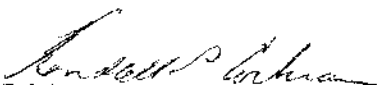


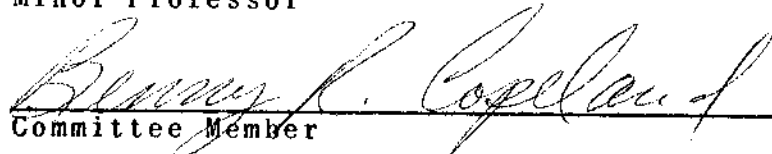
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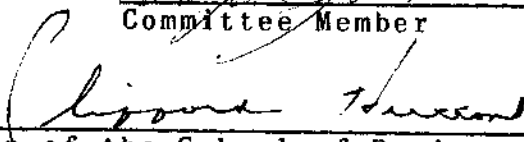
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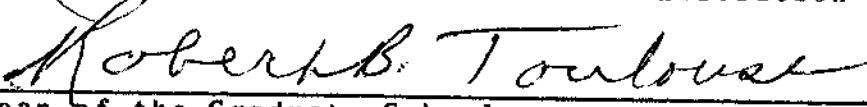
  
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AN EMPIRICAL STUDY OF THE PERFORMANCE OF THE UNIT  
COMMERCIAL BANKING SYSTEM OF THE STATE OF TEXAS

DISSERTATION

Presented to the Graduate Council of the  
North Texas State University in Partial  
Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

By

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## CHAPTER I

### INTRODUCTION

#### Description of the Study

##### Purpose

The purpose of this study is to evaluate the performance of the Texas unit commercial banking system in comparison with branch banking systems, limited area branching systems, and unit banking systems.

##### Significance

With 1,149 of the nation's commercial banks located in the state at the end of 1967, Texas had the largest number of banks of any state, and the fifth largest state banking system in terms of assets and of banking offices. The size of the Texas system of commercial banks and the diversity of the economy to which it is related make it an excellent field for a comparative study of unit banking system performance.

##### Methods of Study

In this study the Texas banking system is evaluated by the comparison of its performance with the average performance of all state banking systems in each of three classifications

by type of branching. The study covers the years from 1958 through 1967. Consistent data for some components of operating expenses, however, are available only for the 1961-1967 period. The comparative study of the performance of the Texas banking system as a whole is supplemented by an examination of the Texas system by five deposit size categories for 1967. For some indicators of performance the size classes are also used for comparisons between segments of the Texas system with typical statewide branching, limited area branch banking, and unit banking systems.

In this study, banks and banking systems are looked upon as having outputs, costs of production, and revenue from their "products," somewhat after the manner of electric utilities or manufacturing firms. Although the importance of such things as trust services, checking accounts, safekeeping, and locational convenience is recognized, no attempt is made to evaluate their usefulness or efficiency.

This study is not a direct comparison of unit bank performance with branch bank performance. It is a comparison of the overall performance of one large unit banking system with the average overall performances of two groups of state banking systems in which both unit and branch banks operate, and with the average performance of all state banking systems in which only unit banking is permitted by law. The performance of statewide and limited area banking systems is the

systems. The presence of branch banks in states which permit branch banking may affect the performance of unit banks in those states.

#### Criteria of Performance

Credit output and profitability are used as the criteria of performance in this study. Expense and revenue patterns are also examined, because they are determinants of profitability and may affect levels of output.

Financial intermediation, as reflected in credit output, is viewed as the primary function of commercial banking systems. The principal outputs of commercial banking systems are loans and investments. Loans and investments in securities produced 89 per cent of the 1967 total operating revenue of all insured commercial banks in the United States. Loans produced 61 to 68 per cent of total operating revenue, while investments produced 20 to 24 per cent of total operating revenue in every year from 1958 through 1967. During this period, 96 to 97 per cent of non-cash bank assets consisted of loans and investments.<sup>1</sup>

Stuart Greenbaum has proposed the following as desirable banking performance characteristics:

1. Productive efficiency
2. Allocative neutrality

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<sup>1</sup>Annual Report of the F.D.I.C., 1967 (Washington, 1968), pp. 176, 194.

