied against national banks were those that were levied against banks' liabilities or net worth.

A major criticism of intangibles taxation is that an intangible asset often represents a tangible asset that is already taxed under the property tax. In such cases, imposition of an intangibles tax results in double taxation of a real asset. The disadvantage of such double taxation is that it is not uniformly applied, and such discrimination represents a deviation from neutrality in taxation. Possibly to avoid such double taxation of real assets, fifteen of the states that tax both real property and intangibles allow deduction of the value of real property from the tax base under their taxes on bank deposits and shares of stock. Apparently, taxes on banks' liabilities and net worth are considered to be in lieu of taxes on intangible assets.

However, deductibility of real assets from the intangible property tax base does not eliminate the distortions caused by intangibles taxation. Creation of intangibles adds another layer of assets subject to taxation, even though no additional net wealth is created. For example, incorporation creates additional taxable property (shares of stock), resulting in a higher tax liability than would be faced by an unincorporated firm that is identical to the incorporated firm in every other respect.
Because financial assets are generally highly mobile and easily concealed, another problem in intangibles taxation is enforcement and administration of the tax. The enforcement problem is not serious for financial institutions, whose assets are highly visible, tempting targets for taxation. Financial assets such as currency, securities and loans are more difficult to undervalue than are non-financial assets whose current value might be somewhat difficult to ascertain. This raises the possibility that a tax on all holdings of intangible assets might burden financial institutions especially heavily because of the ease of enforcement.

In summary, states were prevented from coordinating bank taxes with other business taxes in integrated state and local tax systems under Section 5219. As a result, some states levied special bank taxes in lieu of standard business taxes; other states simply exempted banks (at least those with national charters) from certain taxes, notably sales and tangible personal property taxes.

Following the passage of P.L. 91-156, which relaxed the restrictions of Section 5219 in 1969, states for the first time could coordinate bank taxes with other business taxes without resorting to discriminatory "in-lieu" taxes. Ohio and other states with tax structures that reflect the legacy of Section 5219 now can reevaluate their bank taxes, particularly the exemption of banks from tangible personal property taxes and the taxes on banks' intangible property.
Review of Bank Tax Studies

Industry Studies

The 1934 Welch Study

In a pioneering effort to measure the tax burden upon banks relative to other industries, Welch found in 1934 that during the period 1926-1930, national banks had been consistently undertaxed (in relation to net income) by state and local governments (Table 1). During the

TABLE 1

STATE AND LOCAL TAXES AS A PERCENTAGE OF NET INCOME,\textsuperscript{a}
NATIONAL BANKS AND OTHER CORPORATIONS, 1926-1930

<table>
<thead>
<tr>
<th>Year</th>
<th>Banks</th>
<th>Total Finance</th>
<th>All Corporations</th>
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<td>1926</td>
<td>17.1%</td>
<td>21.5%</td>
<td>18.5%</td>
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<tr>
<td>1928</td>
<td>13.9%</td>
<td>20.2%</td>
<td>18.7%</td>
</tr>
<tr>
<td>1930</td>
<td>22.5%</td>
<td>38.5%</td>
<td>36.8%</td>
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\textsuperscript{a}Income after deducting federal income taxes, but before deducting other taxes.


same period, the finance sector in general had been overtaxed relative to the average corporation. In 1926, when the state and local taxes paid by the average corporation were 18.5 percent of its net income, the corresponding tax burden upon the finance sector was 21.5 percent.
In contrast, national banks paid only 17.1 percent of their income in 1926 state and local taxes. In 1930, the pattern was similar, although the percentages were higher, as apparently inelastic state and local taxes accounted for a larger share of dwindling business income after the end of the prosperity of the 1920's. Data limitations prevented Welch from measuring tax burdens on any basis other than income, although he recognized the need for additional research.

**The 1960 Helmberger Study**

In his 1960 study, Helmberger measured the state and local tax burden upon banks relative to other industries in 1954, in an update of the Welch study. With improved data, Helmberger was able to use four different bases for his tax burden comparisons: assets, net worth, income before taxes, and income before taxes, rent, and interest. Because of data limitations, Helmberger did not use value-added as a basis for his tax burden comparisons, although he recognized its desirability. As Brazer argued, value-added is particularly useful in tax burden comparisons, because it is a measure of the firm's use of society's resources. If one accepts the view that tax assessments should be positively correlated with resource utilization, then value-added is an appropriate basis for comparison.

Helmberger's results indicate that banks continued to be under-taxed at the state and local level in 1954 (Table 2). Furthermore, by 1954, the entire finance group enjoyed preferential tax treatment relative to the average corporation, regardless of the choice of denominators.
### Table 2

State and local bank tax burdens relative to other financial firms and corporations in general, for selected bases, 1954

<table>
<thead>
<tr>
<th>State and Local Taxes as a Percentage of:</th>
<th>Net Income (Before Taxes)</th>
<th>Net Income (Adjusted(^a))</th>
<th>Assets</th>
<th>Net Worth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks</td>
<td>9.1%</td>
<td>6.0%</td>
<td>0.1%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Finance</td>
<td>12.9%</td>
<td>9.4%</td>
<td>0.3%</td>
<td>2.1%</td>
</tr>
<tr>
<td>All Corporations</td>
<td>25.4%</td>
<td>20.1%</td>
<td>1.5%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Corporations (Adjusted(^b))</td>
<td>20.2%</td>
<td>15.2%</td>
<td>1.1%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

\(^a\) Net pretax income, plus rent and interest paid.

\(^b\) Excludes the following industries which pay significant federal excise taxes (which could not be separated from state and local taxes paid in the numerator, "taxes paid"): beverages, tobacco, petroleum and coal products, rubber products, and motor vehicles and equipment, transportation, and communications.


Because of data limitations, Helmberger was forced to use the Internal Revenue Service, Statistics of Income item, "taxes paid," as a proxy for state and local tax payments. Unfortunately, "taxes paid" includes federal excise and payroll taxes, which introduced an upward bias into the estimates. Helmberger excluded certain corporations that were affected significantly by federal excise taxes (see notes for Table 2); however, no adjustment was made for differences in payroll taxes paid between industries of varying labor intensity.
Helmberger concluded that although banks apparently realized
tax advantages at the state and local level, the net tax burden after
adjustment for the benefits of government spending was uncertain.
Helmberger argued that banks receive below-average benefits from state
and local governments, because they hold little tangible property.\textsuperscript{22}
Apparently, Helmberger assumed that the benefits of education, water,
sewage treatment, and police and fire protection are relatively slight
for those whose assets are largely intangibles. Considering the
mobility and liquidity of intangibles, and the resulting variety of
possible crimes involving such assets, Helmberger’s assumption may be
questionable. Surely police protection is of major importance to
banks.

The Helmberger study also indicated that bank taxes in Ohio were
high relative to other states during the period 1945-1956. In 1945,
Ohio bank taxes were 18.1 percent of pretax income, which was higher
than any of Ohio’s neighboring states and nearly double the national
average of 9.2 percent. In the early 1950’s, the gap narrowed, until
by 1956, the Ohio bank tax burden had fallen to 12.7 percent of pre-
tax income, compared to a national average of 10.6 percent. During
the same period, the bank tax burden in Indiana had increased to 15.7
percent, leaving Ohio in second place in terms of bank tax load among
the contiguous states (Appendix A).

The 1966 Swartz Study

In an update of the Helmberger study through 1958 and 1962,
Swartz found that banks, and the finance sector in general, continued
to be undertaxed by state and local governments. Swartz duplicated
Helmerberge's methods in an interindustry comparison of tax burden ratios, which were defined as state and local tax burdens as a percentage of net income before taxes. Swartz found that in both 1958 and 1962, the finance sector, and the banking subdivision in particular, received preferential tax treatment at the state and local level relative to the average corporation (Table 3).

TABLE 3

BANK TAX BURDENS RELATIVE TO OTHER FINANCIAL FIRMS AND CORPORATIONS IN GENERAL FOR SELECTED BASES, 1958 and 1962

<table>
<thead>
<tr>
<th>Tax Burden Ratio(^a)</th>
<th>Banks</th>
<th>Finance</th>
<th>Corporations (All)</th>
<th>Corporations (Adjusted)(^b)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1958</td>
<td>9.0%</td>
<td>19.3%</td>
<td>25.0%</td>
<td>29.9%</td>
</tr>
<tr>
<td>1962</td>
<td>13.2%</td>
<td>23.1%</td>
<td>30.1%</td>
<td>32.8%</td>
</tr>
</tbody>
</table>

\(^{a}\)"taxes paid"/"net profit" plus "taxes paid" from Internal Revenue Service, Statistics of Income

\(^{b}\)excludes the following industries which pay significant federal excise taxes (which could not be separated from state and local taxes paid in the numerator, "taxes paid"): beverages, tobacco, petroleum and coal products, rubber products, and motor vehicles and equipment, transportation, and communications.


Swartz concluded that "federal restrictions have greatly hampered the development of a rational tax policy for all banking and related
financial institutions. Section 5219 does not apply directly to state chartered financial corporations, but most states have been reluctant to discriminate against their own instrumentalities.23 The 1969 Treasury Study

The industry studies which have been described provide strong evidence that banks have enjoyed favorable tax treatment at the state and local level for a number of years, at least until the early 1960's. A 1969 U.S. Treasury study showed that similar favorable treatment of financial institutions is also evident at the federal level. The Treasury study found that the effective federal tax rate upon banks fell from 38 percent to 22 percent of economic income between 1960 and 1967, during which period the effective rate upon manufacturing corporations averaged roughly 43 percent. Economic income was defined as taxable income plus exempt interest, the deducted 85 percent of dividends received from other corporations, bad debt deductions in excess of experience, and the excluded 50 percent of long-term capital gains.24

In order of significance, low effective tax rates on commercial banks were due to: (1) bank holdings of tax-exempt securities, (2) liberal allowance of bad-debt deductions, and (3) favorable (and non-parallel) treatment of capital gains by banks, which (until 197025) could deduct losses from ordinary income while treating gains as long-term capital gains. The 85 percent dividends received deduction was not a significant factor in the low effective federal tax rates upon commercial banks.26

Kane has attributed the continued success of commercial banks in holding down their effective federal income tax rates to sophistication
and flexibility in utilizing a variety of tax avoidance opportunities available to banks. Kane speculated further that perhaps the nation's largest banks pay income taxes only for public relations purposes, "because they regard flagrant tax avoidance to be politically dangerous." 27

Each of the foregoing studies estimated tax burdens by industry. Recent studies of the banking industry alone have compared bank tax liabilities between states.

**Interstate Comparisons of Bank Taxes**

**The Gurley Study of California Bank Taxes**

In a 1964 study of bank taxes in California, Gurley concluded that the built-up rate used in lieu of personal property taxes had not put California banks at a competitive disadvantage relative to banks in other states. From 1950 to 1960, California banks paid an average of 11.7 percent of net income in state and local taxes, compared with an average rate of 11.6 percent paid by California banks under the share tax alone in 1927. 28 During the 1950's, banks in sixteen other states paid a larger percentage of net income in state and local taxes than did California banks (Appendix A). The highest percentage was paid by Rhode Island banks (22.0 percent), and the lowest was paid by Delaware banks (4.3 percent). Only three states (Rhode Island, Montana, and Louisiana) exceeded Ohio's rate (18.5 percent) during the 1950's.

Even though California's bank taxes did not appear to impose a hardship upon the industry, Gurley recommended abolition of the "in-lieu" tax upon banks and either abolition of the personal property tax
on other corporations or establishment of an offset against the corporation franchise tax for personal property taxes paid to local governments. Her main concern was the inequity of such an "in-lieu" tax. Since 1933, the "in-lieu" tax had been assessed against bank income at a rate determined by the ratio of personal property taxes to net income of nonfinancial corporations, with the result that California banks were taxed on the basis of personal property of other corporations.29

The 1967 Paul Study

In a nationwide study of the taxation of banks at the state and local level, Gordon Paul of Peat, Marwick, Mitchell and Company concluded that there was wide variation in the tax burden upon banks, both across states and within individual share tax states in 1964.30 Variation in the latter case was due to differences in assessment of property. Using survey data from the accounting firm's client banks across the nation, Paul developed "typical" statements of condition and income statements separately for rural and urban banks, with local bankers and tax officials providing the actual tax rates and assessed values for "typical" banks in each state. Paul found that state and local taxes paid by the "typical" bank in 1964 were highest in Montana and lowest in West Virginia, for both rural and urban banks. Forty-eight states taxed rural banks more heavily than Ohio did in 1964, and forty-seven states levied heavier taxes upon urban banks (Appendix A). Paul's results are apparently inconsistent with the findings of other studies, which have shown that Ohio's bank taxes are relatively high. Paul omitted the tax upon bank deposits,
apparently because he treated the deposits tax as a tax upon bank customers, rather than as a tax upon the bank itself. If Paul had included the deposits tax as a bank tax, Ohio would have ranked fourteenth nationally in terms of 1964 taxes paid by the "typical" rural bank, and ninth in taxes paid by urban banks (Appendix A).

The Federal Reserve Study

To gain data upon which to base its recommendations to the U.S. Senate Committee on Banking, Housing and Urban Affairs under P.L. 91-156, the Board of Governors of the Federal Reserve System conducted a survey of state and local tax expenses of insured commercial banks in 1969.31 Usable responses came from roughly 99 percent of the stratified sample of 2,250 insured commercial banks out of a universe of approximately 13,500 banks. The results indicated that the relatively high bank taxes which previous studies had discovered in Ohio in the 1940's and 1950's had continued through the 1960's. The 1969 data showed that the bank tax burden in Ohio, as a percentage of net income before taxes, was nearly 11 percent, compared to a national average of approximately 9 percent. Appendix A summarizes the tax burden comparisons (as a percentage of net income before taxes), by state, from the Federal Reserve and other interstate studies, for selected years between 1945 and 1969.

Ohio Tax Studies

The 1962 Thatcher Study

In a report to the Ohio Tax Study Committee, Thatcher compared tax revision alternatives available to the state of Ohio. Although the study was not specifically a bank tax study, Thatcher evaluated
the Ohio classified property tax system as part of an overall evaluation of the Ohio tax system. Thatcher concluded that the intangible personal property tax contributed to the overall regressivity of the Ohio tax system for income levels below $10,000 per year in 1960, although the intangibles tax added an element of progressivity to an otherwise regressive tax system for income levels above $10,000.32

Thatcher also concluded that as part of Ohio's property tax system, with its low rates relative to most other states, the property tax on intangibles represented one of the best methods other than an income tax to reach this class of property, in spite of severe enforcement problems.33

The 1967 Ohio Tax Study Commission Report

In a comprehensive evaluation of the Ohio tax structure, the Ohio Tax Study Commission measured the degree of conformity of the present Ohio tax system (and various alternatives) to basic principles which were stated explicitly in the commission's report. Alternative tax policies were evaluated in terms of: (1) effects on growth, (2) neutrality, (3) equity, (4) administrative feasibility, (5) compliance costs, and (6) relevance today (in the sense that "a tax structure should.....bear a relationship to the way people are doing things").34

The commission suggested changes that would reduce or eliminate differential tax treatment of different types of financial institutions. Discrimination against state-chartered banks as a result of protection of national banks from the corporation franchise tax and sales tax under Section 5219 was of particular concern.35 The only
realistic alternative was replacement of the discriminatory taxes on state banks with increased tax rates upon deposits and shares in both national and state banks. As the discussion of the present Ohio bank tax system in Chapter II will demonstrate, the repeal of Section 5219 in 1969, and the ensuing legislative changes in Ohio, resolved the franchise tax and sales tax issues in Ohio, although new questions of tax neutrality between deposits and shares were raised as a result of the tax changes.
FOOTNOTES

1. Financial institutions which are exempt from the corporation franchise tax include national and state banks, credit unions, dealers in intangibles, and all corporations reporting to the superintendent of insurance. Regulated investment companies are taxed at an effective rate of 1 mill on net worth or 4 percent of net income (8 percent above $25,000), whichever is greater. See Ohio Department of Taxation, 1972 Annual Report (Columbus, Ohio Department of Taxation, n.d.), p. 15.

2. U.S. Congress, Senate, Committee on Banking, Housing and Urban Affairs, State and Local Taxation of Banks, Parts I-IV, prepared by the Board of Governors of the Federal Reserve System under Public Law 91-156, Committee Print, 92d Cong., 2d sess., June, 1972, p. 10. (Hereinafter referred to as U.S. Senate Banking Committee, State and Local Taxation of Banks.)


7. See Leland, "Section 5219," pp. 272-291, for a discussion of background information and full details of both the 1923 and 1926 amendments.


10. In the early years of the National Banking Act, the national bank notes were legal tender. See Leland, "Section 5219," p. 222.


17. The passage of P.L. 91-156 eliminated the ban on intangibles taxation under Section 5219, effective January 1, 1972. However, the effective date was postponed to January 1, 1973 by P.L. 92-213, which was passed to provide time for further study of the economic effects of the passage of P.L. 91-156. Part IV of the U.S. Senate Banking Committee, *State and Local Taxation of Banks* is the report of the Federal Reserve Board under P.L. 92-213.


19. See Chapter II, Table 4.


29. Ibid., pp. 272-273.


33. Ibid., pp. 232-233.


35. Ibid., pp. 194-195.
CHAPTER II
INTERSTATE COMPARISONS OF BANK TAXES

For a variety of reasons, there has been a tendency in recent years for states to move away from taxation of intangible assets such as stocks and bonds, although many states continue to tax bank deposits and shares of stock in financial institutions through taxation of the liabilities side of the balance sheet. A possible explanation for this apparently inconsistent behavior is that while originally these taxes were conceived as taxes on depositors and shareholders, as part of a comprehensive structure of property taxation, today they are seen as taxes on the financial institutions, as part of a comprehensive business tax structure. Banks claim to absorb the depositors' tax liability and banks' liability for the share tax has been upheld since 1870, when a U.S. Supreme Court decision upheld a Kentucky law which imposed the statutory impact of the share tax upon the banks themselves.¹ Apparently, the vast majority of share tax states consider this to be an indirect tax on the banks' assets, both tangible and intangible, as is indicated by the fact that the value of real property is generally allowed as a deduction from the deposits and share tax base (Table 4). Presumably, the rationale for the deductibility of taxable property is to avoid double taxation of real property. Although states are permitted to tax bank assets directly today, the effect of such a change would be mainly symbolic, because
the same revenue can be generated through taxation of deposits and shares, depending upon the rates and delimitation of the tax base.

The Role of Section 5219

Another reason for the continued reliance upon the share tax is that a legacy of Section 5219 remains. Until 1969, Section 5219 restricted the taxation of national banks by the states to one of the following four methods: (1) taxation of shares of stock, (2) inclusion of dividends from stock in the taxable income of stockholders, (3) direct taxation of net income, or (4) indirect taxation based upon net income. The method of taxation selected under Section 5219 was to be applied in lieu of all other state taxes on national banks, with two exceptions: (1) dividend taxation could be combined with either direct or indirect income taxation, provided corresponding taxes were imposed upon other taxpayers, and (2) nondiscriminatory real estate taxes also could be levied against the banks.

The protection of national banks under Section 5219 generally was extended to state banks as well. Most states apparently believed that taxes that discriminated against state-chartered institutions simply encouraged banks to convert from state to national charters to gain the protection of Section 5219. In Ohio, for example, a one-mill franchise tax on the net worth of state banks was repealed in 1971, under H.B. 475. Today, only Maine and Washington levy special taxes against state banks.

The four types of taxation permitted under Section 5219 actually provided only two realistic alternatives--a share tax or an
indirect income tax. The second option, inclusion of bank dividends in the taxable income of the stockholder, would generate very little revenue. In fact, not a single state chose this method of taxing national banks. Of the three remaining choices, two were income taxes, the differences between which were legal rather than economic. The income from federal government securities is not taxable under a direct income tax (option 3), because such taxation would be equivalent to a tax on the governmental unit issuing the securities. However, states are permitted to include income from all sources in the tax base for an excise tax measured by net income (option 4).³ Because of its sizable revenue yield and stability, most states chose the share tax (option 1) until 1971. The twenty-seven share tax states prior to 1971 included the nineteen current share tax states, plus eight states that have switched from the share tax to the income tax method of taxing banks since 1971 (Table 4).