3. Absence of exploitation of suppliers or users of inputs
4. Responsiveness to changes in demand for banking services and in technology.<sup>2</sup>

Mote points out that it is necessary to be more specific regarding what it is that should be maximized and argues that the maximization of output encompasses, to a considerable degree, both the efficiency and the allocational criteria proposed by Greenbaum.

Efficiency is taken into account in both its technological and allocational aspects in the sense that the maximization of output is incompatible with either . . . extremely high costs . . . or with the deliberate restriction of output and the elevation of price that might follow. . . . The consumer is protected from exploitation in the sense that he is confronted by a price-locational convenience package which encourages him to purchase the largest output of bank services achievable short of direct rate regulation. The criterion of "allocational neutrality" is not sufficiently defined to permit an assessment of its compatibility with the goal of output maximization, although it is difficult to see why there should be any major conflict. Finally, the factors conducive to "maximum responsibility to market and technological change" constitute a terra incognita that must be largely ignored here.<sup>3</sup>

The major advantages of the credit output criterion, in addition to the fact that it permits the combining of at least some of the values of several desirable objectives into one unambiguous measure, are that it represents the

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<sup>2</sup>Stuart Greenbaum, "Competition and Efficiency in the Banking System--Empirical Research and Its Policy Implications," Journal of Political Economy, LXXV (August, 1967), 462.

<sup>3</sup>Larry R. Mote, "A Conceptual Optimal Banking Structure for the United States," Proceedings of a Conference on Bank Structure and Competition (Chicago, 1969), pp. 25-26.

only major use of banking system resources and also represents the assets which produce most of the revenues of banking systems.

Profitability is also an indicator of overall performance, since it reflects the effects of all factors which produce income and which cause expenses to be incurred. Rates of return on total investment provide a means for comparisons of the basic earning power of banking systems. Rates of return on equity capital make possible the evaluation of the treatment of suppliers of equity capital. The maintenance of adequate rates of return on capital is necessary if a banking system is to attract and hold adequate capital for its operations and for the protection of those who depend upon it for financial services.

Since it is conceivable that relatively high profitability may be achieved at the price of high risk-taking and that low profitability levels may be related to strong tendencies toward risk-avoidance, comparisons of rates of return on loans will be made in the context of loan loss ratios.

#### Hypothesis

The Texas unit banking system is less effective in its utilization of banking funds than banking systems in which branch banking is permitted, having lower levels of output and profitability than those of branch state banking systems.

### Definitions

Federal Deposit Insurance Corporation classifications of state banking systems by prevalent type of bank organization are used, with eighteen unit banking states, sixteen permitting branching in areas which are less than statewide, and sixteen states in which statewide branch banking is permitted.<sup>4</sup> The three types of systems will be referred to as "unit," "limited," and "branch" banking systems. Data for Alaska and Hawaii are included for 1959, the year in which they were admitted to statehood, and for later years.

### Data

The principal sources of data are the Annual Report of the F.D.I.C., 1958-1967; F.D.I.C. Reports of Call for 1958 through 1967; and Bank Operating Statistics, 1967, also published by the Federal Deposit Insurance Corporation.

This paper deals with populations. With two minor exceptions it is not dependent upon sampling, but is based upon data comprising complete groups of elements for all insured commercial banks in the fifty states of the United States. The measures which are used are parameters and not statistics, which are measures of samples. The techniques of statistical inference are, therefore, neither necessary nor appropriate. The study does not include uninsured

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<sup>4</sup>Annual Report of the F.D.I.C., 1964 (Washington, 1965), p. 141. Cf. Appendix Table XLIV for the classification of states.

commercial banks, of which there are approximately ten in Texas and about 205 in the United States.<sup>5</sup>

Aggregate data are used for computing ratios for each banking system for the 1958-1967 period. This, in effect, weights each bank according to the magnitude of its asset size, loan output, operating costs, net profits, etc., in each ratio computed for the state. The ratios used for the three groups of branching systems are simple arithmetic averages of the ratios for individual states. Each branch banking state, therefore, counts the same in the ratio for the group of states to which it belongs.

When asset and liability data are used in the calculation of ratios for states, averages of the data for three or more call dates are used in order to reduce the effect of the allegedly common practice of "window dressing" year-end balance sheets, and to minimize any distortion of ratios which might be caused by different rates of growth of assets and liabilities between states.

The ratios used for the examination of the different deposit size segments of the Texas banking system are the averages of the ratios for individual banks. This means that each bank is given equal weight in each ratio for its size class. These ratios, which are from Bank Operating

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<sup>5</sup>Annual Report of the F.D.I.C., 1967, pp. 160, 169.

Statistics, 1967,<sup>6</sup> have been computed on the basis of asset and liability data for only one call date, in December, 1967.

#### Limitations

The study of the size segments of the Texas banking systems is limited to 1967 because data and statistics are not available by size class for earlier years. The meaningfulness of comparisons of rates of return on loans is limited by a lack of data on such factors as loan size, maturities, and risks. Some findings are somewhat tentative because the performance and reporting of banking systems are affected by a number of unmeasurable variables, including demand levels and accounting practices.

#### Review of the Literature

There is an extensive literature on branch and unit banking, but little on the aggregate performance of banking systems. The available literature, however, is helpful in understanding the performance of banking systems.

#### Early Views

Before the pioneering quantitative study of David Alhadeff,<sup>7</sup> published in 1954, the literature on branch and

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<sup>6</sup>Bank Operating Statistics, 1967 (Washington, 1968).

<sup>7</sup>David A. Alhadeff, Monopoly and Competition in Banking (Berkeley, 1954).



unit banking was largely institutional in outlook and descriptive in content. Earlier works often took the position that branch banking is more efficient than unit banking. Shaw expressed a typical judgment when he argued that cost advantages favored branch banking:

We have seen that it has one advantage over other forms of bank organization; that is, it results in a saving in overhead costs of management. In some operations it should be cheaper than unit banking because so many things that banks do are routine. Entries to deposit accounts, collection of cash items from other banks, management of portfolios of government bonds, and many other tasks are essentially mechanical; and the unit cost of doing them can be minimized by large-scale operations. The fact seems to be that the ratio of bank operating expenses to total assets falls as the size of the bank increases. There apparently is economy in the big bank and a big bank usually must operate through many offices.<sup>8</sup>

In spite of his argument that economies of scale favor branch banking, Shaw recognized that the case was not completely clear, but concluded by stating that "the burden of proof is on the person who alleges the operating diseconomies of large-scale banking."<sup>9</sup>

Chapman and Westerfield cited earlier studies which indicated that loan rate differentials in the 1890's and

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<sup>8</sup>Edward M. Shaw, Money, Income and Monetary Policy (Homewood, Ill., 1950), p. 109.

<sup>9</sup>Ibid., pp. 109-110.

early 1900's were much greater between different cities in the United States than in countries which had nationwide branch banking systems (Canada, England, France, Scotland and Germany) and used this evidence as an argument in favor of branch banking.<sup>10</sup>

Others, however, favored unit banking, and argued that the operation of branches involves extra overhead expenses, division of responsibility and complexity of administration. When a committee of the House of Representatives investigated branch banking in 1930, Comptroller of the Currency Dawes testified that

Such advantages as there are . . . rest entirely with the unit system. The overhead of a central organization and the red tape which is involved in its operation, the delays in decision, the division of responsibility, and so forth, ad infinitum, are inherent in size, and are a dead-weight which the injection of specialists does not offset.<sup>11</sup>

#### Alhadeff

David A. Alhadeff's study of the California banking system was a substantial improvement over earlier works. Alhadeff used operating data to compare the four largest

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<sup>10</sup>John M. Chapman and Ray B. Westerfield, Branch Banking (New York, 1942), p. 195.

<sup>11</sup>Testimony of Comptroller of the Currency Dawes before the House of Representatives, Seventy-First Congress, Second Session, Hearings on H.R. 141, 1930, cited by Paul M. Horvitz, "Economies of Scale in Banking," Private Financial Institutions (Englewood Cliffs, N. J., 1963), p. 10.

California branch banks with the unit banks of the California system for the 1938-1950 period.<sup>12</sup> The value of Alhadeff's work was limited by the small sample of four very large branch banks, by the unavailability of some significant data, and by questionable methods of handling the numerical information which he used.<sup>13</sup> Nevertheless, his tables are probably useful for rough comparisons.