Types of Bank Taxes, by State

To avoid excluding a significant fraction of bank income from the tax base, nearly all of the twenty-seven states that tax national banks' income, rather than shares, do so with an excise or franchise tax based on income (Table 4). Another nineteen states, including Ohio, assess share taxes against the capital of national banks and other financial institutions. Although the deposits tax is legally a tax on the depositor rather than the bank, and hence not subject to federal restrictions on state and local bank taxes, only three of the share tax states attempt to provide symmetrical treatment of the two major items on the liabilities and net worth side of the balance
<table>
<thead>
<tr>
<th>State</th>
<th>Tax Type</th>
<th>Tax Base</th>
<th>Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>6%</td>
</tr>
<tr>
<td>Alaska</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>7%</td>
</tr>
<tr>
<td>Arizona b,c</td>
<td>Income</td>
<td>Net income</td>
<td>2.5-10.5%</td>
</tr>
<tr>
<td>Arkansas b,c</td>
<td>Income</td>
<td>Net income</td>
<td>1-4%</td>
</tr>
<tr>
<td>California</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>5%</td>
</tr>
<tr>
<td>Colorado</td>
<td>Income</td>
<td>Net income + interest pd.</td>
<td>5%</td>
</tr>
<tr>
<td>Connecticut</td>
<td>Franchise (income)</td>
<td>Net income</td>
<td>5.7%</td>
</tr>
<tr>
<td>Delaware</td>
<td>Gross earnings</td>
<td>Gross earnings</td>
<td>6%</td>
</tr>
<tr>
<td>Florida b</td>
<td>Shares and deposits</td>
<td>Just valuation</td>
<td>$1 mill per $1.00</td>
</tr>
<tr>
<td>Georgia</td>
<td>Excise (income)</td>
<td>40% of market value</td>
<td>5 mills per $1.00</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>11.7%</td>
</tr>
<tr>
<td>Idaho b</td>
<td>Franchise (income)</td>
<td>Taxable income</td>
<td>6.5%</td>
</tr>
<tr>
<td>Illinois b,c</td>
<td>Shares and deposits</td>
<td>5% of value of shares</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>Indiana b</td>
<td>Franchise (income)</td>
<td>Net income</td>
<td>5-8.5%</td>
</tr>
<tr>
<td>Iowa b</td>
<td>Excise (income)</td>
<td>Cash value</td>
<td>5-7.25%</td>
</tr>
<tr>
<td>Kansas</td>
<td>Shares and deposits</td>
<td>Value of shares, deposits</td>
<td>Shares: $.85% per $0.00; Deposits: 0.01 mill per $1.00</td>
</tr>
<tr>
<td>Kentucky</td>
<td>Shares and deposits</td>
<td>Cash value</td>
<td>General property tax rates</td>
</tr>
<tr>
<td>Louisiana</td>
<td>Shares</td>
<td>30% of taxable value, etc.</td>
<td>General property tax rates</td>
</tr>
<tr>
<td>Maine b,c</td>
<td>Excise (income); deposits</td>
<td>Value of deposits</td>
<td>5-7%</td>
</tr>
<tr>
<td>Maryland c</td>
<td>Franchise (income)</td>
<td>Net income</td>
<td>7%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>12.54%</td>
</tr>
<tr>
<td>Michigan b,c</td>
<td>Single business tax</td>
<td>Value added</td>
<td>2.35%</td>
</tr>
<tr>
<td>Minnesota b</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>12%</td>
</tr>
<tr>
<td>Missouri</td>
<td>Franchise (income)</td>
<td>Net income</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>Montana</td>
<td>Shares</td>
<td>30% of true value</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>Nebraska b,c</td>
<td>Shares</td>
<td>Actual value of capital</td>
<td>9 mills per $1.00</td>
</tr>
<tr>
<td>Nevada</td>
<td>Shares</td>
<td>35% of cash value</td>
<td>5% per $100</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>Shares and deposits</td>
<td>Capital stock + deposits</td>
<td>1% of par (or assessed) value</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Excise (income)</td>
<td>Value of common stock</td>
<td>1.5%</td>
</tr>
<tr>
<td>New Mexico c</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>New York</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>12% (+6.756% in NYC)</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>6%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>5% + 2% privilege tax</td>
</tr>
<tr>
<td>Ohio</td>
<td>Shares and deposits</td>
<td>Value of capital, deposits</td>
<td>Shares: 5 mills per $1.00</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>4%</td>
</tr>
<tr>
<td>Oregon b,c</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>7.5%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>Shares</td>
<td>Actual value of capital</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>Income, deposits</td>
<td>Net income; deposits</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>South Carolina</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>4.5%</td>
</tr>
<tr>
<td>South Dakota</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>5.9%</td>
</tr>
<tr>
<td>Tennessee b</td>
<td>Shares</td>
<td>Actual cash value</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>Texas</td>
<td>Shares</td>
<td>40-60% of cash value</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>Utah</td>
<td>Excise (income)</td>
<td>Net income</td>
<td>4%</td>
</tr>
<tr>
<td>Vermont</td>
<td>Franchise (income)</td>
<td>Net income</td>
<td>5-7.5%</td>
</tr>
<tr>
<td>Virginia</td>
<td>Shares</td>
<td>Value of shares</td>
<td>10 mills per $1.00</td>
</tr>
<tr>
<td>Washington</td>
<td>Franchise (income)</td>
<td>Net worth</td>
<td>0.1-0.5 mill per $1.00</td>
</tr>
<tr>
<td>West Virginia</td>
<td>Shares</td>
<td>True and actual value</td>
<td>General property tax rate</td>
</tr>
<tr>
<td>Wisconsin b</td>
<td>Franchise (income)</td>
<td>Net income</td>
<td>2.3-7.9%</td>
</tr>
<tr>
<td>Wyoming</td>
<td>Shares</td>
<td>Par value of shares</td>
<td>General property tax rate</td>
</tr>
</tbody>
</table>

*After the partial or total deduction of federal income taxes paid.
*bBanks are taxed at the standard corporation income tax rates. In share tax states, share taxes paid are permitted as deductions or partial tax credits against income tax liabilities.
*cConverted from the share tax to the income tax method of bank taxation since 1971.
*dAfter deducting the value of real property.
*eAfter deducting 50 percent of the value of preferred stock.
*fState banks only.
*gAfter deducting the value of surplus stock owned by the Reconstruction Finance Corporation.
*hNational banks only.
*iAfter deducting share taxes paid.

sheet by taxing deposits and shares at equal rates. Two other share
tax states, Ohio and Kentucky, tax deposits as well as shares, albeit
at a lower rate than they tax shares (Table 4). Two income tax states,
Maine and Rhode Island, also tax deposits. One state, Washington, has
no taxes upon national banks, other than real property taxes.

Several states have experimented with new bank taxes under the
permissive umbrella of P.L. 91-156. Now that states can levy other
generally applicable taxes (such as tangible personal property and
sales taxes) against banks, concern over the potential revenue loss
resulting from a change to a direct or indirect income tax has
faded, and eight share tax states have switched since 1971 (Table 4).
Prior to 1971, decades had passed without any state changing its
method of taxing banks. 4

Six share tax states have included banks in the corporate in-
come tax base since the relaxation of Section 5219. Two of these
states, Florida and Indiana, also tax bank deposits (Table 4). The
Indiana case is somewhat unusual. Although Table 4 indicates that
Indiana banks are taxed at the standard corporate income tax rate,
the situation is actually more complex. Indiana is currently phas-
ing out the bank income tax over a thirty-year period, although bank
liability for the state's "supplemental income tax" will continue.
Other corporations will continue to pay both the corporate income
tax and the supplemental tax. 5

Perhaps the most dramatic change during the period was Michi-
gan's return to a form of the value-added tax, although of a differ-
ent variety than the income-type "Business Activities Tax" which had
been in effect in Michigan from 1953 to 1967. The consumption-type "Single Business Tax" that went into effect in 1976 replaced a variety of business taxes, including bank taxes, with a flat-rate tax upon employee compensation, profits, interest paid, and depreciation. Unlike its predecessor, the "Single Business Tax" permits full deduction for investment, which distinguishes it from the income-type value-added tax.6

**Taxation of Financial Institutions in Ohio**

Ohio is one of nineteen states that assess the share tax against the capital of banks and other financial institutions. Only thirteen states, including Ohio, tax shares in lieu of any income taxes paid by other corporations (Table 4). Tangible personal property used in banking in Ohio is also exempt from the taxes that are levied against other Ohio business property.

Ohio's share tax is part of a classified property tax that includes the following classes of taxable intangibles, according to Section 5709.2 of the Ohio Revised Code: money, credits, investments, deposits, and other intangible property belonging to Ohio residents or used in business transacted in Ohio. Obligations of the United States are exempt from taxation, except when included indirectly, as part of the book value of capital.

Financial institutions, as defined in the Ohio Revised Code, Section 5725.01(A), include all state and nationally chartered banks, incorporated savings institutions without share capital, small business investment companies, production credit associations, all savings and loan associations, and state-chartered credit unions.
Section 5725.04 of the Revised Code provides that all shares of stock in Ohio financial institutions shall be assessed at their book value (including surplus and undivided profits), as reflected on the firm's balance sheet as of December 31 of the preceding year. For firms with no capital stock, the ownership interests of the depositors are assessed at book value.

The share tax rate upon dealers in intangibles is higher than the two-mill rate upon financial institutions. Section 5707.03 of the Revised Code establishes the rate for dealers in intangibles at five mills on the dollar, levied against the "fair value" of shares, which may differ from the book value used for financial institutions. 7

Within the category of dealers in intangibles, as defined in Section 5725.01(B) of the Revised Code, are: stock and bond brokers, brokers in grain futures and commodity futures, dealers in securities or evidences of indebtedness, and lenders.

The courts generally have upheld the Ohio share tax, with only slight modification. In a 1958 decision, the Ohio Supreme Court upheld the state's right to tax ownership interests in financial institutions under Section 5725.04 of the Revised Code without allowing the deduction from net worth of federal securities owned by the institution. 8 In 1961, however, the Ohio Supreme Court provided an exemption to Section 5725.04, R.C., when it ruled that shares owned by a charitable institution shall not be taxed. 9 In both cases, the treatment of the share tax as a lien upon the shares appears to have been a significant factor in the final decision. The court was apparently influenced by the argument that the share tax was a tax upon the owners, rather
than the firm or its assets. Thus, the share tax base could include the value of tax-exempt assets, but it could not include tax-exempt shareholders.

To supplement the share tax, Ohio and four other share tax states also tax deposits in banks and other depository institutions (Table 4). To minimize tax avoidance through careful timing of shifts in deposits by financial institutions, Ohio uses a floating listing date for assessing the tax base each year. Under Section 5725.05, R.C. the Board of Tax Appeals retroactively fixes a date in November for the listing of deposits by financial institutions.

By making the depositor legally liable for the tax, Ohio was able to tax the deposits of national banks even when the restrictions of Section 5219 were in effect, although banks in the past have not required depositors to repay them for taxes paid. The economic incidence, however, remains in doubt--indeed, this is a central question to be answered in this dissertation.

Because the depositor is the statutory taxpayer, deposits by certain classes of depositors are exempt from taxation. Under Sections 5709.02 and 5709.03 of the Revised Code, only deposits used in business in Ohio or belonging to an Ohio resident are subject to taxation. In addition, Section 5725.03, R.C. exempts deposits of all levels of government and their agencies, financial institutions, dealers in intangibles, insurance companies, and charitable institutions. Deposits representing proceeds of loans that have not been disbursed, including uncollected checks, are also deductible.
In addition to the revenue, there are other reasons for supplementing a share tax with a deposits tax. First, if shares and deposits are taxed at the same rate, the tax structure is neutral between purchasers of stock and depositors, both of whom are "investing" in financial institutions. In addition, taxation of deposits and stockholders' equity provides a means to tax bank property from the liabilities side of the balance sheet, in lieu of property taxes on bank assets. Perhaps considering the "in lieu" nature of taxes on deposits and shares, most share tax states other than Ohio allow a deduction for real property taxes paid, thereby avoiding double taxation of the same real property (Table 4).

Prior to the enactment of H.B. 475 in 1971, Ohio taxed both deposits and shares at a two-mill rate, with the exception of dealers in intangibles, whose shares were taxed at a five-mill rate. In spite of the equality between the tax rates on deposits and shares in both state and national banks, Ohio discriminated against state-chartered banks prior to the relaxation of Section 5219. Until 1969, national banks, but not state banks, were exempt from sales tax payments on their purchases. Until 1971, Ohio levied an additional one-mill tax on the capital of state banks, in the form of a corporate franchise tax on net worth. The Ohio Bankers Association supported an increase in the share tax to three mills for all financial institutions, as a replacement for the franchise and sales taxes paid by state banks. Such a change would have eliminated the discrimination against state banks, although it would have introduced a tax wedge between deposits and shares. The Ohio Tax Study Commission concluded
in its 1967 report that a more thorough solution would be to increase the tax rates on both deposits and shares to three mills as a replacement for all franchise taxes on financial institutions.\(^{12}\)

Legislative support for the Ohio Bankers Association's position was evident in H.B. 475, which passed in 1971. The new law included an increase in the share tax rate to three mills (six mills for dealers in intangibles), as well as repeal of the one-mill franchise tax on the net worth of state-chartered banks and investment companies and the five-mill franchise tax on dealers in intangibles. The one-mill tax on the net worth of investment companies was restored later by Am. Sub. H.B. 1134.\(^{13}\)

Repeal of the franchise tax on state banks helped to equalize the treatment of state and national banks, which both the Ohio Bankers Association and the Ohio Tax Study Commission had recommended. However, the increase in the share tax, without a corresponding increase in the tax on deposits, created a nonneutrality between deposits and shares, between deposits and money and other intangibles (which continued to be taxed at three mills), and between banks and other corporations. The distortions caused by the differential between the rates on deposits and shares will be explored in Chapter IV.

The rate differential between shares and deposits was not new to Ohio in 1971. In a special session in June 1956, the General Assembly enacted H.B. 945, which imposed an additional three-mill share tax on the capital of financial institutions, while the tax rate on deposits remained at two mills. The temporary surtax was to be effective only during the period from 1957 to 1959.\(^{14}\)
A more nearly neutral alternative would have been either to raise the tax on both deposits and shares to three mills or to extend the one-mill franchise tax on net worth to national banks, as permitted by P.L. 91-156. In either case, the increased tax on capital would discriminate against undivided profits, thereby encouraging a liberalized dividend policy.

The passage of P.L. 91-156 has increased greatly the number of options available to Ohio in its tax policy toward banks. With the relaxation of the restrictions of Section 5219, it is now possible to tax banks under the same taxes, and at the same rates, assessed against other corporations. Ohio banks today do not pay the corporation income tax, nor do they pay the tangible personal property tax, except to the extent that they own tangible property used in nonbanking activities. Both taxes could be levied against banks today. Assessment of the corporation franchise tax at a built-up rate appears to be unnecessary, because the franchise tax need not be in lieu of other taxes levied against corporations. A franchise tax based on net income, with bad debt deductions only to the extent that they are justified by experience, can reach all bank income, including interest on government securities.

The choice of tax for financial institutions depends upon the weights to be attached to several criteria: (1) neutrality, (2) administrative and compliance costs, (3) incidence, and (4) elasticity of yield. Basically, the problem of choosing the appropriate taxes is one of minimizing the social cost of collecting a given amount of tax revenue. Although objective criteria can be used to
identify the tradeoffs, the problems are largely normative. The choice of an appropriate tax base and rates depends greatly upon the social values that give weight to the various criteria. Rarely is one tax clearly superior to another in all respects; thus, the choice of weights is quite significant for most tax policy analyses.

The following chapter will consider the incidence criterion. The other criteria will be investigated in Chapter IV, in order to identify the tradeoffs involved in designing a tax structure for Ohio banks.
FOOTNOTES


2. U.S. Congress, Senate, Committee on Banking, Housing and Urban Affairs, State and Local Taxation of Banks, Parts I-IV, prepared by the Board of Governors of the Federal Reserve System under Public Law 91-156, Committee Print, 92d Cong., 2d sess., June, 1972, Part III, Appendix 1, pp. 71-72.

3. Ibid., Part II, p. 10.


5. The six share tax states which also tax bank income are: Florida, Illinois, Indiana, Montana, Nebraska, and Tennessee. The information for Indiana was provided by Frank A. Kiinkose, Jr., Administrator, Income Tax Division, Indiana Department of Revenue, in a letter dated May 15, 1978.


10. Following the passage of P.L. 91-156, Ohio responded promptly by repealing the Ohio Tax Commissioner's Rule TX-15-22 (which exempted national banks from the Ohio sales tax), effective December 19, 1969, only five days after the passage of P.L. 91-156.


CHAPTER III

INCIDENCE ANALYSIS

Precise, and perhaps somewhat arbitrary, legal distinctions have made the legal incidence, or impact, of bank taxes rather clear-cut. The economic incidence, however, is less clear—in fact, it is a crucial question to be answered in this chapter. Determination of the final incidence of bank taxes is particularly important for Ohio and other deposit tax states, because it is not clear conceptually whether or not the deposit tax should be considered a bank tax. Following an update of Swartz' tax impact comparisons between industries, this chapter compares the final incidence of the bank income tax with the deposit and share taxes. Even though interindustry tax impact comparisons such as those made by Swartz are useful in their own right, analysis of the final incidence of bank taxes is crucial to a full understanding of comparative tax burdens across industrial lines.

Tax Impact, by Industry

As Swartz found for 1962, banks apparently have been undertaxed in the past, relative to other corporations. Swartz found that the "tax burden ratio" (state and local taxes/income subject to state and local taxation) was lowest for the finance group, and that the banking subdivision was low even for the finance group. The line "taxes as a
<table>
<thead>
<tr>
<th>Industry</th>
<th>ALL</th>
<th>AGRIC.</th>
<th>MINING</th>
<th>CONSTR.</th>
<th>MFG.</th>
<th>TRAN.</th>
<th>TRADE</th>
<th>SERVICES</th>
<th>FINANCE</th>
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<td><strong>1972</strong></td>
<td></td>
<td>$60,057</td>
<td>$342</td>
<td>$627</td>
<td>$2,256</td>
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<td>Taxes paid</td>
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<td>$342</td>
<td>$627</td>
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<td>$26,438</td>
<td>$10,470</td>
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<td>$45,000</td>
<td>$93</td>
<td>$126</td>
<td>$221</td>
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<td></td>
</tr>
<tr>
<td>Value-added</td>
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<td>$37.6%</td>
<td>40.1%</td>
<td>16.4%</td>
<td>54.6%</td>
<td>36.0%</td>
<td>54.8%</td>
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<td><strong>1982</strong></td>
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<td>$3,453</td>
<td>$854</td>
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<td>$119</td>
<td>$354</td>
<td>$652</td>
<td>$11,738</td>
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<td>$4,012</td>
<td>$4,420</td>
<td>$16,446</td>
<td>$107,786</td>
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<td>$982</td>
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<td>$170</td>
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<td>$4,322</td>
<td>$5,631</td>
<td>$19,060</td>
<td>$145,820</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value-added</td>
<td></td>
<td>$32.0%</td>
<td>42.3%</td>
<td>30.8%</td>
<td>51.2%</td>
<td>31.6%</td>
<td>36.8%</td>
<td>40.0%</td>
<td>50.3%</td>
</tr>
<tr>
<td>Taxes as a percent of taxable income</td>
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<td>$7.0%</td>
<td>2.8%</td>
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<td>3.3%</td>
<td>8.1%</td>
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<tr>
<td>Taxes as a percent of value-added</td>
<td></td>
<td>$7.0%</td>
<td>2.8%</td>
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<td>3.3%</td>
<td>8.1%</td>
<td>11.7%</td>
<td>5.6%</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

1Estimated from data in corporation income tax returns, the national accounts, and the *Statistical Abstract of the United States*.