Alhadeff found that the four branch banks had higher outputs of loans in relation to total assets than California unit banks. Earnings on loans and investments were higher for unit banks. Higher branch bank ratios of loans to assets caused this earning pattern to be reversed for earnings on total assets. The branch banks also had higher earnings on total capital than did California unit banks, a relation which Alhadeff logically ascribed to the lower capital to deposit ratios of the branch banks.

Alhadeff found branch bank operating costs to be lower than those of small unit banks, but higher than those of large unit banks. Average interest rates charged were lowest in the largest class of unit banks, somewhat higher in the branch banks, and highest of all in small unit banks.

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<sup>12</sup>Alhadeff, op. cit., p. 42.

<sup>13</sup>A number of his "average ratios" were derived by the algebraic manipulation of the arithmetic means of other ratios. Ibid., pp. 235-236. Alhadeff used eight size classifications of unit banks for each year from 1938 to 1950 for his performance comparisons. However, he used eight different and widely varying Federal Reserve System size schedules for this purpose, making any study of trends over time impossible. Cf. pp. 56, 235, 249.

Alhadeff ascribed the low loan rates of branch banks and of the largest unit banks to a preponderance of big loans in their portfolios.

#### Horvitz

Paul M. Horvitz's study of New England banking,<sup>14</sup> unlike Alhadeff's, included a study of states which do not permit branch banking as well as some in which statewide branching is permissible. This study was primarily an examination of changes in the structure of New England banking which had been brought about through the expansion of branch banks by mergers and by de novo branching. It included a comparison of the costs of unit and branch bank operation, but produced no conclusive results. Horvitz also examined data on interest rates charged on unsecured business loans in seven cities which had both unit and branch banks. In thirty-four cases in which branch banks and unit banks in the same city made loans of about the same size to borrowers of approximately the same type, unit bank loan rates were lower in twenty-six cases, equal to branch bank rates in three, and higher in five cases.<sup>15</sup> Horvitz noted that "this is a rather surprising result," since he had expected lower rates in instances where branches had replaced unit banks.<sup>16</sup>

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<sup>14</sup>Paul M. Horvitz, Concentration and Competition in New England Banking (Boston, 1958).

<sup>15</sup>Ibid., p. 152.

<sup>16</sup>Ibid., p. 153.

In a later study Horvitz used data from a sample of member banks in four Federal Reserve districts to compare 1959 operating ratios of branch and unit banks.<sup>17</sup> One of the few clear patterns which he found was one of higher loan rates for branch banks than for unit banks.

Schweiger and McGee

In their study of Federal Reserve System member banks in the Chicago area, Schweiger and McGee<sup>18</sup> classified branch and unit banks by size and by type of community. Multiple regression techniques were used in parts of their study, in an attempt to reduce or eliminate biases from several sources. Their analysis, both with and without the regressions, indicated higher loan and expense ratios for branch banks and a tendency for expense ratios to decline with increasing bank size for both branch and unit banks. Their study also indicated that the branch banks had higher net earnings on capital than unit banks of the same size.<sup>19</sup> However, despite their findings that unit banking operating expenses are lower than branch banking costs, Schweiger and McGee concluded that

. . . the cost data indicate that branch banks produce much better geographical coverage and can do

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<sup>17</sup>Paul M. Horvitz, "Economies of Scale in Banking," Private Financial Institutions (Englewood Cliffs, N. J., 1963), pp. 1-54.

<sup>18</sup>Irving Schweiger and John S. McGee, "Chicago Banking," The Journal of Business, XXXIV (July, 1961), 203-366.

<sup>19</sup>Ibid., pp. 320-323.

so at lower cost than the large number of smaller unit banks that otherwise would be required.<sup>20</sup>

Horvitz and Shull

In a study which was more elaborate than Horvitz's earlier work, Horvitz and Shull appraised branch and unit bank performance.<sup>21</sup> Using a sample of sixty-five former unit banks which had been acquired by branch banks in 1962, they compared their performance before and after the mergers. They found that twenty-three of the former unit banks increased the rate of interest paid on savings accounts after having been acquired by branch banks, while only three of this group of banks decreased their rates, and the others made no change. In view of the fact that the rate of interest paid on time deposits by commercial banks in the United States was generally increasing during 1962,<sup>22</sup> these data do not appear to be very significant. Horvitz and Shull also found that the rates of interest charged on small business loans, new car loans, and mortgage loans tended to be lower after the unit banks had been transformed into banking offices of branch banks. This tendency was shown by their sample in spite of the fact that rates of interest charged on loans generally increased during the year.<sup>23</sup>

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<sup>20</sup>Ibid., p. 331.