2Taxable income plus employee compensation plus interest paid to individuals.

percent of taxable income" for 1962 in Table 5 summarizes the Swartz results. The update of the Swartz study for 1972 shows that the finance group did not keep up with the general rise in state and local tax "burdens" upon corporations during the decade, although the banking subdivision experienced a dramatic increase of nearly 50 percent. Thus, it appears that the "temporary amendment" to Section 5219 resulted in the elimination of part of the discrepancy between bank taxes and taxes upon other corporations, even during a period in which the finance group as a whole increased its tax advantage relative to other corporations, both in absolute and relative terms. Even more important for savings and loan associations, the apparent tax advantage of the banking subdivision over agencies categorized as "other credit" (mainly savings and loans) was reduced by more than 50 percent during the decade from 1962 to 1972.

Preliminary data for 1973 support the conclusion that under the "temporary amendment" to section 5219, the states reduced the tax advantage of commercial banks over other firms. Unpublished data from the Internal Revenue Service show that taxes as a percentage of taxable income fell by 5 percent, to 35.7 percent, for all firms in 1973, even though the ratio for banks rose by 9 percent, to 20.8 percent. For credit agencies other than banks, the ratio rose by 17 percent, to 24.7 percent, in 1973.\(^2\)

Because of data limitations and conceptual problems, Table 5 is more useful as a measure of relative standings among industries, rather than measuring absolute tax "burdens." The numerator, "taxes paid," includes some federal excise taxes and payroll taxes in addition to
state and local taxes. It is not possible to isolate the state and local taxes, although Swartz tried to isolate industries which he believed were likely to be subject to above average excise tax burdens.

The adjustments had little effect on Swartz' results. The adjusted corporation average for 1962 was 30.1%, instead of 32.8%. Of course, with further disaggregation (which Swartz did not attempt), the results of adjustment would be more dramatic.

A potentially more serious problem involves the payroll taxes, which Swartz dismissed as no problem, because "all corporations are subject to these taxes; consequently, no differentials are introduced by their inclusion...[although this] does increase the apparent state and local tax burden." However, differences in labor intensities between industries would bias the results, in that the relatively high payroll tax contributions of labor intensive industries would exaggerate their state and local tax obligations relative to capital intensive industries.

Although not directly comparable to the Statistics of Income, the national income accounts data on employer contributions to social insurance show that the apparently high tax burdens of agriculture, construction, trade, and services are attributable to a large extent to the inclusion of payroll taxes in the item "taxes paid." Conversely, the payroll tax component in "taxes paid" by the finance group is significantly below average. Rough estimates of payroll taxes paid by each industry, after adjustment of the national income accounts data to exclude estimated tax payments by unincorporated businesses, indicate that as much as 42 percent of the item "taxes
paid" for all corporations is actually payroll taxes, versus only 23 percent for the finance group. If so, state and local taxes paid in 1972 represented only 21.7 percent of the income of the average firm, rather than the 37.6 percent reported in Table 5. This adjustment would virtually eliminate the advantage of the finance sector, whose taxes would represent 19.2 percent of taxable income. Banks, however, would continue to realize significant tax advantages, with an estimated tax impact ratio of only 13.3 percent.\(^4\)

The preceding estimates may exaggerate the discrepancy between the finance group and other corporations, because incomplete data apparently prevent adjustment for the inclusion of unincorporated businesses in the national income accounts data. Even after the exclusion of estimated payroll taxes paid by unincorporated businesses, the payroll taxes paid by the construction and service industries represented unrealistic, or even impossible percentages of taxes paid. The proportion actually exceeded 100 percent for the service industry.

Because of this problem with the data, adjustments have not been reported for individual industries outside of the finance sector, and even the aggregate adjustments for payroll taxes paid appear to be biased upward, because of a downward bias in the estimated significance of unincorporated businesses in the totals. Such an understatement of the significance of unincorporated businesses is not likely to be a problem in the finance sector, whose firms are more likely to incorporate than the average firm. Both regulatory pressure and the unique nature of the risks undertaken by financial
firms, which deal in liquidity, provide strong incentive for financial firms to incorporate. Thus, although Swartz was correct in assuming that the primary effect of isolating state and local taxes, if it were possible, would be to reduce measured tax burdens (as reported in Table 5) across all industries, he failed to consider the unequal effect of such adjustment on different industries. Specifically, the tax advantage of the finance group, and banking in particular, in 1962 was unlikely to have been as great as Swartz reported. Furthermore, one can make fairly accurate comparisons between industries in the finance group and the average of all industries; such comparisons will be less accurate if made with specific other industries, especially agriculture, construction, trade, or services.

A conceptual question arises with respect to the choice of basis for tax impact comparisons in the Swartz study. When applied to comparisons of tax burdens among businesses, the income basis is useful, although its applicability is not quite as clear-cut as it is in the case of interpersonal tax burden comparisons. Such income-based comparisons are justified as measures of ability-to-pay, which is a concept best applied to individuals, rather than corporations (even if the latter do exist as persons under the law). As Brauer has argued, the ratio of taxes to net income does not show the effect on resource allocation, because a high ratio may mean only that income is low, and not that taxes are high. As a measure of resource use by the firm, value-added has some advantages over income as a base for tax burden comparisons among industries.
Table 5 shows that the interindustry comparisons are indeed sensitive to the choice of basis. In terms of value-added, taxes upon the finance group were 10 percent above the average for all corporations in 1962, although banks continued to exhibit lower than average tax burdens for their group, and for industries in general. For 1972, the finance group was relatively lightly taxed, regardless of the basis for comparison. In both years, banks and other credit agencies were taxed lightly relative to value-added, although the apparent special treatment of banks relative to savings and loan associations is reversed when value-added replaces income in the denominator for tax impact comparisons.

The differences resulting from the use of a different denominator appear to be minor when the comparison is between basically similar types of firms. The major differences arise when the comparison is between firms with quite different structures. For example, in comparing the finance group with the service group, the latter appears to be overtaxed greatly when income is the denominator; however, the former appears to be overtaxed in terms of value-added.

Thus, the basis for comparison is quite important for tax impact comparisons, especially for comparisons across broad industrial lines. The conclusion that the relaxation of the restrictions of Section 5219 has permitted the states to move toward equalization of tax burdens between banks and other businesses is valid only if income is the appropriate basis. With value-added as the basis, banks actually improved their tax advantage over other corporations during
the decade from 1962 to 1972, even though the states were given permission during this period to tax national banks as they tax other businesses.

**Bank Tax Impact, By State**

The foregoing evidence generally indicates an undertaxation of banks relative to other industries in the typical state. Interstate comparisons of bank taxes, however, show that Ohio's bank taxes are relatively high. As Table 6 indicates, Ohio was among the highest five or ten states in 1969, depending upon the basis for comparison. Perhaps even more important, Ohio was first or second in the North Central region, and higher than any of her neighboring states. This is consistent with previous studies, such as the 1964 California study that found that for the period 1950-1960, Ohio ranked fourth in state and local bank taxes as a percentage of income (Appendix A).

These results, however, are not entirely unambiguous, in that the California study treated the deposits tax as a tax on the banks, rather than the depositors. Although the banks appear to absorb the tax, it is not clear that the final burden of the tax rests with the banks. A nationwide 1967 study by Paul, which excluded the deposits tax, apparently treating it as a tax on the depositors' assets rather than the banks' liabilities, found that Ohio ranked among the lowest three states in bank tax load as a percentage of income. If Paul had included the deposits tax as a bank tax, Ohio would have been among the highest fourteen states in terms of bank tax load (Appendix A). Thus, the treatment of the tax on deposits is more important than the choice of denominator in interstate rankings of bank tax "burdens."
TABLE 6

IMPACT OF STATE AND LOCAL BANK TAXES, MEASURED BY SELECTED BASES,
BY STATE; 1969

<table>
<thead>
<tr>
<th>Taxes as a Percentage of:</th>
<th>Pretax Income&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Net Income&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Equity Capital</th>
<th>Gross Receipts</th>
</tr>
</thead>
</table>

North Central Region

Illinois 5.93 9.53 1.04 1.38
Indiana 10.29 17.54 2.02 2.48
Iowa 5.82 8.25 0.94 1.37
Kansas 5.91 8.58 1.02 1.56
Michigan 10.00 15.21 1.94 1.91
Minnesota 12.73 20.72 2.46 2.75
Missouri 6.73 10.62 1.30 1.80
Nebraska 3.84 5.72 0.68 0.96
North Dakota 5.96 8.67 1.03 1.29
Ohio 10.94 19.23 2.14 2.96
South Dakota 7.02 10.52 1.32 1.64
Wisconsin 10.28 15.51 1.76 2.16

Northeast

Connecticut 13.76 24.53 2.99 3.42
Maine 8.27 12.01 1.43 1.84
Massachusetts 11.66 20.63 2.33 2.81
New Hampshire 4.99 8.36 0.86 1.32
New Jersey 7.03 10.58 1.41 1.84
New York 10.24 18.58 1.84 2.23
Pennsylvania 8.09 13.06 1.52 2.13
Rhode Island 10.99 19.31 2.16 2.77
Vermont 6.72 10.31 1.08 1.32

South

Alabama 5.35 7.66 0.98 1.37
Arkansas 5.55 8.31 0.92 1.38
Delaware 4.64 8.51 1.10 1.61
Dist. of Columbia 7.52 14.47 1.87 2.39
Florida 3.61 5.49 0.78 0.87
Georgia 7.92 14.25 1.74 1.90
Kentucky 6.03 9.43 1.19 1.71
Louisiana 14.45 24.06 2.72 3.83
<table>
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<th>Taxes as a Percentage of:</th>
<th>Pretax Income&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Net Income&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Equity Capital</th>
<th>Gross Receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maryland</td>
<td>7.37</td>
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### West

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<th>State</th>
<th>Pretax Income&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Net Income&lt;sup&gt;b&lt;/sup&gt;</th>
<th>Equity Capital</th>
<th>Gross Receipts</th>
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<td><strong>TOTAL U.S.</strong></td>
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<td><strong>1.67</strong></td>
<td><strong>2.03</strong></td>
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<sup>a</sup>Net income before taxes (before income taxes and all State and local taxes), before securities gains and losses, but after deducting bad debt reserves.

<sup>b</sup>Income after subtracting all taxes, and including gains and losses on securities.

**SOURCE:** U.S., Congress, Senate, Committee on Banking, Housing and Urban Affairs, State and Local Taxation of Banks, Part I-IV, prepared by the Board of Governors of the Federal Reserve System under Public Law 91-156, Committee Print, 92d Cong., 2d sess., June, 1972.
Procedures for Incidence Analysis

The purpose of this part of the study is to answer the following question: in terms of the effect on the rate of return to banking capital, how heavy is the bank tax burden in Ohio relative to other states? This question goes beyond the tax impact comparisons of Table 6 in an attempt to determine the incidence of the taxes imposed on banks by state and local governments. The answer is particularly important for Ohio and other deposits tax states, because it is not clear conceptually whether or not the deposits tax should be considered a bank tax.

Interstate comparisons of bank tax "burdens" have been fairly consistent, with the exception of their treatment of the deposits tax. Resolving this ambiguity would increase the usefulness of the tax impact studies to state tax policymakers. By comparing deposits and shares taxes with income taxes in terms of effects on bank performance, this study attempts to determine whether or not deposits and shares taxes differ significantly from income taxes in incidence. If they are similar, inclusion of the deposits tax as a bank tax in impact studies is appropriate, and Ohio's bank taxes are relatively high, as indicated in Table 6.

Bank Structure and Performance

Measurement of the effects of various taxes on bank performance requires identification of the factors that affect bank performance. The incidence analysis in this study is primarily a synthesis and extension of models of the relationship between bank structure and
performance that were developed by Alhradeff, Edwards, Goldfeld, Gramley, Jacobs and Kaufman. The original contribution of the present study is the application of these models to interstate bank tax comparisons at a point in time, using aggregate data for all banks in each state. Prior studies generally used ordinary least squares (OLS) techniques to analyze the effects of concentration and other independent variables on performance variables such as rate of return and bank loan rates. The exception was Goldfeld, who in a more ambitious study used OLS to identify variables for inclusion in a simultaneous equation model of the financial sector of the economy. Goldfeld then used two-stage least squares (TSLS) to get more precise estimates of the structural coefficients. Even though OLS estimates are not generally consistent in such a case, Goldfeld's results reaffirmed his assumption that using TSLS to estimate the structural coefficients would not change the results significantly. The same variables were significant, although the coefficients were changed slightly.

Although helpful, the Goldfeld study was not directly applicable to the present study, because in such a time series analysis, the specification of the model is different from that of a cross-sectional study such as the present analysis. Many of the explanatory variables which are important in a time series analysis of financial markets are held constant in a cross-section analysis. For example, Goldfeld's loan demand function included changes in commercial loans as a function of the previous level of commercial loans, inventory investment, the excess of loan rates over the Treasury bill
rate, deposits, and GNP less inventory investment. Other studies of banking markets have used OLS to analyze the relationships between bank structure and performance, with mixed results. In a pioneering empirical study of bank performance, Almadeff found significant economies of scale in banking, at least for banks with deposit levels below $2 million and above $50 million. Nearly a decade later, Gramley concluded that scale economies appear to exist in banking, although his evidence was not firm enough to support precise quantification of these results. Based upon data from 270 member banks in the Tenth District, Gramley tentatively concluded that differences in ratios of total costs to assets during the years 1956-1959 were attributable to differences in bank size, ratio of time to total deposits, ratio of loans to assets, ratio of non-federal government securities to assets, ratio of consumer loans to total loans, and growth in assets during the period.

Studies of the effects of concentration on performance have come to conflicting conclusions, although studies by Edwards and Kaufman suggest that high concentration is associated with higher loan rates, lower rates on time deposits, and higher rates on return on assets. To measure factors affecting bank performance in a cross-section study across Iowa counties, Kaufman regressed three performance variables (rate of return on assets, interest charged on loans, and interest paid on time deposits) against various structure and demand proxy variables for the years 1959 and 1960. Kaufman's structure variables included the ratio of savings and loans assets to bank deposits, distance to a financial center, and the percentage of total
deposits held by the largest bank. His demand variables included population, percentage change in population, median income, percentage change in income, and the ratio of nonagricultural employment to total employment. Thus, Kaufman was able to approximate market structure, demand factors, industrial mix of the region, and the availability of close substitutes.

Although Kaufman included eight structure and demand variables as regressors in each of the equations measuring bank performance, only the positive coefficient of concentration was significantly correlated with loan rates in both 1959 and 1960. Only the positive coefficient of changes in population and the negative coefficients of concentration and distance from a financial center were significantly correlated with interest paid to depositors in both years. In the equation with rate of return on assets as the dependent variable, only the positive coefficient of concentration and the negative coefficient of population were significant in both years.11

The Edwards study, based upon a sample of 1400 banks in 36 SMSA's, found that concentration was the only consistently significant explanatory variable in the regression equations for bank performance. The dependent variables included interest paid to depositors, loan rates, and return on assets. Regressors included concentration, bank size, population change, deposits per capita, and ratio of consumer loans to total loans. Rather than introduce a dummy variable for branching, which was highly correlated with concentration, Edwards ran separate regressions for unit banking areas. Edwards also found that the proxy variables for demand were highly correlated
with concentration and generally insignificant. Average bank size, which was a proxy for bank costs, was insignificant, although the signs were consistent with Gramley's conclusion that larger banks tend to pay higher interest on time deposits and charge lower loan rates.\textsuperscript{12}

The literature is equally inconclusive regarding the effects of branch banking upon bank performance. Alhadef found that branch banks have higher costs than the largest unit banks, even though the branches in his small sample were all larger than the largest unit bank.\textsuperscript{13} Apparently, branching itself is a source of higher bank costs, even when the branch banks involved are large enough to realize economies of scale. This is consistent with a finding by Jacobs that branching restrictions result in higher interest charged, at least for small business loans. Other explanatory variables in Jacobs' equations included concentration, deposit variables, business assets, loan amount and term, account activity, time in debt, bank size, other services, and number of banks.\textsuperscript{14}

In a 1964 study, however, Edwards found that branching restrictions were not significant factors affecting business loan rates, at a given level of concentration. Edwards' explanatory variables included concentration, loan size, employment changes, borrower size, and dummies for branching and community size.\textsuperscript{15}

Although previous studies typically treated banking markets as local, extension of the preceding models to a cross-sectional analysis by state is logical. Banking markets can be local, state-wide, regional, national, or even international; therefore, the
choice of relevant market is somewhat arbitrary. It is appropriate to treat the state as the relevant banking market in the present study, which analyzes the effects on bank performance of institutional differences between states. Even if markets existed only at the SMSA level, such interstate comparisons would be useful, although there would be some loss of information through aggregation of several local markets in the statewide data.

However, the case for statewide delimitation of banking markets is strong; even those who have used geographically narrow definitions of a banking market have recognized the advantages of treating the state as the appropriate geographic boundary for a market. Edwards found that in SMSA's straddling state boundaries, specifically Cincinnati and Philadelphia, banking markets were segmented, indicating that legal boundaries affect market delimitation. The larger market is particularly appropriate when branching is allowed, because banks tend to standardize prices and procedures. No single market boundary is appropriate in all cases. For large borrowers, even the state may be too limited as a market boundary, yet for a small loan by a small borrower, a locally delimited market is adequate. Thus, interstate comparisons of the effects of institutional factors on bank performance can be quite useful, particularly if one views the state as the relevant banking market (or at least as a reasonable compromise between local and national markets for banking services).

The interstate comparisons of the effects of institutional factors on bank performance in the following section provide a measure of the incidence of state and local bank tax systems,
including a comparison of performance effects of income taxes and deposits and shares taxes. The major question is the appropriate treatment of the taxes on deposits and shares: are they taxes on banking customers, merely collected by banks, or are they taxes on bank shareholders? The answer to the preceding question is necessary for full interpretation of the tax impact comparisons of Table 6, which treats the taxes on deposits and shares as bank taxes.

The Model

In an attempt to answer the question of tax incidence which was posed in the preceding section, four specific hypotheses were tested:

1. The rate of return to banking assets is inversely related to state and local bank taxes as a percentage of income.

2. Interest paid to bank customers is inversely related to state and local bank taxes as a percentage of income.

3. Interest charged on bank loans is directly related to state and local bank taxes as a percentage of income.

4. There is no relationship between type of bank tax levied in a state and bank performance, in terms of interest paid, loan rates, and return on assets.

In each case, the hypothesis tested was the null hypothesis that no relationship exists.

Rejection of the null (acceptance of the alternative) hypothesis in the first case would indicate that there is less than complete shifting of state and local bank taxes; that is, the stockholders absorb at least part of the taxes. Rejection of the second null hypothesis would indicate that bank taxes are shifted at least in part to depositors. In the third case, rejection of the null hypothesis
would mean that borrowers pay at least a part of the bank taxes. Rejection of the fourth null hypothesis would suggest that bank income taxes have different economic effects from taxes upon bank deposits and shares of stock.

The hypotheses are not mutually exclusive, so that it is possible to reject all or none (or any combination) of the null hypotheses. Rejection of the first three null hypotheses would indicate that bank owners, borrowers, and lenders each bear part of the bank tax burden. Rejection of none of the first three null hypotheses, although somewhat unlikely, would indicate that taxes are paid by borrowers or depositors through adjustments in service charges, other implicit interest payments, or implicit interest charges (for example, through compensating balances required against bank loans).

Ordinary least squares analysis was used to isolate the effects of various demand and structure variables upon the performance variables. The dependent variables included in the four separate regression equations were rate of return on assets, loan rates, explicit interest paid to depositors, and service charges on demand deposits (as a proxy for implicit interest paid to depositors).

Rate of return on capital was not included as a dependent variable. The use of total assets rather than capital in the denominator for rate of return is common in the literature. A 1977 Federal Reserve study which reviewed performance studies in banking found that ten of sixteen recent studies using rate of return as a dependent variable, including the previously cited studies by Edwards and Kaufman,
used the rate of return on total assets. The use of rate of return on assets eliminates the need for a leverage variable in the profit function, because the rate of return on assets is equivalent to the return on borrowed plus equity capital.


Variables $X_1-X_3$ and $X_{10}$ (concentration, bank size, and ratios of consumer and business loans to total loans) are structure variables. Variables $X_4-X_6$ (savings and loan assets, population, and income) are proxies for demand, although $X_4$, which represents availability of substitutes, could be considered an indicator of banking structure. The remaining variables, $X_8$, $X_9$, and $X_{11}$ (tax type, taxes/income, and usury ceilings), represent institutional restrictions by the states.