<sup>21</sup>Paul M. Horvitz and Bernard M. Shull, "The Impact of Branch Banking on Bank Performance," The National Banking Review, I (December, 1964), 143-188.

<sup>22</sup>Cf. Table XXI.

<sup>23</sup>Cf. Table XXIX.

Horvitz and Shull also used regression analysis on 1962 and 1963 data from 106 member banks which were located in towns having only one or two banking offices each. They found that unit banks which located in branch banking states tended to pay higher interest rates on savings accounts than unit banks which were located in states which do not permit branch banking, and that this tendency was more pronounced when an office of a branch bank was actually located in the town with the unit bank.<sup>24</sup>

Kohn

A New York State Banking Department study,<sup>25</sup> published in 1964, surveyed loan to deposit ratios and lending terms. The study concluded that the expansion of branch banks by merger in New York generally contributed to the public interest through increases in the loan ratio. Wide variations of loan ratios between branches of the same bank were found. Out of twelve branch banks operating outside New York City, nine were found to have branches with 1961 loan to deposit ratios exceeding 80 per cent and four had branches with ratios greater than 100 per cent. Few unit banks had loan ratios greater than 70 per cent.<sup>26</sup> Kohn, like Horvitz and Shull,

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<sup>24</sup>Horvitz and Shull, op. cit., pp. 155-158.

<sup>25</sup>Ernest Kohn, Branch Banking, Bank Mergers, and the Public Interest (Albany, N. Y., 1964).

<sup>26</sup>Ibid., pp. 63-64.

found that unit banks tended to pay higher interest rates on time deposits when confronted with the threat or the actuality of branch banking competition.<sup>27</sup>

Motter and Carson

In a study of the effects of the expansion of eight New York City banks into Nassau County during the 1959-1964 period, Motter and Carson found that interest rates charged on loans usually dropped after the entry of branch banks into the market area and remained unchanged in other cases.<sup>28</sup>

Edwards and Flechsig

Tynam Smith, in a review article, notes that much of the analysis of structure and performance relations of banks has relied heavily upon regression analysis, has produced meager results, and has explained very little.<sup>29</sup> He cites studies by Edwards<sup>30</sup> and by Flechsig<sup>31</sup> in this connection. The Edwards and Flechsig studies failed to identify the effect of branch banking upon loan rates, independently of

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<sup>27</sup>Ibid., pp. 171-178.

<sup>28</sup>David C. Motter and Deane Carson, "Bank Entry and the Public Interest: A Case Study," Studies in Banking Competition and the Banking Structure (Washington, 1966), pp. 187-232.

<sup>29</sup>Tynam Smith, "Research on Banking Structure and Performance," Federal Reserve Bulletin, LII (April, 1966), 494-495.

<sup>30</sup>Franklin R. Edwards, Concentration and Competition in Banking (Boston, 1964).

<sup>31</sup>Theodore H. Flechsig, "The Effect of Concentration on Bank Loan Rates," Journal of Finance, VIII (May, 1963), 298-311.



other factors. Statistically significant results were not found in either case.<sup>32</sup>

#### Jacobs

In an attempt to estimate the relation between branching restriction and the number of banks, the number of banking offices, and average bank size, Donald P. Jacobs ran a series of regression studies. He concluded that branch banking is associated with larger bank size and with fewer banks, but did not find a statistically significant relation between type of branching law and the number of banking offices.<sup>33</sup>

#### Greenbaum

Stuart Greenbaum's central interest, in a study of member banks in the Kansas City and Richmond Federal Reserve districts,<sup>34</sup> was in cost-output relationships. He used current operating expenses as a measure of costs. Instead of the common practice of using dollar volumes of various types of credit output as his indicators of bank output, he defined bank output as "the operating earnings which a bank

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<sup>32</sup>Cf. Edwards, op. cit., pp. 71-73; Flechsig, op. cit., p. 305.

<sup>33</sup>Donald P. Jacobs, "The Interaction Effects of Restrictions on Branching and Other Bank Regulations," Journal of Finance, X (May, 1965), 332-347.

<sup>34</sup>Stuart Greenbaum, "Banking Structure and Costs: A Statistical Study of the Cost-Output Relationship in Commercial Banking," unpublished doctoral dissertation, Johns Hopkins University, Baltimore, Maryland, 1964.

would have if it earned 'standard' rates on each class of earning assets."<sup>35</sup> He obtained "standard" earnings rates for various types of assets by experimenting with multiple regressions. Greenbaum found "U" shaped cost curves in the predominantly unit banking Kansas City District, but found that costs decrease with increasing bank size in a linear relation in a sample of unit banks in the Richmond District. In another Richmond District sample Greenbaum compared the costs of branch banks with groups of unit banks having the same total output and number of offices. These comparisons indicated that his branch banks had lower costs than the equivalent groups of unit banks in a majority of the cases in his sample.

#### Other Studies

There have been a number of other works dealing with unit and branch banking, including studies of bank operating expenses and of economies of scale.<sup>36</sup> In the light of the manner in which the problem studied in this dissertation has been derived, these studies do not appear to bear upon the

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<sup>35</sup>Ibid., p. 434.

<sup>36</sup>Guttentag and Herman, after reviewing the literature in this area believe that the evidence supports the existence of economies of scale in small banks, that the evidence is less clear for banks of "intermediate" size, and that "among large banks the evidence is inconclusive." Jack M. Guttentag and Edward S. Herman, "Banking Structure and Performance," The Bulletin of the New York University Institute of Finance, No. 41/43 (February, 1967), pp. 117-118.

results of this study and will not be discussed. References to several representative studies have been placed in the bibliography.

### Findings

Chapter II, which compares the output of the Texas banking system with the average output of branch, limited, and unit banking systems, will reveal that the Texas system has a comparatively low output level. Its total credit output is low in comparison with each of the three groups. The loan output level of the Texas system is similar to that of the unit banking group, but low in comparison with branch banking and limited area branching states. Its investment output is lower than the average output level of each of the three groups and far below that of the unit banking group.

Chapter III, which examines the costs of producing loans and investments for the Texas system, in comparison with the three groups of states by branching status, will show that the Texas banking system enjoys relatively low production costs. Interest expense, personnel costs, and occupancy expense are all lower than the average levels for branch, limited, and unit systems. The interest rates which the Texas system pays on time deposits are similar to those of the three groups of states, but Texas has a relatively low ratio of time deposits to total deposits.

Chapter IV will reveal that the Texas system receives a rate of return on securities investments very similar to

that of the other states grouped by branching status. Texas service charges on demand deposits are lower than those of each of the three groups of states. The rate of return on loans for Texas, however, is appreciably lower than the average rates of return for the three groups of states used for comparisons. Texas also suffers from a high ratio of loan losses to loans, making the rate of return on loans after adjustment for losses even lower in relation to the group averages.

Chapter IV will also show that, far from assuming lower levels of risk, which might be expected from its low output of credit and from its relatively low interest charges on loans, the Texas banking system takes greater than average risks, as its high loss ratio on loans reveals.

In Chapter V it will be seen that the Texas banking system has a comparatively low level of profitability, both in terms of net profits after taxes on total assets and of net after taxes to total equity capital. The relatively low output and income patterns of the Texas system thus outweigh the operating cost advantages of the system.

## CHAPTER II

### OUTPUT PERFORMANCE

The credit output of the Texas banking system is low relative to the average outputs of the banking systems of statewide branch banking states, limited area branching states, and unit banking states. This is evident from a comparison of ratios of total credit output to total assets, ratios of loans to total assets, and ratios of investments to total assets.

In this chapter the output performance of the Texas unit banking system will be compared with the average outputs of branch, limited area branching, and unit banking states. The purpose of this comparative study is to determine whether the output of the Texas system differs markedly from the output of the groups of states in which branch banking is permitted. Comparative output levels are an important consideration in the examination of operating results. The question as to whether the Texas unit banking system is associated with a higher or lower level of output than the mean outputs of systems which permit limited or statewide branching is answered in this chapter.