With the exception of the tax variables $X_8$ and $X_9$, the regression equations are similar to the previously cited models of banking.
# TABLE 7

REGRESSION RESULTS FOR SELECTED PERFORMANCE CHARACTERISTICS

\[
\begin{align*}
r &= 1.19278 - 0.00057 \, X_2 + 0.00482 \, X_3 - 0.00098 \, X_6^* + 0.03340 \, X_8 - 0.00720 \, X_9^* \\
&\quad (0.00029) \quad (0.00285) \quad (0.00003) \quad (0.01265) \quad (0.00325) \quad \bar{R}^2 = 0.46 \\
&\quad \text{d.f.} = 45 \quad R^2 = 0.50 \\

i &= 4.67607 + 0.00192 \, X_2^{**} + 0.00705 \, X_3^* - 0.00018 \, X_6^* + 0.18261 \, X_7^* - 0.12943 \, X_8 \\
&\quad (0.00064) \quad (0.00300) \quad (0.00007) \quad (0.07774) \quad (0.07071) \quad \bar{R}^2 = 0.30 \\
&\quad \text{d.f.} = 45 \quad R^2 = 0.35 \\

s &= 0.18409 - 0.00078 \, X_2 + 0.00284 \, X_4 + 0.00759 \, X_5^* - 0.17552 \, X_8^* + 0.00960 \, X_9 + 0.01980 \, X_{10}^{**} \\
&\quad (0.00058) \quad (0.00243) \quad (0.00304) \quad (0.07197) \quad (0.05697) \quad (0.00615) \quad \bar{R}^2 = 0.46 \\
&\quad \text{d.f.} = 44 \quad R^2 = 0.52 \\

l &= 7.40361 + 0.00282 \, X_1 + 0.01182 \, X_3 + 0.01521 \, X_5^{**} - 0.00036 \, X_6^{**} + 0.12604 \, X_7 - 0.10729 \, X_8 + 0.03992 \, X_{10}^{**} \\
&\quad (0.00318) \quad (0.00484) \quad (0.00429) \quad (0.00009) \quad (0.11840) \quad (0.10306) \quad (0.00858) \quad \bar{R}^2 = 0.67 \\
&\quad \text{d.f.} = 43 \quad R^2 = 0.71
\end{align*}
\]

where:

- \( r \) = rate of return on assets
- \( i \) = interest paid on time deposits
- \( s \) = service charges on demand deposits
- \( l \) = average loan rate
- \( X_1 \) = percentage of deposits in the largest three banks in the state
- \( X_2 \) = average level of deposits per bank
- \( X_3 \) = ratio of consumer loans to total loans
- \( X_4 \) = ratio of savings and loan assets to bank assets
- \( X_5 \) = percentage change in population, 1960-1970
- \( X_6 \) = personal income per capita
- \( X_7 \) = dummy variable for branching restrictions (1 if unit banking, 0 otherwise)
- \( X_8 \) = dummy variable for type of tax (1 if deposits and shares tax; 0 otherwise)
- \( X_9 \) = state and local bank tax impact ratio (taxes/income)
- \( X_{10} \) = ratio of business and industrial loans to total loans
- \( X_{11} \) = maximum interest permitted under state usury laws

### Notes:
- Standard errors of the coefficients are in parentheses.
- ** significant at the 1 percent level.
- * significant at the 5 percent level.
- Durbin-Watson coefficients, although not reported, were calculated by ordering the observations by geographic regions. All observations either fell in the acceptance region or were inconclusive.
structure and competition developed by Edwards, Gramley, Kaufman, and Jacobs. The previous studies generally included borrower size and average loan size as explanatory variables; however, because of lack of data for interstate comparisons, this study used bank size as a proxy for both omitted variables. Bank size, borrower size, and loan size are correlated, because both safety considerations and regulatory restrictions prevent relatively small banks from making relatively large loans to relatively large borrowers.

Minimizing the multicollinearity that has plagued previous studies was also a consideration in the selection of variables. Edwards used interest paid and charged as the only independent variables in his rate of return equation. To have done so in the present study would have introduced unnecessary multicollinearity between the tax variables and the other explanatory variables. Unfortunately, some multicollinearity is unavoidable. For example, Edwards found that concentration is related to almost everything else, because the same factors that affect demand also affect regulatory policy designed to prevent bank failures, thereby affecting concentration. Thus, one can easily imagine state banking authorities more readily granting permission for bank mergers during a recession in which bank profits have fallen drastically, so that reduced profitability would be positively correlated with concentration. A fairly strong negative correlation was found between bank profitability by state and concentration (Table 8).

Similarly, concentration was found to be highly correlated with bank size, indicating not too surprisingly that large banks had
### TABLE 3

**SIMPLE CORRELATION MATRIX**

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<tr>
<th></th>
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<th>i</th>
<th>s</th>
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<th>X2</th>
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* not estimated
relatively large market shares. Concentration was also collinear with industrial mix, income, and branching restrictions, the latter indicating that concentration was higher in states with liberal branching laws. The pattern was similar for size of bank. Less collinearity existed among the other explanatory variables, although as proxy variables for demand, population and income were positively correlated fairly strongly. More unusual is the observation that among the endogenous variables, there was much more correlation between service charges and loan rates than between service charges and interest paid on time deposits, the variable which the service charge variables was designed to replace.

Of course, simple correlation tells us little about the extent of multicollinearity. For example, with several variables, a variable that is a perfect linear combination of several other variables could possess very low correlation coefficients with the other variables taken separately. One can tell a little more by regressing each exogenous variable in turn against all of the remaining independent variables, but even then, there is no clearcut way to interpret the results, unless one of the variables is a linear combination of the other explanatory variables. The more pragmatic approach taken in this study was to avoid obvious multicollinearity whenever possible and to observe the effects on other variables and on the $R^2$ as variables were added. This approach led to the rejection of the variable "ratio of nonagricultural employment to total employment" from the rate of return and loan rate regressions. This variable was fairly highly correlated with income ($r=0.63$), but more importantly,
when it was added to the regressions, this employment variable added virtually nothing in explanatory power, and it greatly affected the other variables, particularly income, which would have been rendered insignificant with the inclusion of the additional variable (Appendix B).

The income variable in the rate of return equation is itself suspect; not only is its sign opposite from that which one would have expected, but it seems to be affected greatly by the other demand variables. Note that a one-tail test of significance, which could have been justified in this case, would have resulted in the interpretation that the apparent correlation between income and rate of return may be spurious. Also, considering the multicollinearity involving income, concentration, and bank size, part of the answer may lie in economies of scale due to large banks' ability to reduce the risk involved in gaining leverage. Because the dependent variable is rate of return on assets, a large bank with a great degree of leverage and low risk because of its size could report a low rate of return on assets while earning a high return on capital.

Finally, one must temper the intuitive response that the income coefficient should be positive with the knowledge that there exists a partially offsetting factor in the tendency of business to use internal funds whenever possible (even though discouraged by the asymmetrical treatment of borrowed and equity funds under the corporation income tax). Thus, declining profitability in banking during a recession may be dampened by the necessity for increased borrowing to finance inventories (wanted or unwanted)
or investment projects to which the firms were previously committed. Even though increased risk of default would lower the true rate of return in banking, the reported return would adjust only very slowly, with a lag of years, because the bad-debt reserve would dampen the effect upon profits.

The results indicate that banks in states with relatively high bank taxes have relatively low profits, regardless of the type of bank tax involved. In the rate of return equation, $X_q$, representing type of tax, is insignificant, while $X_9$, the tax impact variable, has a significant negative coefficient (Table 7). In the other three equations, $X_9$ was insignificant, although the positive value of the coefficient in the service charge equation was at least the right sign to support the hypothesis that higher taxes result in higher service charges to depositors.

Thus, it appears that bank stockholders absorb state and local taxes, in light of the fact that the evidence supports rejections of the null hypothesis in only the rate of return equation. We cannot reject the second and third null hypotheses; there is no significant relationship between tax impact ratios and interest paid or charged by banks. That is, the evidence does not support the argument that the taxes are shifted to bank customers.

This empirical evidence is consistent with the banks' claim that they absorb the tax on deposits, even when the interstate differentials could put them at a competitive disadvantage in attracting capital. Apparently, with interest paid to depositors below the equilibrium level due to Regulation Q, banks are willing to pay the
tax for their depositors as a way to bypass federal interest rate restrictions. These conclusions are not sensitive to the choice of other independent variables to be included in the regression equations. Although multicollinearity caused the significance of some variables to be dependent upon the choice of other independent variables, this was not true of the tax variables (Appendix B).

Concerning the fourth hypothesis, regarding the possible differential incidence of the income and deposits and shares taxes, the results are somewhat ambiguous. The negative signs of the coefficients of \( X_8 \) in all but the rate of return equation (Table 7) suggest that a switch from taxation of bank deposits and shares to an income tax would benefit owners of time deposits relative to other bank customers and shareholders. However, with the exception of the service charge equation, the coefficients are not significant at the 5 percent level. Therefore, the results are mixed for tax type, although the evidence indicates that one cannot treat deposits and shares taxes differently from income taxes in their effects upon bank profits. This conclusion strengthens the case for a more ambitious interpretation of Table 6, namely that the reported tax impact ratios are directly comparable between deposits and shares tax and income tax states.

**Who Pays State and Local Bank Taxes?**

The evidence from the foregoing analysis indicates that state and local taxes based upon income have effects on the rate of return to banking assets that cannot be distinguished from the effects of taxes on deposits and shares of bank stock. Higher state and local
taxes, regardless of type, result in lower rates of return in banking. Consequently, the impact comparisons of Table 6 appear to be valid as relative measures of bank tax burdens across states. Of course, these impact ratios are not absolute measures of the incidence of bank taxes; that was not the purpose of this study. What they do show is relative burdens between states. This is valuable in itself, partly because of the insights that the analysis provides into the incidence of bank taxes, and partly because impact comparisons are useful even when full shifting occurs, because shifting is not costless, and the act of shifting itself changes resource use. Especially in the long run, full shifting may occur in many cases, and yet to argue that the initial tax impact is irrelevant implies that the exit of the firms that failed is simply a costless, frictionless adjustment.

The upshot of all this is that the studies that treat the deposits tax as a bank tax are supported by the evidence from a cross-section study by state. Ohio's bank taxes are indeed relatively high, as indicated in Table 6. Nationally, Ohio ranked in the top five or ten states in 1969; in the North Central region, Ohio ranked first or second, depending upon the basis used for comparison, and was higher than any of the neighboring states.

The policy implications for the state of Ohio are somewhat ambiguous. The relatively high bank taxes may drive banking capital out of the state, at least to the extent that capital is mobile, which is an assumption that is either explicitly or implicitly stated in state policymakers' discussions of tax preferences for business as
a means to attract new industry. On the other hand, banks in general continue to realize tax advantages at the state and local level relative to other corporations. The next chapter will consider the trade-offs involved in the policy alternatives available to Ohio.
FOOTNOTES


2. The numerator is the Statistics of Income item "taxes paid," and the denominator is "taxes paid" plus "total receipts less total deductions." All are unpublished data from the Internal Revenue Service, "Corporation Source Book of Statistics of Income, pp. 008, 018, 065.


4. An estimated $25.4 billion of the $60.1 billion reported in the Statistics of Income as "taxes paid" by all corporations was actually employer contributions to social insurance. For the finance group, employer contributions represented an estimated $1.6 billion out of "taxes paid" of $7.3 billion. Assuming that banks' share of the payroll taxes paid by the finance group is equal to their share of the industry's income, $423 million of the $1.416 million reported as "taxes paid" by banks was actually payroll tax payments. Employer contributions to social insurance were reported in the U.S., Department of Commerce, National Income and Product Accounts of the United States, 1929-74. Statistical Tables (Washington, D.C.: Government Printing Office, n.d.), Table 6.12, pp. 216-217. The data include unincorporated businesses. The corporate share of employer contributions to social insurance was assumed to be equal to the corporate share of employee compensation (as presented in the preceding source, Table 6.5, pp. 194-197). Employee compensation by unincorporated businesses, which was subtracted from total employee compensation to derive the corporate share of the wage bill, was presented in the Statistics of Income, Business Income Tax Returns, 1972 (Washington, D.C.: Government Printing Office, 1976), Table 2.1.


7. OLS for a single equation in a simultaneous equation model will be biased and inconsistent, because any endogenous variables included as explanatory variables in the equation will be correlated with the disturbance term. The preceding bias is not a problem in estimation of the coefficients of the reduced-form equations, because each reduced-form equation contains only one endogenous variable. Even in the former case, the resulting bias in the estimates does not preclude the use of OLS; according to Johnston, the choice of a method "has to be made on a balance of the properties of the method and computational simplicity." See J. Johnston, Econometric Methods (New York: McGraw-Hill, 1963), pp. 234-235; 253.


9. Alhadeff, Monopoly and Competition in Banking, p. 83.

10. Gramley, A Study of Scale Economies in Banking, pp. 17, 58.


13. Alhadeff, Monopoly and Competition in Banking, pp. 97, 106.


17. Rhoades, Structure and Performance Studies in Banking, pp. 36-44.

   Jacobs, Business Loan Costs and Bank Market Structure, p. 82.

CHAPTER IV

COMPARISONS OF POLICY ALTERNATIVES

Tax systems are not always models of comprehensive planning designed to coordinate taxes within the system. Tax changes are often ad hoc responses by ad hoc legislative committees with limited time for analysis. With regard to bank taxes, the situation was complicated until 1969 by the federal restrictions on bank taxation under Section 5219. The relaxation of Section 5219 after the passage of P.L. 91-156 in 1969 gave the states the power to tax banks as they tax other businesses. Thus, Ohio has the opportunity today to coordinate bank taxes with other business taxes, as part of a comprehensive state tax system.

Alternative Bank Tax Structures

The major alternatives available to the state of Ohio are as follows:

1. No change from the present method of taxation of financial institutions.
2. Equalization of the tax rates on deposits and shares (at either two or three mills).
3. Reduction or elimination of the taxes on deposits and shares, with the inclusion of the income of financial institutions in the corporation franchise tax base.
4. Replacement of taxation of deposits and shares with taxation of intangible assets.
5. Abolition of the intangible property tax, with extension of the income tax base to include the income from intangibles.

Another possibility is to expand the property tax base to include banks'...
tangible personal property, as is the case with other corporations. Such a change could be combined with any of the above alternatives. The purpose of this chapter is to evaluate each of the policy options, including an analysis of economic impact and revenue consequences of each for the state of Ohio.

Taxation of Deposits and Shares at Current Rates

Revenue Yield

Under the first option, Ohio would continue to tax financial institutions as in the past, relying primarily on the intangible property tax.

As detailed in Appendix C, the present taxes on deposits and shares yielded $90.3 million in 1975, $50.7 million of which was paid by commercial banks. The latter figure represents over 85 percent of the estimated $59 million in state and local taxes paid by Ohio banks in 1975. For a breakdown of state and local taxes paid by Ohio banks in 1975, by type of tax, see Appendix D. For 1969, the results were similar to the 1975 results: roughly 85 percent of total state and local taxes reported by Ohio banks in the Federal Reserve survey were deposits and shares taxes.¹

Total receipts from the taxes on deposits and shares have grown from slightly less than 50 percent of total intangibles tax revenues in the 1960's to more than 50 percent today. Although the rate of the share tax increased by 50 percent during this period (from two to three mills), the rate change was not a significant factor, given the unimportance of share tax receipts relative to the revenues from the tax on deposits. For example, in 1975, the capital accounts of Ohio
commercial banks were less than 9.8 percent of total deposits. Even without the increase in the share tax rate, the taxes on deposits and shares would have provided more than 50 percent of total intangibles tax receipts by 1974. Appendix C provides a breakdown.

Revenue Elasticity

As Table 9 shows, deposits and shares in Ohio banks have grown relative to bank income in recent years, as well as in relation to other

| TABLE 9 |
| SELECTED BALANCE SHEET AND INCOME STATEMENT DATA, OHIO COMMERCIAL BANKS (in millions) |

<table>
<thead>
<tr>
<th>Year</th>
<th>Deposits</th>
<th>Shares</th>
<th>Income</th>
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<tbody>
<tr>
<td>1966</td>
<td>$15,866</td>
<td>$1463</td>
<td>$236</td>
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<tr>
<td>1967</td>
<td>17,084</td>
<td>1569</td>
<td>250</td>
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<td>1968</td>
<td>20,087</td>
<td>1744</td>
<td>286</td>
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<td>1969</td>
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<td>1915</td>
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<td>1971</td>
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<td>1973</td>
<td>28,274</td>
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</tr>
<tr>
<td>1975</td>
<td>31,134</td>
<td>3037</td>
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intangibles. Between 1966 and 1975, total bank deposits rose by 98 percent, and bank capital rose by 115 percent, whereas bank income before federal income taxes rose by only 70 percent. Of course, 1966 and 1975 were unusual years, in that disintermediation reduced bank
deposits in the former year, and recession reduced income in the latter year. Nevertheless, the pattern is clear: deposits rose steadily during the late 1960's and early 1970's, even during the periods of disintermediation in 1966, 1969 and 1974. Bank income, on the other hand, rose at a slower rate and actually fell twice during the period (in 1971 and 1975). Even if the years selected had both been periods of disintermediation, the results would have been similar. Between 1966 and 1974, deposits and shares in Ohio banks rose by 88 percent, whereas bank income rose by only 76 percent.

If the 1966-1975 period is typical, then one can expect bank tax revenues to continue to increase at a rate greater than would be the case under an income tax. Thus, a likely effect of the continuation of the present structure of Ohio bank taxes is a growing differential between Ohio's bank tax burden and the bank tax burden in income tax states.

The evidence from the previous chapter supports the view that the apparent undertaxation of banks relative to other industries has been reduced significantly in recent years, as a percentage of net income. This is not surprising, given that the states were able to react relatively quickly to the relaxation of Section 5219 in 1969, because certain existing taxes could be levied against national banks without legislative action, if the banks already would have been liable for the taxes in the absence of Section 5219. Ohio has levied sales taxes, and to some extent, tangible personal property taxes against national banks since the relaxation of Section 5219.
Tax Neutrality

The foregoing analysis and the evidence from the previous chapter suggest that continuation of the present system of taxation of deposits and shares would involve three aspects to be considered in an evaluation of the alternatives:

1. Technical nonneutrality will continue, as a result of the 1971 changes that introduced a differential between the tax rate on shares and the rate on deposits.

2. Geographic (interstate) nonneutrality will increase, to the extent that deposits and shares continue to grow faster than bank income.

3. The system will move closer to industrial neutrality, as the relatively rapid growth in the bank tax base moves banks closer to other Ohio corporations in terms of state and local taxes as a percentage of income.

The first problem is a result of the increase in the tax upon shares to three mills in 1971. The differential may discourage investment in shares relative to deposits, which are taxes at the old two-mill rate. Mutuals, whose depositors' shares are treated as ownership interest subject to the share tax, are encouraged to incorporate in order to qualify their depositors for the lower tax rate upon deposits.

Banks have an incentive, ceteris paribus, to raise borrowed capital through deposit expansion, rather than raising equity capital when additional funds are needed. This distortion of the bank balance sheet is reinforced by the asymmetrical treatment of equity and borrowed capital as deductible items under the federal income tax. The income tax provides an incentive for corporations to reduce the margin of safety which the capital accounts provide in protecting solvency, because the stockholders' return is not deductible, even though the interest paid to bondholders or other lenders can be deducted from taxable income.
The evidence indicates that even without Ohio's additional incentive to increase leverage, banks in recent years have increased lending at a rate exceeding the growth in banking capital. In spite of encouragement by bank examiners for banks, especially those with national charters, to adhere to the "10 percent rule" (which requires capital accounts of at least 10 percent of total deposits), the banking system in the aggregate has failed to meet the requirement in any year since 1941. Apparently, the 10 percent rule serves today mainly as a barrier to entry into the industry, because the Federal Deposit Insurance Corporation requires new banks to build up stockholders' equity equal to at least 10 percent of projected deposits. Nonetheless, the ratio for all banks remains close to 10 percent today, with total banking capital equal to 8.9 percent of deposits as of June, 1977.