### Load Factor

Commercial banks serve the credit needs of their markets by investing in a variety of financial assets. The extent to which a banking system utilizes its financial resources for the production of credit is reflected in its load factor: the ratio of loans plus investments to total assets. Total assets represent the capacity of a banking system; loans and investments represent the utilization of capacity. Although no bank or banking system could legally or practically use 100 per cent of its resources for loans and investments, the ratio of loans plus investments to total assets represents the degree to which resources are being used for the principal outputs of banking systems.<sup>1</sup>

Table I shows the load factor for the Texas unit banking system and average load factors for the branch banking states, the limited area branching states, and for all unit banking states. The Texas load factor is the ratio of total credit output (total loans plus total investments) for the state to total assets for the state, and is, therefore, an aggregate ratio for the system. For each year from 1958 through 1967 it was derived in the following manner: the total net loan figures reported on each of three or more call dates were averaged, as were the reported total investments, and the total reported investments for all insured Texas banks; the

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<sup>1</sup>Alhadeff, *op. cit.*, pp. 55-60; Horvitz, "Economies of Scale in Banking," p. 4.

average total loans figure was added to the average total investments figure; and the sum of average total loans plus average total investments was divided by the average total assets figure. The resultant quotient, expressed as a percentage, is the load ratio for the Texas banking system. The load factor ratios used for the branch banking group of states, as is also the case for the limited area and for the unit banking groups, are the arithmetic averages of the load factors for the various branch banking states, which were derived in the same manner as the Texas ratio.

TABLE I  
LOAD FACTOR: LOANS AND INVESTMENTS AS A PERCENTAGE OF  
TOTAL ASSETS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	80.3	77.6	76.7	70.6
1959	81.2	79.5	78.6	71.9
1960	80.2	78.5	78.3	71.8
1961	82.1	80.0	79.5	73.5
1962	82.2	80.1	80.1	74.3
1963	83.0	80.6	81.4	75.5
1964	82.8	81.3	81.6	76.1
1965	82.6	81.5	81.7	76.4
1966	83.0	81.8	82.1	76.9
1967	82.5	81.6	82.4	76.9

\*Sources: Computed from F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

This table reveals that the ratio of loans plus investments for the Texas system not only was lower than the average load factors for branch and limited area branch banking states in every year from 1958 through 1967, but also was substantially lower than the arithmetic mean of unit banking system load factors throughout the period. The ten year average for Texas was only 74.4 per cent, compared to 80.3 per cent for both unit banking and limited branching states, and to 82.0 per cent for statewide branch banking states. Load ratios for individual states for 1958 through 1967 are given in the Appendix, Table XLIV.

An index of load factors, with the average ratio for all states equal to 100 for each year, is shown in Table II.

TABLE II  
INDEX OF LOAD FACTORS OF BANKING SYSTEMS  
ON AN ANNUAL BASE, 1958-1967\*

(Average annual ratio for all states=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	102.9	99.4	98.3	90.5
1959	101.8	99.8	98.6	90.2
1960	101.6	99.3	99.2	90.9
1961	102.0	99.3	98.8	91.2
1962	101.7	99.2	99.2	91.9
1963	101.6	98.7	99.7	92.5
1964	101.1	99.3	99.6	93.0
1965	100.9	99.4	99.7	93.3
1966	100.9	99.4	99.8	93.4
1967	100.4	99.3	100.3	93.6

\*Source: Computed from Table I.



This index reveals a tendency for the average branch, limited area, and unit banking load factors to move toward equality with each other. The Texas ratio, however, remains some 6 to 7 per cent below the group averages at the end of the period. At the beginning of the period the average branch system load factor was 4.6 points higher than that of the unit banking states and 3.5 points higher than the limited area average. At the end of the 1958-1967 period these spreads had dropped to only 0.1 and 1.1 points, respectively. The difference between the Texas index and the higher branch banking index also diminished during the period. The 1967 Texas index, however, was still 6.8 points below the branch banking index. The ratio of loans plus investments to total assets for the Texas system has been consistently low in comparison with each of the groups of state banking systems and remains so.