The capital accounts of large banks have been at least as large a percentage of deposits as has been the case with the average bank, indicating perhaps that the large banks have been unable to use their size to advantage in increasing leverage. For example, in June, 1977, capital was 9.4 percent of deposits for the largest banks. On the other hand, in June, 1975, bank capital averaged 8.8 percent of deposits, both for all banks, and for the largest banks.

A likely explanation for the surprising results regarding leveraging by large banks is that larger banks tend to turn to non-deposit sources of funds as a way to increase leverage. Bank capital has been a somewhat lower percentage of total liabilities for larger banks in recent years than has been the case for smaller banks. In June, 1977, the percentage was 7.4 percent for large banks, compared to 7.7 percent for all banks. The pattern was similar in mid-1975: 7.2 percent for large banks,
compared to 7.8 percent for all banks. Thus, when non-deposit liabilities are included in the comparisons, larger banks appear to be somewhat more highly leveraged than the average bank.\textsuperscript{4}

Perhaps the major factor in increasing leverage by commercial banks has been the rapid expansion of the banking system during the past three decades. In an address before the 1973 American Bankers Association convention, Federal Reserve Board Chairman Arthur Burns suggested that the growing weakness in bank capitalization is a result of increased bank lending, to such an extent that the growth of total bank assets has greatly outstripped the growth of banking capital. More recently, a study by the Federal Reserve Bank of Richmond concluded that bank regulators are unlikely to permit capital/asset ratios to dip again to the lows reached in the period 1973-1974, even though problems with capital generation persist.\textsuperscript{5} Thus, the present rate differential in Ohio between the taxes upon deposits and shares exacerbates a trend toward undercapitalization of banks.

Other than the obvious revenue benefits, the rationale for the increase in the tax rate on shares in 1971 is not clear. If the objective was to reduce the additional industrial nonneutrality resulting from undertaxation of banks relative to other industries in Ohio (or simply to raise additional tax revenues) after the passage of the corporation income tax in 1971, the same result could have been achieved without introducing a differential between the rates on deposits and shares.

Prior to the 1971 tax hike, Ohio treated the two major items on the liabilities side of the banks' balance sheets equally. Technical neutrality requires such equality, unless efficiency arguments support a differential. In this case, a higher rate on deposits, rather than
shares, may be defensible upon two grounds: (1) as a means to discourage undercapitalization of banks, and (2) as a means to raise a given quantity of tax revenues with minimum excess burden. The latter argument assumes that deposits and shares are not perfect substitutes, and that deposits are likely to be less mobile than shares. In such a case, efficiency requires that a given tax revenue should be generated through relatively heavy taxation of the good with inelastic supply. To the extent that deposits are supplied to banks in a local market with few close substitutes, they can be taxed relatively more heavily without affecting behavior than is the case with bank shares, which are close substitutes for shares of stock in other corporations in a nationwide market. Thus, one can argue that taxing deposits somewhat more heavily than shares are taxed will result in less excess burden from taxation.

On the other hand, the evidence from the previous chapter indicates that banks tend to absorb both taxes. Furthermore, a differential designed to take advantage of the depositor's lack of options poses equity questions. The best compromise appears to be equal tax rates on deposits and shares, which would provide a reasonable balance between equity and efficiency. Of course, even this option does not guarantee equal treatment of equals; the most consistent way to achieve equality based upon income is through the use of an income-based tax.

The second problem with the present system of bank taxation in Ohio—that of growing geographic nonneutrality—exists because of the relatively rapid growth in Ohio bank deposits and capital over time, as shown in Table 9. The previous chapter showed that Ohio's bank taxes are high relative to other states, protending a long-run decline
in the Ohio banking industry, until either lack of mobility or a reduced supply of banking services raises the price of those services sufficiently to equalize rates of return among states. The latter is the more realistic possibility, given the relatively mobile nature of banking capital.

Several factors suggest that increasing, rather than decreasing, mobility will characterize banking capital in the future: (1) increasing centralization in banking, as financial markets become more regional and national in scope; (2) increasing economies of scale in banking as a result of innovations such as electronic funds transfer systems; and (3) increasing interest in deregulation, resulting in fewer institutional restrictions upon capital mobility. Of course, all three factors are part of a general trend toward fewer, larger financial institutions competing in the same markets and providing similar services. Chairman Burns reported in 1974 that the nation's money and credit markets have become more closely integrated as banks have moved into broader geographical markets. The growth of Negotiable Order of Withdrawal (NOW) accounts (since 1972), telephone transfer of funds (since 1970), share draft accounts at credit unions (since 1974), and electronic funds transfer systems through remote terminals (since 1974), have blurred the distinctions between different types of financial institutions in recent years. Competitive pressures are overcoming regulatory resistance to the expanding role of the thrift institutions today.

Banks are sensitive to tax differentials, as well as competitive pressures. Although many factors influence banks' choices between state
and national charters, some evidence of banks' sensitivity to tax differentials is provided by the decline in the number of Ohio banks with state charters during the period in which national banks were protected in part from state and local taxes. During the period 1964-1976, the number of banks in Ohio dropped by more than 10 percent, almost entirely due to a drop in the number of state-chartered banks. During the same period, the total number of banks in the United States rose by nearly 7 percent, even though the number of federally-chartered banks fell by roughly 1 percent during the period, both in Ohio and in the nation as a whole.

For the five-year period immediately preceding the passage of P.L. 91-156, the results were similar, in that Ohio lost state banks while the nation as a whole gained banks with state charters. During the latter period, state banks in Ohio declined from 60 percent to 58 percent of the total number of commercial banks in the state. Among the five contiguous states, two with relatively high bank taxes, Michigan and Indiana, also experienced a decline in the relative number of state banks, whereas three states with relatively low bank taxes, Pennsylvania, West Virginia and Kentucky, experienced either constant or increasing ratios of state to local banks. Appendix E provides additional information.

Interstate comparisons of bank charter changes are consistent with the view that the mix of state and national banks is dependent on the relative advantages of state and national charters (although no attempt...
has been made to identify all of the influences on banks' charter choice). During the period in which state banks in Ohio were subject to sales and franchise taxes for which Ohio's national banks were not liable, the trend in Ohio away from the more heavily taxed state banks was counter to the national trend away from national banks and the corresponding cost of membership in the Federal Reserve system.

Failure to change the existing bank tax structure in Ohio will provide continued incentive for an exodus of banking capital. The expected long-term effects again would be increased prices of banking services as a result of reduced supply. Of course, if demand were elastic, rather than supply, the adjustment would take the form of reduced rates of return in banking, rather than higher prices.

In the hypothetical extreme case, with perfectly elastic supply and demand, the eventual result would be a total decline in banking services in Ohio, as both customers and bank shareholders agreed that banking pastures were greener in neighboring states with low taxes (Indiana and Kentucky, for example). This is unlikely, however, given the institutional restrictions upon interstate banking and the apparently strong consumer preference for local banking services.

The multiple regression results of the previous chapter, together with the trend identified in the previous chapter, give at least tentative support to the conclusion that relatively high Ohio bank taxes have depressed bank earnings in the short run, leading
perhaps to a reduction in the size of the Ohio banking industry in the long run. The end result could be higher prices for banking services, due to the reduced supply.

The complication involved in evaluating the present structure of bank taxes in Ohio is that industrial neutrality requires an increase in bank taxes, rather than the decrease which is warranted on the basis of geographic neutrality considerations. As shown in Chapter 3, banks pay a lower than average percentage of net income in state and local taxes. In 1969, the ratio for banks was 16.5 percent, or only 45.7 percent of the tax impact ratio (taxes/income) of 36.1 percent for all industries. Table 5 (Chapter 3) showed that the state and local tax payments of Ohio banks in 1969 were 24 percent above the U.S. average, as a percentage of pretax income, indicating that the tax impact ratio for Ohio banks was 56.7 percent of the average for all U.S. corporations in 1969 (124 percent of 45.7 percent).

The tax advantage of Ohio banks relative to other Ohio corporations in 1969 was less than their advantage relative to all U.S. corporations, because the tax rates upon Ohio business averaged only 88 percent of the national average, according to estimates by the Advisory Commission on Intergovernmental Relations. The tax impact ratio for Ohio banks was 64.4 percent of the average for Ohio corporations in 1969 (56.7 percent times the ratio of U.S. business taxes to Ohio business taxes, which is 100/88, or 113.6 percent).

If the growth of deposits and shares continues to exceed the growth of income in Ohio, the declining industrial differential in favor of banks and the growing geographic differential favoring banks
outside of Ohio will encourage a long-run decline in the Ohio banking industry, as other industries and states compete for Ohio banking capital. Of course, in a growing economy, such a decline in a single industry may be relative, rather than absolute, as the problem industry merely fails to achieve the average growth rate for all industries.

Equalization of Deposits and Share Tax Rates

Revenue Yield

In light of the distortions associated with the present taxes on deposits and shares, the second option, equalization of the tax rates on deposits and shares, would be a definite improvement, although this change is no panacea for the problems discussed above. Equalization of the tax rates on deposits and shares through a restoration of the earlier two-mill rate on shares would cost little in revenue. In 1975, reduction of the three-mill rate to two mills for all financial institutions would have cost the state treasury a third of its share tax revenue, or $4.3 million, which was slightly more than 2 percent of total tax receipts from intangibles. Nearly two-thirds of the benefit of such a reduction ($2.8 million in 1975) would accrue to commercial banks. Savings and loan associations would realize virtually all of the remaining tax benefits ($1.4 million in 1975).

The revenue loss from rate equalization at two mills could be more than offset by expansion of the property tax base to include banks' tangible personal property. An estimated 40 percent of the $628.6 million in fixed assets of Ohio banks in 1975 was tangible personal property which would have been assessed at 54 percent of its true value, or $135.8 million. At the average statewide tangible property tax rate
of 47.8 mills, this base would have yielded $6.5 million in additional
tax revenues in 1975, which would have more than offset the $2.8 million
revenue loss from the cut in the tax rate on shares of bank stock.

Equalization of the deposits and shares taxes at three mills
would provide a substantial revenue gain: in 1975, tax receipts would
have been $38.7 million higher if a three-mill rate had been applied
to the same deposits base. Commercial banks would have been liable
for $21.2 million of the additional taxes. The above revenue estimates
were derived from data presented in Appendix C. 9

Tax Neutrality

Rate equalization at either two or three mills eliminates the
discrepancy introduced in 1971 when the share tax rate was increased
to three mills. However, additional problems exist with the present
system which this alternative does not resolve. Ohio's high bank taxes
relative to other states, and the relatively low effective rate on
other intangibles in Ohio (considering the enforcement problems) sup-
port equalization at no more than two mills; however, the resulting
revenue loss might not be politically popular. In fact, even a
reduction to the two-mill rate, which would reduce bank tax revenues by
3.1 percent (1.8 million out of $59 million, as estimated in Appendix D),
would do little to reduce the 24 percent gap between Ohio banks and other
banks.

On the other hand, Ohio has taxed banks lightly, relative to other
corporations, even prior to the change in the corporation franchise tax
to an income base in 1972. Am. Sub. H.B. 475, effective on January 1,
1972, dramatically raised tax collections from Ohio corporations other
than financial institutions subject to intangible property taxes. Corporation franchise tax collections increased from $83.5 million in fiscal 1969 to $384.3 in fiscal 1975, for an increase of 360 percent. Even with a three-mill tax rate, the increase in tax receipts from the taxes on deposits and shares would have been only from $53.1 million to $129.0 million, which represents an increase of 143 percent between 1969 and 1975. As shown by these estimates from Appendix C, even a three-mill rate on deposits and shares would have failed to keep pace with corporation franchise tax collections from corporations other than financial institutions, and yet a rate greater than two mills would have widened the differential between Ohio banks and banks in other states.

Clearly, either a two-mill or a three-mill rate would be too high for geographic neutrality, yet too low for industrial neutrality. In addition, technical nonneutrality, although reduced, would not be eliminated. Taxes on deposits and shares do not have the same economic effects as the taxes which they replace, even though the incidence is apparently the same. The effects on the balance sheet and the shifting mechanism differ among different taxes, as was discussed in the first chapter.

Extension of the tangible personal property tax to banks would eliminate an industrial distortion, but at the expense of increased geographic nonneutrality, due to the widening of the differential between Ohio banks and banks in other states. Nevertheless, as a step toward uniformity in the tax treatment of different industries, such a change in the tangible personal property tax base is an attractive option.
Disintermediation and Bank Taxes

A problem to be considered in constructing a bank tax system is the relationship between disintermediation and tax yield and rates. Not only will higher rates tend to increase disintermediation, but inflation may increase disintermediation and reduce tax yields at a time when other corporations' income tax assessments are rising, thereby widening the gap between banks and non-depository corporations.

Such disintermediation results from both external and internal factors affecting financial institutions' ability to compete for funds. During periods of rising interest rates, which are typically periods of inflation, financial intermediaries find that regulatory restrictions such as Regulation Q prohibit the payment of competitive interest rates to savers; loss of deposits results. For thrift institutions especially, but also to some extent for banks, the external pressure is reinforced by an internal restriction on deposit rates. The profit squeeze resulting from passbook rates approaching or even surpassing the average yield on outstanding loans, some of which were issued during periods of easy money and low interest rates, limits the financial institutions' ability to compete for funds in the money market. As dealers in liquidity, financial intermediaries find themselves uniquely in this position.

Nevertheless, banks have found ways to mitigate the unpleasant effects of disintermediation. Unlike the thrifts, banks have diversified their portfolios sufficiently to avoid excessive reliance upon
long-term obligations. Furthermore, innovations such as liability management have reduced the reliance upon demand deposits and passbook savings accounts as sources of bank liquidity.

Perhaps the major innovation in recent years was the development of the negotiable certificate of deposit, which generally is issued in denominations of $100,000 or more. An interesting exception is the New Jersey bank which recently has begun offering negotiable certificates of deposit in denominations as low as $25, apparently as a marketing ploy. Although certificates of deposit have been available throughout this century, they did not emerge in negotiable form as money market instruments until 1961. By 1965, the negotiable certificate of deposit had become a major source of bank liquidity, accounting for 12.5 percent of the time and savings deposits of insured commercial banks in the United States. By 1977, negotiable certificates of at least $100,000 accounted for 26.4 percent of time and savings deposits. During the same period, from 1965 to 1977, savings deposits fell from 70.3 percent of total savings and time deposits to only 42.4 percent.

There has been a corresponding decline in the relative importance of demand deposits as a source of bank liquidity, during the same period, and even earlier. Demand deposits accounted for 74.2 percent of total deposits other than interbank deposits in 1950; this figure had fallen to 53.1 percent by 1965, and to 36.2 percent by 1977. Demand deposits continued to grow during the period; they fell relative to time deposits, however, as banks found ways to circumvent regulatory restrictions preventing the payment of interest on demand deposits.
In spite of the threat of disintermediation, banks have remained competitive in seeking deposits. The evidence presented earlier, in Table 9, indicated that Ohio bank shares and deposits have grown steadily, even during periods of tight money and rising interest rates, thereby reinforcing the conclusion that disintermediation has not been a problem. Thus, disintermediation is not a significant factor to be weighed in designing the appropriate bank tax structure in Ohio. Banks appear to be capable of avoiding disintermediation.

A final problem with equalization of deposits and share tax rates at either two or three mills is that unequal enforcement would continue to place a relatively heavy burden on Ohio banks. One could argue that the additional intangible tax revenues collected from banks are actually business taxes in lieu of the corporation franchise tax and tangible personal property tax paid by most other corporations. Such a coincidence seems unlikely.

Alternatively, one could argue that such a compromise would reduce technical nonneutrality in the tax treatment of bank liabilities and net worth, without significantly affecting industrial and geographic neutrality. That is, Ohio banks would continue to be lightly taxed relative to other Ohio corporations and heavily taxed relative to banks in other states. Consequently, geographic nonneutrality would continue to discourage the use of banking capital in Ohio. The problem of geographic nonneutrality is not resolved, even if one accepts the assumptions: (1) that the taxes on deposits and shares merely replace other corporate taxes on income or tangible property, in recognition
TABLE 10
DEPOSITS AND CAPITAL ACCOUNTS, INSURED U.S. BANKS, SELECTED YEARS
(in millions)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand(^a) deposits</td>
<td>$103,500</td>
<td>$125,846</td>
<td>$138,465</td>
<td>$165,167</td>
<td>$215,935</td>
<td>$279,492</td>
<td>$287,362</td>
</tr>
<tr>
<td>Time(^a,b) deposits</td>
<td>36,045</td>
<td>48,393</td>
<td>71,348</td>
<td>146,084</td>
<td>231,132</td>
<td>444,725</td>
<td>507,323</td>
</tr>
<tr>
<td>Capital accounts</td>
<td>11,263</td>
<td>14,980</td>
<td>20,827</td>
<td>29,827</td>
<td>42,427</td>
<td>68,474</td>
<td>75,503</td>
</tr>
</tbody>
</table>

\(^a\)excluding interbank deposits
\(^b\)including savings deposits
\(^c\)data for 1977 are as of June 30; all other years are as of December 31.

of the fact that bank property disproportionately takes the form of intangibles; and (2) that the "in lieu" taxes have economic effects comparable to those of the taxes that they replace.

Equalization of the tax rates on deposits and shares would not eliminate geographic nonneutrality. At the same time, however, rate equalization would avoid the aggravation of industrial neutrality that would result from a bank tax cut sufficient to eliminate the tax differential between Ohio and most other states.

Taxation of Bank Income

Revenue Yield

The third option, taxation of bank income rather than deposits and shares, would reduce the tax burden on Ohio banks. Replacement of the existing taxes on deposits and shares with an income tax involves a substantial loss of tax revenue, even if the federal definition of income were modified to approximate economic income more closely. The net pre-tax income of Ohio commercial banks in 1975 was approximately $461.7 million, including income from government securities and additions of $113.9 million to bad-debt reserves. An income tax base including tax-exempt security interest, but allowing the federal bad-debt deduction, would have generated $36.4 million in tax revenues in 1975.13 With no bad-debt deduction, the tax would have generated $45.5 million, the additional $9.1 million representing the inclusion of the additional $113.9 million in taxable income at a marginal tax rate of 8 percent. With bad-debt deductions based on actual experience, the actual income tax yield in 1975 would have been an estimated $41.0 million. This assumes
that roughly 50 percent of total bad-debt deductions are justified on
the basis on actual experience, which is consistent with a 1969 U.S.
Treasury study of effective tax rates. For each of the above esti-
mates, the interest on U.S. government obligations is included in the
tax base, as is permitted in the case of an indirect tax upon income.

The case for a bad-debt deduction based upon experience is
strong; however, in this instance, three arguments weigh the choice
in favor of adoption of the federal bad-debt deduction. First admin-
istration of the tax would be simplified by letting the federal
government define and verify the deductions. Second, the federal
government is phasing out the excessive transfer of income into
exempt reserve; by 1988, bad-debt deductions will be based entirely
upon experience. Transitional equity and efficient adjustment to a
major change in the rules of the game weigh against a sudden end to
this generous interpretation of the deductibility of bad debts. To
the extent that the benefits of the tax loophole have been capitalized,
inequity results when the loophole is closed after its beneficiaries
already have received what is in effect a lump-sum settlement. Such
a transitional inequity is inversely related to the length of the
adjustment period. Finally, it may be more difficult politically to
enact an income tax that is stricter than the federal tax in its
treatment of reserves for loan losses. Thus, for Ohio to adopt a
strict policy toward deductions for bad debts appears to be a
politically and administratively costly way to achieve limited bene-
fits during the interim period until 1988.
In spite of the advantages of an income tax using the federal definition of income adjusted to include exempt bond income and realized capital gains, the resulting revenue loss could be a political handicap when the proposal is presented to a legislature exploring new ways to raise revenues to ease the pressure on tight budgets. In 1975, the $36.4 million which banks would have paid under an income tax was 28 percent less than the $50.7 million paid by commercial banks under the taxes on deposits and shares. The $14.8 million revenue loss under the income tax option would have been only $7.8 million if the income tax had been supplemented with a bank tangible personal property tax yielding $6.5 million in 1975.

Without the tax on banks' tangible property, a flat-rate income tax of roughly 11 percent would have been required to avoid any revenue loss in 1975, when the pretax income of commercial banks was $461.7 million. Had the bad-debt deduction been based on experience, as would be the case by 1988 in any event, the revenue loss would have been an estimated $9.7 million, or 19 percent, relative to deposits and shares tax receipts from banks. Using a loan write-off based on experience, a flat-rate income tax of 9.8 percent, when assessed against a taxable income of $518.7, would have yielded roughly the same revenue in 1975 as did the taxes on deposits and shares.

As the above estimates indicate, the legislature could not avoid revenue loss from a shift to an income tax merely by eliminating the deductions that permit banks to shelter income from taxation under the federal tax code. In fact, considering the year selected for the revenue estimates, the above comparisons exaggerate the revenue impact.
of restriction on additions to bad-debt reserves. The effect of economic fluctuations on bad-debt reserves has been striking. In 1969, provision for loan losses accounted for only 6.1 percent of current operating earnings. By 1974, this ratio had risen to 18.3 percent, and by 1975, it had reached 28.4 percent. Because of the averaging method used to determine actual experience, the effects of a single year's experience with atypical bad loans are spread out over several years.

Tax Neutrality

Because of the negative effect on tax yields, the change to income-based taxation of Ohio banks would have mixed effects on economic efficiency. Reduction in the number of special taxes for specific groups of taxpayers would improve technical neutrality and reduce administrative costs. The 24 percent reduction in Ohio bank taxes ($14.2 million, out of $59 million in total taxes paid, as estimated in Appendix D) would more than eliminate the overtaxation of Ohio banks relative to banks in other states. A 20 percent reduction would have been sufficient to eliminate the 24 percent differential that existed in 1969 (80 percent of 124 percent is roughly 100 percent). However, the reduction would exacerbate the industrial nonneutrality resulting from the undertaxation of banks relative to other corporations in Ohio.

Ohio could avoid a loss of tax revenues under the income tax option by reducing, rather than eliminating the tax rates on bank deposits and shares of stock. The $14.2 million revenue loss that would have resulted from commercial banks alone in 1975 under the
corporation franchise tax as a replacement for the deposits and shares taxes could have been offset by the continuation of the deposits and shares taxes at a 0.6 mill rate. The reduced rate tax on deposits and shares would have generated $14.4 million from commercial banks alone in 1975 (30 percent of the $42.4 million tax bill on bank deposits at the two-mill rate, plus 20 percent of the $8.3 million in taxes on bank shares under the three-mill share tax, as reported in Appendix C).

As a political compromise, this variation has the advantage of moving the tax system toward consistent tax treatment across industrial lines, although the levying of two taxes where one would suffice raises the administrative costs of the tax structure. Also, the unchanged tax yield would leave unanswered the questions of industrial and geographical nonneutrality.

A major criticism of either of the above variations on the income tax option is that unless there were additional changes in the intangible property tax, as assessed against nonbank taxpayers, banks would receive special tax treatment. Other taxpayers are liable for taxes on their tangible and intangible property, as well as their income; banks, on the other hand, would receive reduced rates (or no rates) on their intangibles. This argument is valid to the extent that the deposits and shares taxes are intended to be in lieu of taxes on the banks' intangible assets, which were not permissible under the old Section 5219. The evidence from the previous chapter supports the view that the banks tend to absorb taxes on deposits and shares. In addition, it appears that legislatures generally intended the taxes
on deposits and shares to be taxed on banks' intangibles, as evidenced by the fact that fifteen of nineteen share tax states permit a deduction for real property taxes paid, apparently in order to avoid double taxation of a part of bank assets. As reported in Table 4 (Chapter 2), the states that permit no deduction for the value of taxable property include Ohio, Kentucky, Pennsylvania and Florida.

When viewed as part of a comprehensive system of property taxation in Ohio, the taxes on deposits and shares appear at first glance to provide rough equity among various types of intangible assets, even with the addition of the income tax. Because productive investments outside of financial institutions are taxed at 5 percent of net yield, the owner of a financial investment yielding 5 percent, for example, pays a tax equivalent to a 2.5 mill tax on its market value. Thus, the tax rates on deposits and shares in financial institutions are roughly comparable to the rate on other productive investments during periods of low interest rates, if one ignores differential enforcement.

However, unlike the taxes on deposits and shares, which are easily enforced, the collection of taxes on intangibles owned by non-bank taxpayers has been incomplete. Thatcher estimated that slightly less than two-thirds (63 percent) of the intangible property held by individuals was reported for taxation in 1951. On the other hand, enforcement is simple for financial institutions, which pay more than half of all taxes on intangibles. In 1975, for example, financial institutions paid $90.3 million, or 53.8 percent, of the $167.7 million paid in intangible property taxes in Ohio (see Appendix C). Assuming total compliance by financial institutions, their intangibles are taxed more heavily than are intangibles held by other taxpayers, as a result
of differential enforcement. Assuming 63 percent compliance by other taxpayers, their effective tax rate on productive investments yielding 5 percent averages just over 1.5 mills, rather than the 2.5 mills that would result with full enforcement. Of course, at current yields of perhaps 10 percent, that effective tax rate exceeds 3 mills, rather than 1.5 mills.

Reducing the rate on deposits and shares to 1.5 mills would provide rough equity during periods of low interest rates, if more consistent enforcement (or elimination) of all taxes upon intangibles is not feasible. The corporation franchise tax could then be assessed against banks at the standard corporate rates, since the taxes on deposits and shares would be merely a part of a general system of intangibles taxation. A 1.5 mill rate on deposits and shares would have generated $35.9 million from banks in 1975 (75 percent of the $42.4 million tax bill on bank deposits at the two-mill rate, plus 50 percent of the $8.3 million in taxes on bank shares under the three-mill share tax), for a $14.8 million revenue loss from deposits and shares taxes on banks. The net revenue gain from commercial banks, assuming payment of $36.4 million in income taxes, would have been $21.7 million in 1975. The 37 percent increase in bank taxes ($21.7 million, out of $59 million) would eliminate most of the differential between banks and other Ohio corporations (see page 87).

In spite of its advantages, there are several problems with the above variation on the income tax alternative. First, bank intangibles taxes and taxes on other intangibles would be equivalent only in terms of aggregate yields. At the individual level, depository institutions would pay 1.5 mills upon all intangibles; other taxpayers would pay
either zero or the rough equivalent of 2.5 mills (on financial investments yielding 5 percent), depending upon enforcement. Even though the expected value is 1.5 mills in the latter case, assuming roughly 60 percent enforcement, the individual is not likely to consider the two cases to be identical, unless he is neutral with respect to risk. If expected value were always equal to expected utility under conditions of uncertainty, there would be no market for insurance or lottery tickets, neither of which is a fair bet (each sells for more than its expected value). Either enforcement or repeal of all intangibles taxation in Ohio would solve this problem and avoid even more serious enforcement problems, due to deterioration of taxpayer morale as a result of such institutionalization of tax evasion.

The tradeoff between industrial and geographic neutrality causes an additional problem. Although the increase in bank taxes would bring banks more nearly in line with other Ohio corporations, it would also widen the differential between Ohio banks and banks in other states. The previous chapter supports the argument that Ohio bank taxes are indeed taxes on banks, leading to the conclusion that a tax option which increases the bank tax yield will provide increased incentive for banking capital to leave the state.

The additional administrative and compliance costs resulting from a combination of an income tax and deposits and shares taxes at reduced rates also weigh against such variations of the income tax option. The additional costs are likely to be significant, given the likelihood that such costs are fixed rather than variable. It is
reasonable to assume that administrative and compliance costs vary insignificantly with the size of the individual tax bill, unless payment involves the computation of a tax assessed against a different base.

**Taxation of Intangible Assets**

**Revenue Yield**

The fourth alternative, taxation of intangible assets, would dramatically increase tax revenues from commercial banks, even though it merely replaces the taxation of bank liabilities. Although the nominal tax rates today are two mills on deposits and three mills on shares, Ohio exempts certain classes of deposits from the intangible property tax—deposits owned by government agencies, financial institutions, insurance companies, charitable organizations, and residents of other states.

Were there no exemptions, the tax rate on both deposits and shares could have been reduced to 1.5 mills in 1975 without revenue loss. Tax collections from $34,172 million in deposits and capital (Table 11) would have been $51.3 million, which slightly exceeds the $50.7 million in actual tax receipts reported in Appendix C. Similarly, a rate of only two mills assessed against the $26,368 million in Ohio bank loans and investments other than U.S. government obligations, which are exempt from state taxation, would have resulted in $52.7 million in bank intangibles taxes in 1975. If money and other intangibles were included in the tax base, an additional $9.0 million would have been paid in bank taxes on the additional $4,484 in intangible assets. At
TABLE 11

SELECTED ASSETS AND LIABILITIES OF INSURED OHIO COMMERCIAL BANKS, 1975
(in millions)

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities and Capital Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and due from banks $4,484</td>
<td>Total deposits $31,135</td>
</tr>
<tr>
<td>Currency $673</td>
<td>Other liabilities $3,228</td>
</tr>
<tr>
<td>Bank balances and $3,811</td>
<td>Reserves on loans and securities $375</td>
</tr>
<tr>
<td>items in process</td>
<td></td>
</tr>
<tr>
<td>Loans and investments 31,496</td>
<td></td>
</tr>
<tr>
<td>U.S. obligations 5,128</td>
<td></td>
</tr>
<tr>
<td>Other 26,368</td>
<td></td>
</tr>
<tr>
<td>Fixed assets 629</td>
<td>Capital accounts (K) 3,037</td>
</tr>
<tr>
<td>TOTAL ASSETS $37,775</td>
<td>TOTAL LIABILITIES &amp; K $37,775</td>
</tr>
</tbody>
</table>


A rate of three mills, a tax on all intangibles other than U.S. government obligations would have generated $92.6 million in 1975 bank taxes.

The revenue gain from taxation of bank intangibles at the standard rates would be even greater than the preceding estimates indicate. Ohio bank income from loans and investments, which accounts for roughly 90 percent of total operating revenue, was $2,354 million in 1975, or approximately 7.5 percent of total loans and investments, as reported above. If it had been levied against the intangible assets of Ohio banks in 1975, the 5 percent Ohio intangible property tax on the income from productive investments would have yielded $117.7 million. For financial investments yielding 7.5 percent, the 5 percent tax is equivalent to a 3.75 mill tax on the value of the asset (5 percent of
7.5 percent is 0.375 percent of total loans and investments. An additional $13.4 million in tax receipts would come from the three-mill tax on money and other intangibles, including reserves, other bank balances, and cash items in process of collection. Thus, if the Ohio intangible property tax had been applied to banks without modification in 1975, bank intangibles tax payments in Ohio would have risen by 159 percent, from $50.7 million to $131.1 million.

Tax Neutrality

The preceding revenue estimates indicate that a change to taxation of banks' intangible assets would involve drastic changes in the tax burdens of banks relative to other taxpayers. One can argue on conceptual grounds that Ohio should levy the intangible property tax against all taxpayers at the standard rates, in order to assure uniformity in the tax code. However, such treatment would be devastating for banks, whose assets are primarily intangibles. A 5 percent tax on the income from intangibles held by individuals is simply a tax on one category of income; for banks, however, it is virtually a gross receipts tax, in light of the fact that the income from intangibles comprises 90 percent of banks' operating revenues. Although a higher marginal tax rate, 8 percent, is assessed against the income of non-financial corporations, such corporations are permitted to deduct expenses. As a result, the 5 percent tax on bank receipts would greatly exceed an 8 percent tax on net income in revenue yield, as demonstrated in this chapter. Ohio banks would have paid only $36.4 million in income taxes in 1975, compared to a tax liability of $131.1 million under the intangibles tax at the standard rates.
The second part of the tax change, the tax on money and other intangibles, has been criticized by the Federal Reserve Board, which recommended continuation of the prohibition of taxation of such intangibles by the states, as was the case under Section 5219.19 The Federal Reserve Board was concerned about the problems of discriminatory enforcement and the pyramiding of taxes on real assets, which would tend to discourage financial intermediation. Both problems were discussed at length in the first chapter of the present study.

The combined effect of the tax changes described in the preceding paragraphs would be a dramatic increase in the taxes paid by Ohio banks, whose taxes as a percentage of income are already high relative to banks in other states. In 1975, Ohio banks paid $59 million in state and local taxes, according to Appendix D, which represented 12.8 percent of the total pretax income of $462 million, as reported earlier in this chapter. Under the Ohio intangible property tax at the standard rates, Ohio banks would have paid $131 million in 1975, plus $8 million in other state and local taxes, or $139 million in total state and local taxes, which is 30.1 percent of net income for 1975. The resulting 136 percent increase in Ohio bank taxes would more than eliminate the 36 percent tax advantage of banks among Ohio corporations; the result would be bank taxes 51 percent greater as a percentage of net income than the average for all corporations (236 percent of 64 percent is 151 percent).

The flat-rate tax on productive intangibles, at either two or three mills, avoids some of the shortcomings of the intangibles tax at the present rates; however, it also avoids the main benefit of
the change, which is uniformity in taxation. The flat-rate tax also aggravates the existing nonneutrality resulting from high taxes on Ohio banks relative to banks in other states. At two mills, the tax would eliminate most of the industrial differential; at three mills, the 97 percent increase in bank taxes, from $59 million to $116 million ($108 million from intangibles, and $8 million from other taxes, as estimated in Appendix D), would more than eliminate the 36 percent differential. The 97 percent increase would raise banks to 127 percent of the corporate average in Ohio. If consistent enforcement is not feasible for all taxpayers, the arguments for uniform application of the Ohio intangible property tax are also arguments for the elimination of all intangibles taxes in Ohio, which is the final alternative to be considered.

**Taxation of Intangibles under the Income Tax**

**Revenue Yield**

The final, and most comprehensive, alternative involves elimination of all taxes on intangibles, with the income generated by intangible assets included in the personal and corporate income tax base. Although intangibles taxes in Ohio generate substantial revenue, as Table 12 on the following page shows, the revenue loss would be offset to a large extent by the revenue gained through expansion of the income tax base. The $124 million in tax revenues which would have been generated through the taxation of bank income and the income from other intangibles at the standard tax rates in 1975 represents a 26 percent drop in tax revenues, relative to the $167.7 million collected under the existing intangible personal property tax. The revenue loss
would have ranged from only 10.1 percent for productive investments to 100 percent for intangible assets without income yield.

The estimates in Table 12 were derived from data published by the Ohio Department of Taxation. Individuals deducted $890.9 million in 1975 in intangibles income under the Ohio personal income tax. Marginal tax rates from 0.5 percent to 3.5 percent were applied to total deductions in each income category, for a total of $25.6 million in estimated tax savings due to the deduction. Not surprisingly, most of the deduction was clustered in the top tax bracket, taxable income above $40,000, which accounted for $15.6 million of the 1975 tax savings. The average tax bill on the income from intangibles would have been 2.9 percent of the income generated. Total income from productive investments was $1,305.1 million in 1975 (the $65.2 million tax bill reported in Table 12 is 5 percent of $1,305.1 million), indicating that business received $414.2 million ($1,305.1 million, less the $890.9 million received by individuals). At a marginal tax rate of 8 percent, this base would have generated $33.1 million in taxes paid.

The inclusion of tangible personal property used in banking in the property tax base would be a logical part of a tax package designed to improve uniformity in taxation. As was shown previously, banks would have paid an estimated $6.5 million in additional Ohio taxes in 1975 under a tax on their tangible personal property. When added to the $124 in income tax revenues generated through the tax change, the net revenue loss is cut to $37.2 million, or 22 percent, instead of 26 percent. Bank tax payments in 1975 would have been
### TABLE 12

**OHIO TAX REVENUES FROM INTANGIBLE ASSETS, UNDER ALTERNATIVE BASES, 1975**  
*(dollar amounts in millions)*

<table>
<thead>
<tr>
<th>Property tax base</th>
<th>Income tax base</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tax base</strong></td>
<td><strong>Rate</strong></td>
</tr>
<tr>
<td>Income from productive investments</td>
<td>5%</td>
</tr>
<tr>
<td>Unproductive investments</td>
<td>0.002</td>
</tr>
<tr>
<td>Deposits outside the state of Ohio</td>
<td>0.002</td>
</tr>
<tr>
<td>Credits</td>
<td>0.003</td>
</tr>
<tr>
<td>Money and other intangibles</td>
<td>0.003</td>
</tr>
<tr>
<td>Deposits in banks and savings &amp; loans</td>
<td>0.002</td>
</tr>
<tr>
<td>Deposits in credit unions</td>
<td>0.002</td>
</tr>
<tr>
<td>Shares in banks and savings &amp; loans</td>
<td>0.003</td>
</tr>
<tr>
<td>Shares in credit unions</td>
<td>0.003</td>
</tr>
<tr>
<td>Shares in dealers in intangibles</td>
<td>0.006</td>
</tr>
<tr>
<td>Shares in other financial firms</td>
<td>0.003</td>
</tr>
<tr>
<td>TOTAL PROPERTY TAX YIELD</td>
<td>$167.7</td>
</tr>
</tbody>
</table>

*a* assuming that all corporations are in an 8 percent marginal tax bracket.

*b* assuming that the estimated 28 percent revenue loss from banks (relative to the tax liability on their deposits and shares) is typical of all financial institutions other than credit unions, whose tax liability would drop to zero under the income tax.

**Source:** Intangible personal property tax revenues were reported in the Ohio Department of Taxation, 1976 Annual Report, Table 68, p. 102. Income tax liabilities on productive investments were estimated from the above source, and from intangible income deductions reported by income class in the 1976 Annual Report, Table 29, p. 50. Bank income tax liabilities were estimated previously in this chapter.
$36.4 million in income taxes, $6.5 million in additional tangible personal property taxes, and $8 million in other taxes paid, for a total of roughly $51 million, instead of the $59 million actually paid.

Tax Neutrality

The elimination of all Ohio taxes upon intangibles, combined with expansion of the tangible personal property tax base to include all bank property, is perhaps the most logical alternative. Thatcher has argued that "the taxation of intangible personal property has accumulated more confusion, incompetency, and dishonesty than any other tax in our system of taxation. ...intangibles should be taxed under a general income tax." Extension of the coverage of the corporate franchise tax to cover all financial institutions would improve the consistency of the tax structure in Ohio. Inclusion of the income from intangibles in the personal and corporate income tax base would permit taxation of essentially the same base without the administrative and compliance costs (and allocative inefficiency) of unnecessary "in-lieu" taxes. Such a change in the Ohio tax structure would be a big step toward technical neutrality in taxation; excess burden would be reduced significantly.

The above tax package also represents an improvement in terms of geographic neutrality. The resulting 14 percent reduction in the tax burden on Ohio banks would reduce the tax differential with respect to other states. In 1969, the state and local tax burden of Ohio banks as a percentage of net income was 124 percent of the national average for all banks. The high growth rate in deposits
and shares relative to income between 1969 and 1975 tended to widen
the bank tax differential between Ohio and states which tax bank
income. Taxation of bank income rather than intangibles would re-
duce the growing incentive for banking capital to leave the state.

The major drawback of such a tax change, in terms of economic
efficiency, is the negative effect on industrial neutrality. The
resulting reduction in Ohio bank taxes would aggravate the existing
undertaxation of banks relative to other industries in Ohio. Off-
setting factor is that the elimination of intangibles taxes would
reduce the taxes paid by other corporations as well, although the
main tax advantages would accrue to banks and other financial
institutions. Public utilities and other nonfinancial intercounty
corporations paid less than 3 percent of the total intangibles
taxes paid in 1975.21

Another offsetting factor affecting all of the estimates of
interstate and interindustry tax differentials is the federal tax
treatment of banks and other industries. The gains and losses from
any tax changes would be cushioned by their deductibility on the
federal corporate income tax return.

Although deductible state and local bank taxes currently in-
clude the Ohio deposits tax, a 1977 Internal Revenue Service Ruling,
Rev. Rul. 77-418, could change the status of the Ohio deposits tax
under the federal tax code. The Ohio tax permits pass-through reim-
bursement for deposits taxes paid by the banks. That is, banks are
permitted to collect from the depositors for taxes paid (although
traditionally, Ohio banks have not done so). Because of the
pass-through feature of the Ohio tax code, the Internal Revenue Service ruled that the deposits tax is not deductible by the banks under the federal corporation income tax. However, implementation of Rev. Rul. 77-418 seems unlikely. The Internal Revenue Service has delayed the effective date of the ruling until November, 1979, to allow the Ohio legislature time to eliminate the pass-through reimbursement provision in the tax code and maintain the deductibility of the Ohio deposits tax. The elimination of pass-through reimbursement is supported by the Ohio Bankers Association. 22

Summary

Table 13 summarizes the economic effects of the tax alternatives which have been considered. In each case, the direction of the change relative to the present system (Option I) is indicated, according to selected economic criteria.

The choice of taxes to be imposed upon Ohio banks is not beyond dispute. Each of the alternatives has advantages and disadvantages, both in terms of economic efficiency and political reality. Even the final alternative, Option V, which would simplify the Ohio tax system and reduce its excess burden, involves a tradeoff between industrial and geographic neutrality. Elimination of the Ohio intangible personal property tax is desirable only if one accepts the premise that the favorable technical and geographic neutrality aspects of the change outweigh the negative effect on industrial neutrality.
TABLE 13
ADVANTAGES AND DISADVANTAGES OF EACH TAX OPTION: A SUMMARY

<table>
<thead>
<tr>
<th>Economic Effects</th>
<th>Option:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td>Geographic neutrality</td>
<td>0</td>
</tr>
<tr>
<td>Technical neutrality</td>
<td>0</td>
</tr>
<tr>
<td>Industrial neutrality</td>
<td>0</td>
</tr>
<tr>
<td>Revenue effects</td>
<td>0</td>
</tr>
<tr>
<td>Administrative and compliance costs⁶⁺</td>
<td>0</td>
</tr>
<tr>
<td>Revenue elasticity</td>
<td>0</td>
</tr>
</tbody>
</table>

⁶⁺Although revenue is constant under this option, the move toward uniformity in types of taxes imposed across industrial lines is an improvement in industrial neutrality.

⁶⁻A plus indicates improvement; hence a plus means lower costs, and a minus means higher administrative and compliance costs.

Option I is the present system; II is equalization of the deposits and share tax rates; III is the taxation of bank income; IV is the taxation of banks' intangible assets at the standard rates; V is the taxation of income from intangibles as a replacement for the intangible personal property tax. The numeral subscripts for options II and III refer to the intangible personal property tax rate, in mills.
FOOTNOTES

1. Of $39.4 million paid in state and local taxes by Ohio banks in 1969, $33.4 million were paid in deposits and shares taxes. See U.S. Congress, Senate, Committee on Banking, Housing and Urban Affairs, State and Local Taxation of Banks, Parts I-IV, prepared by the Board of Governors of the Federal Reserve System under Public Law 91-156, Committee Print, 92d Cong., 2d sess., June, 1972, Appendix 3, Table G, p. 137. (Hereinafter referred to as U.S. Senate Banking Committee, State and Local Taxation of Banks.)

2. Prior to December, 1969, national banks were exempted from paying sales taxes by Rules of the Tax Commissioner, TX-15-22. For current exemptions from the sales tax, see the Ohio Revised Code, sections 5739.02 and 5741.02. The tangible personal property tax currently is assessed against bank property used in nonbanking activities. For a test case involving a national bank which expanded into a nonbank leasing operation in 1972, see First National Bank of Wilmington v. Kosydar, 45 Oh. St. 2d 101 (1976).


9. Savings and loan data came from Ohio Department of Taxation, 1976 Annual Report (Columbus: Ohio Department of Taxation, [1977]), p. 101. The data for fixed assets came from Federal Deposit Insurance Corporation, Bank Operating Statistics, 1975, (Washington, D.C.: Government Printing Office [1976]), Table A. The breakdown for fixed assets into real property and tangible personal property came from Gordon W. Paul, "Nationwide Study of the Taxation of Banks," Burroughs Clearing House, August, 1967, p. 30. Paul found that 33 percent of the fixed assets of small, rural banks, and 44 percent of the fixed assets of large, urban banks, were in the form of tangible personal property. This is consistent with a figure of 40 percent for all banks. Ohio tangible personal property tax rates and assessment percentages were taken from the Ohio Department of Taxation, 1976 Annual Report, pp. 87-88.

10. For example, 81.5 percent of the total assets of savings and loans in March 1977 were in the form of mortgages, whereas mortgages accounted for only 15.2 percent of the total assets of commercial banks at that time. Source: Federal Reserve Bulletin, Vol. 63, no. 11 (November 1977), pp. A18, A29.

11. The program was instituted by First National Bank of New Jersey, Totowa, in 1977.


13. Net pretax income is "Current Operating Earnings," plus (minus) "Gains (losses) on Securities," plus "Other Adjustments," in Federal Deposit Insurance Corporation, Bank Operating Statistics, 1975, Table C; plus state and local taxes paid, from Appendix II. The estimated tax liability of $36.4 million under an income tax was derived as follows: assuming no tax avoidance activities by 495 Ohio banks earning at least $25,000 each in taxable income, the 1975 tax yield would have been $1,000 per bank (4 percent of $25,000), plus 8 percent of $449.3 million (which was the additional Ohio bank income beyond the first $25,000 per bank).


18. Federal Deposit Insurance Corporation, Bank Operating Statistics, 1975, Table C.

19. This recommendation was discussed in the first chapter. See also, U.S. Senate Banking Committee, State and Local Taxation of Banks, pp. 2, 8, and 52-57.


21. $4.3 million out of $167.7 million in intangibles taxes paid, according to the Ohio Department of Taxation, 1976 Annual Report, Table 67, p. 101.

CHAPTER V

SUMMARY AND CONCLUSIONS

For more than a century, the taxation of financial institutions has been a problem area for state and local government policymakers. Only in the past decade have states been permitted to tax banks as they tax other firms.

From 1864 until the 1920's, Section 5219 limited states to the share tax method of taxation of national banks (and other financial institutions, to the extent that states wished to treat similar firms similarly). For more than four additional decades, until the repeal of Section 5219 in 1969, federal restrictions effectively limited state taxation of banks to taxation of either shares or net income.

In spite of growing discontent with Section 5219, the only substantive changes that were made during more than a century of applicability were the liberalizing changes of the 1920's. Finally, under pressure from state tax administrators who ultimately had lost a series of legal battles over their right to levy sales taxes against purchases by national banks, Congress passed P.L. 91-156, which permitted states to tax banks as they tax other firms.
Current Issues in the Taxation of Banks

The Taxation of Intangible Assets of Banks

Critics of intangibles taxation have argued that serious problems of administration, measurement, enforcement, and equity have caused many states to turn away from the taxation of intangibles. Creation of intangibles adds another layer of assets subject to taxation, in addition to real wealth, even though no additional net wealth is created. Furthermore, enforcement is expensive and uneven, due to the mobility and ease of concealment of financial assets. Because of the problems associated with intangibles taxation, the Federal Reserve Board in 1971 recommended against permitting states to tax depository institutions' intangibles, which were defined broadly enough to include coins and currency. The Board's primary fear was that banks would be subject to discrimination under intangibles taxation, because of unequal enforcement.

Banks: Undertaxed or Overtaxed?

Previous studies of state and local bank taxes have produced mixed results regarding the bank tax burden in Ohio relative to other states. The main conclusion of this study is that deposits and shares taxes can be regarded as taxes incident on banks. The evidence on tax incidence supports the view that Ohio banks bear a heavy tax burden relative to most other states, although even with the deposits and shares taxes treated as bank taxes, Ohio banks are taxed relatively lightly among Ohio corporations.

It appears that financial institutions have been undertaxed at the state and local level for many years, relative to other firms,
for several reasons:

1. Restrictive federal legislation under Section 5219 limited greatly the manner in which states could tax national banks prior to 1969.

2. Desire to avoid discrimination against financial firms other than national banks led most states to extend the protection of Section 5219 to state-chartered institutions.

3. Strong legislative lobbies at both the federal and state levels have delayed tax reform efforts aimed at financial institutions (perhaps explaining the longevity of Section 5219).

4. Constitutional and legislative restrictions have excluded certain types of income, such as the interest received from U.S. obligations, from the state and local income tax base.

The first three items have become less significant following the repeal of Section 5219, although lobbying efforts by commercial banks certainly have not become insignificant since 1969.

The fourth item continues to be a problem today, even though most states that tax bank income use the indirect (excise) form of the income tax in order to reach all income. Adjustment costs in such cases are not always insignificant. Helmerberger posed the problem of states with constitutions that prohibit the use of indirect income taxes, thereby forcing the state to either amend its constitution or allow a significant portion of bank income to escape taxation. Consequently, a few states continue to tax bank income under a direct income tax, in spite of the revenue loss and nonneutrality, as banks are encouraged to increase the proportion of their income derived from tax-exempt securities. Thus, a mere semantic question has significant economic implications.
Even those states that allow the use of indirect income taxes apparently often consider the administrative costs to be too great to warrant the use of indirect income taxes for corporations other than banks. A 1975 ACIR study found that twenty-three of forty-six direct corporate income tax states levied separate indirect income taxes against banks in 1974, in spite of the administrative complexity of such a system. The apparent motive was to resolve the issues resulting from the inclusion in the income tax base of interest from U.S. government obligations.

According to Swartz, South Carolina avoided the adjustment costs by ignoring the legal distinction between direct and indirect income taxes. Swartz claimed that South Carolina illegally included the income from federal securities in its net income tax base in the 1960's. Today, however, South Carolina excludes the interest from U.S. obligations from the state's direct tax on net income.

The relatively low state and local bank tax burden mirrors the federal tax treatment of banks. Bank taxes are relatively low at the federal level. Although banks pay federal corporation income taxes at the standard rates, they have been particularly successful at sheltering income from taxation. Tax-exempt securities, liberal allowances for transfers into reserves for bad loans, and beneficial treatment of capital gains and losses have benefited banks relative to non-financial corporations. To the extent that state tax systems have been influenced by the federal model, the factors that have lowered the effective federal bank tax burden also have lowered the state and local tax burden on banks.
Higher bank taxes appear to be warranted at both the federal and state and local level, although Helmberger has argued that the relatively low state and local tax burden on banks may be appropriate, in light of the relatively low level of benefits received by banks from state and local governments. The proper direction for a bank tax change in Ohio is even less clear. The evidence from the present study tends to support the view that Ohio banks bear heavy tax burdens relative to other Ohio firms.

The repeal of Section 5219 was a first step toward higher bank taxes at the state and local level. The evidence from Chapter III indicates that the state and local tax differential between banks and other corporations narrowed significantly after the repeal of Section 5219, in spite of banks' success in avoiding higher tax burdens at the federal level during roughly the same period. States began to assess generally applicable corporate taxes against banks; in fact, several states even began to tax bank stock and income simultaneously. Such changes have reduced the bank tax differential between Ohio and other states, because Ohio has not responded to the relaxation of Section 5219, with the minor exception of the extension of the sales tax to cover purchases by national banks.

Bank Tax Revision Alternatives for Ohio

The present system of bank taxation in Ohio poses problems of equity and efficiency, particularly in terms of tax neutrality. Five possible bank tax structures for Ohio were considered in the previous chapter:

1. The present system.
2. Equalization of the tax rates on deposits and shares.

3. Expansion of the corporate income tax base to include financial institutions.

4. Taxation of intangible assets.

5. Taxation of the income from intangibles, rather than their market value.

Based upon a comparison in terms of their economic effects, each of the alternatives to the present system had both advantages and disadvantages; none was clearly superior on all grounds.

The present system, with a two-mill tax on deposits and a three-mill tax on shares, has produced surprising revenue growth in recent years. Generally, income taxes produce more income-elastic revenues than do property taxes. However, the present study has shown that income failed to grow as rapidly as deposits and shares of bank stock in Ohio in recent years.

In addition to the revenue benefits to the state, the present system has advantages in terms of economic efficiency. The tax revenues generated by the present bank taxes in Ohio represent a compromise between geographic and industrial neutrality, in the sense that Ohio bank tax revenues are high relative to other states and low relative to other industries in the state. The major disadvantage of the present system is technical nonneutrality due to the rate differential between the taxes on deposits and shares.

The primary advantage of the second option is that equalization of tax rates on deposits and shares would eliminate a serious source of technical nonneutrality. The elimination of the somewhat arbitrary distinction between deposits and shares would reduce administrative
and compliance costs, especially for taxpayers whose deposits represent ownership interest in the firm. The effect on geographic and industrial neutrality depends on the rates selected—at two mills, the bank tax burden would drop, whereas a three-mill rate would raise bank taxes in Ohio.

The third option, the income tax, would make bank taxes more nearly comparable to other corporate taxes, although if this option were accompanied by the elimination of taxes on deposits and shares, the resulting revenue loss would be a step away from industrial neutrality in taxation. The revenue loss could be avoided if Ohio supplemented the income tax with a reduced-rate tax against bank deposits and shares. The major drawback of such a variation of the income tax option is administrative inefficiency and compliance costs.

Each of the variations on the income tax option would eliminate the distortions caused by the rate differential between deposits and shares under existing Ohio law. On the negative side, however, each of the variations would reduce the revenue elasticity of the Ohio bank tax system, if the experience of the late 1960's and early 1970's is typical.

The main benefits of the fourth option, taxation of bank intangibles, are its revenue-gathering potential and the administrative simplicity of taxing banks under the standard intangibles taxes paid by other taxpayers. Unless the enforcement problem with respect to other owners of intangibles can be solved, the ease of enforcement of intangibles taxes on banks will continue to
be a mixed blessing. Apparent uniformity in the taxation of intangibles would be particularly burdensome for financial institutions, a large proportion of whose assets are highly visible intangibles. The resulting dramatic increase in bank tax burdens, and the deleterious effect on financial intermediation, would cause technical, geographic, and industrial nonneutralities.

The final option, taxation of intangibles under the state income tax, would eliminate the distortions caused by the isolation of intangibles for special tax treatment. The disadvantages derive from the resulting loss of bank tax revenues in a state whose banks are already taxed lightly relative to other industries. Of course, the drawback of the revenue loss in terms of industrial neutrality must be weighed against the desirability of such a revenue loss from the standpoint of geographic neutrality. The abolition of special taxes on intangibles in Ohio would go far to eliminate the bank tax differential between Ohio and other states.

With any of the alternatives to the present Ohio system, change need not be instantaneous. Ohio can broaden the income tax base to include banks while gradually phasing out the taxes on deposits and shares. If such a policy were adopted, a sensible strategy would be to coordinate the reduction in intangible property tax rates with the already enacted gradual tightening through 1988 of the liberal federal treatment of bad-debt deductions. Coordination would permit Ohio to take advantage of the administrative simplicity of duplicating the federal tax treatment of bad loans, without the resulting revenue loss during the interim period until 1988.
Gradual change to a new method of bank taxation would also be advantageous in terms of transitional equity, especially to the extent that existing taxes have been capitalized. Decisions have been made based upon the old rules of the game, and sudden change may penalize those who acted in good faith in the past. To some extent, inequities may be unavoidable when the tax system is change; nevertheless, the existence of a transition period eases the adjustment of those involved.

The use of a transition period for the enactment of a tax change is common, as exemplified by the gradual elimination of excessive transfers into bad-debt reserves under the U.S. corporate income tax. At the state level, Indiana is currently phasing out its bank income tax; each year, the tax rate will decline by 0.05 percent from its 1978 level of 1.5 percent, until it reaches zero in thirty years. Indiana banks will continue to pay the taxes on deposits and shares, as well as a supplemental net income tax. 7

Areas for Further Research

Several avenues for further research have been identified in this study:

1. A full modeling of banking markets is needed.

2. More comprehensive estimates are needed of the growth elasticity of the taxes on bank income and deposits and shares.

3. Further research is needed into the incidence of bank taxes.

The present study did not attempt to extend the state of the art in modeling banking markets. Instead, it adapted existing models
to analyze the question of tax incidence. Much work remains in the
area, as previous authors have recognized. Studies of the relation-
ship between bank structure and performance generally have used
ordinary least squares techniques in multiple regression analysis of
single equations, without attempting to derive structural equations
in a full modeling of banking markets. In a 1977 Federal Reserve
staff study, Rhoades reviewed thirty-nine bank studies that have
been made since 1959, and he concluded that structure and performance
studies in banking were quite primitive relative to similar studies
in the industrial sector.8

With regard to the second recommendation, numerous studies
have estimated the income elasticity of various state and local
taxes, including estimates for individual states, as well as
national averages. Not surprisingly, the general property tax
typically has produced more stable revenues than either the personal
or corporate income taxes.9 However, the Ohio intangible property
tax on deposits and shares has not behaved like the general property
tax, at least in recent years. The recent growth in Ohio bank income
has been slow relative to the growth in bank deposits and capital,
indicating that the taxes on deposits and shares may be more respon-
sive to growth than would be the case under a tax on bank income in
Ohio. The questions raised in the present study suggest that elas-
ticity comparisons among the various types of property taxes would
make an interesting study.

The final area for further research is tax incidence. Questions
regarding the incidence of bank taxes are basically similar to
questions about the incidence of other taxes; that is, the issues are far from settled. Economists continue to debate the direction and degree of shifting of the corporate income tax and the alleged regressivity of the property tax, as well as other issues. Measurement problems, short-run versus long-run analysis, and the difficulty of holding other things constant (the benefits of government expenditures, for example) complicate attempts to estimate absolute tax incidence. Consequently, studies of tax incidence typically attempt less ambitious goals, by estimating the differential incidence of taxes changes. Often such studies either simply assume that a given percentage of the tax is shifted forward or backward, or they use a range within which the percentage is likely to fall and test the results of the incidence analysis for sensitivity to the actual degree of shifting within the expected range.

The purpose of the present study was to compare the incidence of the deposits and shares taxes with that of the income tax. No attempt was made to measure the absolute incidence of state and local bank taxes, nor was any attempt made to estimate the net effect of taxes and expenditures on banks at the state and local level. Apparently, the incidence of the deposits and shares taxes is similar to that of the income tax.
FOOTNOTES


2. Nineteen of the twenty-three states used direct taxes for non-financial firms and indirect taxes for financial institutions (either explicitly or implicitly, through a system of deductions or tax credits which accomplished roughly the same objective). The remaining four states used separate taxes for multistate firms, whether they were financial or nonfinancial firms. For a list of the twenty-three states, as well as other income tax states, complete with summaries of the provisions of their income tax statutes, see U.S. Congress, Senate, Committee on Banking, Housing and Urban Affairs, State and Local "Doing Business" Taxes on Out-of-State Financial Depositories, Report of a Study under P.L. 93-100 by the Advisory Commission on Intergovernmental Relations, Committee Print, 94th Cong., 1st sess., May, 1975, Table 3, pp. 804-822.


4. ACIR, Taxes on Out-of-State Financial Depositories, Table 3, p. 818.

5. Kane found that banks were able to maintain relatively steady effective federal tax rates during the late 1960's and early 1970's, in spite of a more restrictive policy toward bad-debt deductions and the treatment of capital gains. See Edward J. Kane, "Federal Income-Tax Burdens of Commercial Banks and Savings and Loan Associations: A Study in Legislative Relations" (unpublished paper, revised draft, The Ohio State University, n.d.), Tables 2,3.


APPENDIX A

STATE AND LOCAL BANK TAXES AS A PERCENTAGE OF NET INCOME BEFORE TAXES, SELECTED YEARS
### TABLE 14

**STATE AND LOCAL BANK TAXES AS A PERCENTAGE OF NET INCOME BEFORE TAXES, SELECTED YEARS**

<table>
<thead>
<tr>
<th>State</th>
<th>1945(^a)</th>
<th>1952(^a)</th>
<th>1956(^a)</th>
<th>1950-1960(^b)</th>
<th>1964(^c) Rural</th>
<th>1964(^c) Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>15.2%</td>
<td>6.2%</td>
<td>7.0%</td>
<td>7.6%</td>
<td>4.0%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Alaska</td>
<td>e</td>
<td>e</td>
<td>e</td>
<td>e</td>
<td>4.1%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Arizona</td>
<td>13.1%</td>
<td>9.0%</td>
<td>9.3%</td>
<td>9.4%</td>
<td>6.6%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Arkansas</td>
<td>9.6%</td>
<td>6.6%</td>
<td>9.4%</td>
<td>8.5%</td>
<td>5.8%</td>
<td>9.3%</td>
</tr>
<tr>
<td>California</td>
<td>8.9%</td>
<td>7.9%</td>
<td>9.9%</td>
<td>11.7</td>
<td>14.2%</td>
<td>10.6%</td>
</tr>
<tr>
<td>Colorado</td>
<td>8.6%</td>
<td>7.6%</td>
<td>8.1%</td>
<td>8.4%</td>
<td>11.3%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Connecticut</td>
<td>9.8%</td>
<td>11.0%</td>
<td>12.3%</td>
<td>13.7%</td>
<td>8.3%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Delaware</td>
<td>7.4%</td>
<td>5.1%</td>
<td>6.2%</td>
<td>4.3%</td>
<td>2.2%</td>
<td>1.0%</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>13.4%</td>
<td>8.7%</td>
<td>11.3%</td>
<td>e</td>
<td>e</td>
<td>e</td>
</tr>
<tr>
<td>Florida</td>
<td>5.0%</td>
<td>6.5%</td>
<td>6.4%</td>
<td>6.9%</td>
<td>5.7%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Georgia</td>
<td>12.2%</td>
<td>12.4%</td>
<td>19.2%</td>
<td>15.0%</td>
<td>11.7%</td>
<td>11.5%</td>
</tr>
<tr>
<td>Hawaii</td>
<td>e</td>
<td>e</td>
<td>e</td>
<td>e</td>
<td>9.2%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Idaho</td>
<td>4.8%</td>
<td>9.0%</td>
<td>13.0%</td>
<td>10.2%</td>
<td>11.3%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Illinois</td>
<td>8.0%</td>
<td>5.8%</td>
<td>7.1%</td>
<td>7.9%</td>
<td>10.5%</td>
<td>4.4%</td>
</tr>
<tr>
<td>Indiana</td>
<td>14.4%</td>
<td>13.9%</td>
<td>15.7%</td>
<td>16.0%</td>
<td>18.0%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Iowa</td>
<td>6.6%</td>
<td>5.8%</td>
<td>7.8%</td>
<td>6.8%</td>
<td>9.5%</td>
<td>5.2%</td>
</tr>
<tr>
<td>Kansas</td>
<td>9.0%</td>
<td>7.8%</td>
<td>8.6%</td>
<td>8.2%</td>
<td>7.9%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Kentucky</td>
<td>11.7%</td>
<td>9.5%</td>
<td>11.9%</td>
<td>11.1%</td>
<td>8.4%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Louisiana</td>
<td>19.2%</td>
<td>14.3%</td>
<td>13.4%</td>
<td>18.7%</td>
<td>20.9%</td>
<td>14.8%</td>
</tr>
<tr>
<td>Maine</td>
<td>9.5%</td>
<td>9.4%</td>
<td>12.7%</td>
<td>12.7%</td>
<td>10.3%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Maryland</td>
<td>10.0%</td>
<td>8.7%</td>
<td>10.3%</td>
<td>12.1%</td>
<td>9.2%</td>
<td>8.7%</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>9.7%</td>
<td>14.4%</td>
<td>12.7%</td>
<td>15.2%</td>
<td>13.2%</td>
<td>8.8%</td>
</tr>
<tr>
<td>Michigan</td>
<td>6.6%</td>
<td>10.0%</td>
<td>11.6%</td>
<td>11.4%</td>
<td>6.7%</td>
<td>4.8%</td>
</tr>
<tr>
<td>Minnesota</td>
<td>8.2%</td>
<td>8.5%</td>
<td>9.8%</td>
<td>10.1%</td>
<td>17.1%</td>
<td>8.6%</td>
</tr>
<tr>
<td>Mississippi</td>
<td>19.6%</td>
<td>15.9%</td>
<td>16.8%</td>
<td>16.1%</td>
<td>15.9%</td>
<td>14.0%</td>
</tr>
<tr>
<td>Missouri</td>
<td>10.8%</td>
<td>7.4%</td>
<td>7.8%</td>
<td>7.8%</td>
<td>9.8%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Montana</td>
<td>17.8%</td>
<td>13.2%</td>
<td>20.2%</td>
<td>21.4%</td>
<td>23.3%</td>
<td>27.6%</td>
</tr>
<tr>
<td>Nebraska</td>
<td>9.0%</td>
<td>8.1%</td>
<td>7.4%</td>
<td>7.7%</td>
<td>7.5%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Nevada</td>
<td>14.0%</td>
<td>7.6%</td>
<td>9.3%</td>
<td>10.0%</td>
<td>12.3%</td>
<td>12.4%</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>9.6%</td>
<td>9.2%</td>
<td>9.1%</td>
<td>9.4%</td>
<td>9.8%</td>
<td>3.9%</td>
</tr>
<tr>
<td>New Jersey</td>
<td>8.2%</td>
<td>13.2%</td>
<td>14.8%</td>
<td>15.5%</td>
<td>9.1%</td>
<td>6.1%</td>
</tr>
<tr>
<td>New Mexico</td>
<td>13.5%</td>
<td>12.9%</td>
<td>12.2%</td>
<td>12.4%</td>
<td>11.0%</td>
<td>24.7%</td>
</tr>
<tr>
<td>New York</td>
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<td>9.2%</td>
<td>11.3%</td>
<td>9.3%</td>
<td>10.8%</td>
<td>6.7%</td>
</tr>
<tr>
<td>North Carolina</td>
<td>8.0%</td>
<td>5.5%</td>
<td>6.7%</td>
<td>8.0%</td>
<td>5.0%</td>
<td>5.0%</td>
</tr>
<tr>
<td>North Dakota</td>
<td>8.0%</td>
<td>7.1%</td>
<td>8.4%</td>
<td>6.4%</td>
<td>8.7%</td>
<td>4.0%</td>
</tr>
<tr>
<td>Ohio</td>
<td>18.1%</td>
<td>15.1%</td>
<td>12.7%</td>
<td>18.5%</td>
<td>0.9%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>8.5%</td>
<td>3.5%</td>
<td>6.0%</td>
<td>5.9%</td>
<td>7.4%</td>
<td>3.3%</td>
</tr>
<tr>
<td>Oregon</td>
<td>10.3%</td>
<td>11.6%</td>
<td>12.1%</td>
<td>13.8%</td>
<td>14.0%</td>
<td>9.5%</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>8.2%</td>
<td>7.7%</td>
<td>9.1%</td>
<td>9.2%</td>
<td>6.9%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>7.5%</td>
<td>13.0%</td>
<td>19.6%</td>
<td>22.0%</td>
<td>7.6%</td>
<td>6.8%</td>
</tr>
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### TABLE 14--Continued

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<td>6.4%</td>
<td>4.9%</td>
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<td>1.5%</td>
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<tr>
<td>South Dakota</td>
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<td>7.0%</td>
<td>6.8%</td>
<td>10.8%</td>
<td>4.3%</td>
</tr>
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<td>13.0%</td>
<td>9.7%</td>
<td>12.9%</td>
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<td>Texas</td>
<td>13.6%</td>
<td>14.5%</td>
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<td>15.9%</td>
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<td>6.0%</td>
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<td>6.6%</td>
<td>3.3%</td>
</tr>
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<td>10.2%</td>
<td>8.6%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Virginia</td>
<td>9.6%</td>
<td>7.5%</td>
<td>9.1%</td>
<td>9.7%</td>
<td>6.9%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Washington</td>
<td>4.2%</td>
<td>4.9%</td>
<td>6.9%</td>
<td>6.2%</td>
<td>2.2%</td>
<td>0.7%</td>
</tr>
<tr>
<td>West Virginia</td>
<td>7.0%</td>
<td>6.2%</td>
<td>6.6%</td>
<td>6.8%</td>
<td>0.8%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>3.9%</td>
<td>6.2%</td>
<td>10.6%</td>
<td>7.1%</td>
<td>7.3%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Wyoming</td>
<td>12.5%</td>
<td>8.1%</td>
<td>7.5%</td>
<td>7.8%</td>
<td>9.0%</td>
<td>12.4%</td>
</tr>
<tr>
<td>U.S. Average</td>
<td>9.2%</td>
<td>9.2%</td>
<td>10.6%</td>
<td>e</td>
<td>e</td>
<td>e</td>
</tr>
</tbody>
</table>

---


3. Calculated from data presented in Gordon W. Paul, "Nationwide Study of the Taxation of Banks", Burroughs Clearing House, August, 1967, pp. 32-33. Taxes upon bank deposits were not included as bank taxes.


5. Not Calculated.

6. The 1964 study did not include the tax upon deposits. Inclusion of the deposits tax would have raised the estimate for Ohio to 12.1 percent for rural banks and 13.4 percent for urban banks. After adjustment for the deposits tax, Ohio ranked fourteenth nationally in 1964 in the taxation of rural banks. In addition to the ten states listed above with rural bank taxes in excess of 12.1 percent of income, three deposits tax states (New Hampshire, Rhode Island, and Florida) with percentages less than 12.1 percent would have exceeded this figure if the deposits tax had been included. In the taxation of urban banks, only five states ranked ahead of Ohio in 1964 after adjustment for the deposits tax (five states listed in the table above with effective tax rates greater than the 13.4 percent adjusted rate for Ohio, plus three deposits tax states for which the adjusted rate exceeds 13.4 percent: Indiana, Rhode Island, and New Hampshire).
APPENDIX B

REGRESSION RESULTS FOR ALTERNATIVE PERFORMANCE CHARACTERISTICS
### TABLE 15

**REGRESSION RESULTS FOR ALTERNATIVE PERFORMANCE CHARACTERISTICS**

<table>
<thead>
<tr>
<th>Equation</th>
<th>$R^2$</th>
<th>$R^2$</th>
<th>d.f.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$r = 1.08066 - 0.12186 i - 0.18105 s^* + 0.06687 l$</td>
<td>0.11</td>
<td>0.15</td>
<td>47</td>
</tr>
<tr>
<td>$r = 1.13628 - 0.00048 X_2^* - 0.00002 X_3 - 0.00006 X_6 - 0.04793 X_7 + 0.02720 X_8 - 0.00758 X_9^*$</td>
<td>0.44</td>
<td>0.52</td>
<td>42</td>
</tr>
<tr>
<td>$r = 1.19278 - 0.00057 X_2^* + 0.00482 X_3^* - 0.00008 X_6^* + 0.03340 X_8 - 0.00720 X_9^*$</td>
<td>0.30</td>
<td>0.50</td>
<td>45</td>
</tr>
<tr>
<td>$i = 0.47552 + 0.00324 X_2^* + 0.0705 X_5^* - 0.00018 X_6^* + 0.16261 X_7^* - 0.12843 X_8$</td>
<td>0.27</td>
<td>0.37</td>
<td>45</td>
</tr>
<tr>
<td>$i = 0.33172 + 0.00439 X_1 - 0.00116 X_2 + 0.00352 X_4 + 0.00830 X_5 - 0.17212 X_8^* + 0.01179 X_9 + 0.00249 X_{11}$</td>
<td>0.40</td>
<td>0.48</td>
<td>43</td>
</tr>
<tr>
<td>$s = 0.29667 + 0.00765 X_6^* - 0.16408 X_8^* + 0.00793 X_9 + 0.01722 X_{10}$</td>
<td>0.46</td>
<td>0.48</td>
<td>46</td>
</tr>
</tbody>
</table>
### TABLE 15—Continued

\[
s = 0.18409 - 0.00078 \, X_2 + 0.00284 \, X_3 + 0.00759 \, X_5 - 0.17552 \, X_6 + 0.00960 \, X_9 + 0.01980 \, X_{10}^{**}
\]

\[
\text{R}^2 = 0.46, \quad \text{R}^2 = 0.52, \quad \text{d.f.} = 44
\]

\[
l = 7.40361 + 0.00562 \, X_1 + 0.01182 \, X_3 + 0.01521 \, X_5 - 0.00036 \, X_6 + 0.12604 \, X_7 - 0.10729 \, X_8 + 0.03992 \, X_{10}^{**}
\]

\[
\text{R}^2 = 0.67, \quad \text{R}^2 = 0.71, \quad \text{d.f.} = 43
\]

\[
l = 7.43388 + 0.00513 \, X_1 + 0.00029 \, X_2 + 0.00799 \, X_3 + 0.01596 \, X_5 - 0.00041 \, X_6 + 0.11744 \, X_7 - 0.11377 \, X_8
\]

\[
+ 0.00941 \, X_9 + 0.03762 \, X_{10}^{**} + 0.00146 \, X_{11} + 0.00263 \, X_{12}
\]

\[
\text{R}^2 = 0.64, \quad \text{R}^2 = 0.71, \quad \text{d.f.} = 39
\]

Notes: Standard errors of the coefficients are in parentheses.
** Significant at the 1 percent level.
* Significant at the 5 percent level.

\[X_{12} = \text{ratio of nonagricultural employment to total employment. All other variables are as described in Table 3.}\]
APPENDIX C

INTANGIBLE PROPERTY TAX REVENUES IN OHIO, 1967-1975
TABLE 16
INTANGIBLE PROPERTY TAX REVENUES IN OHIO, 1967-1975
(Dollar Amounts In Millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Deposits tax (D)</th>
<th>Share tax (S)</th>
<th>Total D + S</th>
<th>Total I²</th>
<th>D + S I</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Banks Nonbanks</td>
<td>Banks Nonbanks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1966</td>
<td>$20.7</td>
<td>$17.1</td>
<td>$2.7</td>
<td>$1.7</td>
<td>$42.2</td>
<td>$90.8 46.4%</td>
</tr>
<tr>
<td>1967</td>
<td>22.4</td>
<td>17.9</td>
<td>2.9</td>
<td>1.7</td>
<td>44.9</td>
<td>97.2   46.3%</td>
</tr>
<tr>
<td>1968</td>
<td>24.8</td>
<td>19.4</td>
<td>3.1</td>
<td>1.8</td>
<td>49.1</td>
<td>104.0  47.3%</td>
</tr>
<tr>
<td>1969</td>
<td>27.3</td>
<td>20.7</td>
<td>3.3</td>
<td>1.9</td>
<td>53.1</td>
<td>111.2  47.8%</td>
</tr>
<tr>
<td>1970</td>
<td>28.1</td>
<td>21.2</td>
<td>3.5</td>
<td>2.1</td>
<td>54.9</td>
<td>115.2  47.7%</td>
</tr>
<tr>
<td>1971</td>
<td>30.0</td>
<td>22.6</td>
<td>3.9</td>
<td>2.2</td>
<td>58.7</td>
<td>120.9  48.6%</td>
</tr>
<tr>
<td>1972</td>
<td>32.7</td>
<td>26.1</td>
<td>6.3</td>
<td>3.5</td>
<td>68.6</td>
<td>133.1  51.5%</td>
</tr>
<tr>
<td>1973</td>
<td>36.2</td>
<td>30.1</td>
<td>6.9</td>
<td>3.7</td>
<td>77.0</td>
<td>146.5  52.5%</td>
</tr>
<tr>
<td>1974</td>
<td>39.1</td>
<td>33.0</td>
<td>7.6</td>
<td>4.1</td>
<td>83.8</td>
<td>155.5  53.9%</td>
</tr>
<tr>
<td>1975</td>
<td>42.4</td>
<td>35.1</td>
<td>8.3</td>
<td>4.5</td>
<td>90.3</td>
<td>167.7  53.8%</td>
</tr>
</tbody>
</table>

aI= Intangible property tax receipts from all sources

Source: Ohio Department of Taxation, 1971 Annual Report (Columbus: Ohio Department of Taxation, n.d.), Table 58, p. 47 (for 1966-1970 data); and, Ohio Department of Taxation, 1976 Annual Report (Columbus: Ohio Department of Taxation, [1977]), Table 67, p. 101 (for 1971-1975 data). Data from the earlier report were adjusted to exclude a franchise tax upon insurance companies. The tax was not included in total intangible property tax receipts in the later report.
APPENDIX D

ESTIMATES OF TAXES PAID BY OHIO BANKS IN 1975
Appendix D

Estimates of Taxes Paid by Ohio Banks in 1975

The estimate of roughly $59 million in state and local taxes paid by Ohio banks in 1975 was based upon published data from the Ohio Department of Taxation, as well as extrapolation from the 1969 estimates made by the Board of Governors of the Federal Reserve System after a bank tax survey. Of the total, $51 million was paid in taxes upon deposits and shares (see Appendix C). Real property taxes of approximately $6 million accounted for most of the remaining $8 million in state and local taxes paid. Data in Table 20 of the 1971 Annual Report of the Ohio Department of Taxation, and Table 42 of 1976 Annual Report, show that real property taxes in Ohio rose by 34 percent between 1969 and 1975, from 1,308 million to an estimated $1,753 million. The latter figure excludes the Homestead Exemption, which does not apply to banks. The published figure for 1975 was reduced by 8.5 percent, reflecting the 10 percent property tax rollback applied to the 85 percent of all taxable real property held by taxpayers other than public utilities, to whom the rollback did not apply. The 34 percent increase in Ohio real property taxes during the period was applied to the $4.7 million reported by Ohio banks in the 1969 Federal Reserve study, resulting in an estimate of approximately $6 million in real property taxes paid by Ohio banks in 1975.

Sales taxes accounted for an additional $1 million of the estimated 1975 tax bill of Ohio banks. Data in Table 6 of the 1971 Annual Report of the Ohio Department of Taxation, and Table 10 of the 1975
Annual Report, show that Ohio's sales tax revenues rose by 59 percent between 1969 and 1975. If sales tax payments by banks had risen proportionately during the period, the total for banks would have been only $556,000 in 1975 (59 percent more than the $350,000 reported by banks in Table G of Appendix 3 of the Federal Reserve study, State and Local Taxation of Banks). However, national banks became subject to the sales tax during this period. Assuming that the sales tax represents the same percentage of total state and local taxes paid for both national and state banks in Ohio, the estimated 1975 sales tax payments by all commercial banks in Ohio were roughly $1 million.

Because Ohio banks were not subject to the tangible personal property tax in 1969, one cannot extrapolate the 1975 tax payments from the 1969 survey data. Still, rough estimates are feasible, if only to get the order of magnitude. Table 63 of the 1976 Annual Report of the Ohio Department of Taxation shows that the entire finance sector in Ohio paid less than one percent of the total tangible personal property tax payments in 1975. With an assessed property value of only $67.4 million, the finance industry paid approximately $3.2 million in tangible property taxes in 1975, at the average statewide effective tax rate of 48 mills. Because banks currently pay tangible personal property taxes only upon property used in nonbanking activities (see page 114, footnote 2), their share of the $3.2 million paid by the finance industry is not likely to be greater than $1.0 million.
APPENDIX E

CHANGES IN TOTAL COMMERCIAL BANKS, BY TYPE OF CHARTER,
OHIO AND CONTIGUOUS STATES, SELECTED YEARS
### TABLE 17

**CHANGES IN TOTAL COMMERCIAL BANKS, BY TYPE OF CHARTER, OHIO AND CONTIGUOUS STATES, SELECTED YEARS**

<table>
<thead>
<tr>
<th>State and Year</th>
<th>Total Insured Banks</th>
<th>National</th>
<th>State</th>
<th>Non-member</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Member</td>
<td></td>
<td>Non-member</td>
</tr>
<tr>
<td><strong>United States</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1964</td>
<td>13,493</td>
<td>4,773</td>
<td>1,451</td>
<td>7,269</td>
</tr>
<tr>
<td>1969</td>
<td>13,473</td>
<td>4,669</td>
<td>1,201</td>
<td>7,663</td>
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<tr>
<td>1976</td>
<td>14,411</td>
<td>4,737</td>
<td>1,023</td>
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<tr>
<td><strong>Ohio</strong></td>
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<tr>
<td>1964</td>
<td>546</td>
<td>221</td>
<td>130</td>
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<td>1969</td>
<td>519</td>
<td>217</td>
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<td>1976</td>
<td>489</td>
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<td>157</td>
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<td><strong>Indiana</strong></td>
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<td>1964</td>
<td>426</td>
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<td>1969</td>
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<td>1976</td>
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<td>242</td>
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<td>135</td>
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<td>1976</td>
<td>222</td>
<td>103</td>
<td>29</td>
<td>90</td>
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*Merchants National v. City of Richmond,* 256 U.S. 635 (1921).