An examination of 1967 average load ratios for five size segments of the Texas system and for the three groups of states by type of branching law reveals that total credit output of loans and investments for Texas is relatively low in all sizes of banks. Table III gives average load ratios for individual Texas banks in each of the five asset size classes for which data are available, and gives the arithmetic means of the same ratios for branch, limited area branch, and unit banking states. Texas load ratio figures are lower than those of each of the three groups for each of the size classes.

TABLE III  
 AVERAGE LOAD RATIOS, INSURED COMMERCIAL BANKS  
 BY DEPOSIT SIZE, 1967  
 (Percentages)

Deposit Size (millions)	Branch Banking States <sup>a</sup>	Limited Area Branching States <sup>a</sup>	Unit Banking States <sup>a</sup>	Texas <sup>b</sup>
0-5	84.1 <sup>d</sup>	84.3	86.3	78.1
5-10	85.8 <sup>d</sup>	85.1	85.6	80.1
10-25	85.9 <sup>d</sup>	85.7	85.0	81.2
25-100	85.9 <sup>d</sup>	83.6	82.8	79.3
Over 100	81.7 <sup>e</sup>	80.3 <sup>c</sup>	79.4 <sup>f</sup>	74.4
All Banks	84.9	85.2	83.6	79.3

<sup>a</sup>Arithmetic means of unweighted average load ratios of banks in each state.

<sup>b</sup>Arithmetic means of individual bank ratios.

<sup>c</sup>Data withheld for three states because of small numbers of banks in category.

<sup>d</sup>Data withheld for four states.

<sup>e</sup>Data withheld for five states.

<sup>f</sup>Data withheld for six states.

The overall performance of the Texas banking system is heavily influenced by the low load factor of the largest class of Texas banks, those with more than 100 million dollars of deposits. The Texas load factor figures, shown in Table III, reveal that the load factor curve for Texas banks is "Ω" shaped, with the largest banks having the lowest

average ratio of loans and investments to total assets. Since this group of banks, with more than 100 million dollars of deposits each, holds approximately 45 per cent of the total deposits of the Texas banking system,<sup>2</sup> its low output of loans plus investments plays a large part in producing the relatively low output of the Texas banking system, as indicated by its load factor.

#### Loan Output

The load factor of the Texas unit banking system is lower than the average load factor for branch, limited, and unit banking systems. However, both loans and investments are included in computing the load factor. Investments are an important form of credit output, but loans must be considered to be the primary "product" of commercial banking systems, as the discussion in Chapter I makes clear. It is, therefore, important that the proportion of total resources committed to loan production be examined.

Table IV shows loans as a percentage of total assets for Texas and for all states by type of branching for the 1958-1967 period. As has been explained more fully in Chapter I, the Texas ratio is an aggregate ratio of total loans for all insured banks in the state to total bank assets for these banks. Average total loans and average total assets for three or more call dates are used as the numerator and as the

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<sup>2</sup>Cf. Appendix Table XLV.

denominator, respectively, for each year. The ratios for the branch, limited, and unit banking groups of states are averages of the ratios for the states in each group.

The Texas banking system devoted from 40 to 51 per cent of its resources to loan production during the period. The Texas ratio was lower in every year than the averages for statewide branching and for limited area branching states.

TABLE IV  
LOANS AS A PERCENTAGE OF TOTAL ASSETS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	44.2	40.3	37.7	39.9
1959	46.2	42.7	39.5	41.1
1960	48.9	44.4	42.1	42.4
1961	50.0	45.5	43.4	42.9
1962	50.0	45.8	43.8	44.0
1963	52.9	47.3	46.2	45.9
1964	54.5	50.3	47.9	48.4
1965	55.6	51.4	49.6	50.0
1966	56.9	53.0	50.6	50.8
1967	55.4	52.8	50.6	50.7
10 Year Average	51.5	47.4	45.2	45.6

\*Sources: Computed from F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

The output of the Texas system was slightly higher than the unit banking average for eight of the ten years. Arithmetic averages of loan ratios for the ten year period are

45.6 for Texas, in comparison with 51.5 per cent for branch banking states, 47.4 per cent for limited branching states, and 45.2 per cent for all unit banking states. Loan to asset ratios for individual states for 1958 through 1967 are given in the Appendix, Table XLVI.

An index of loan ratios, showing the average loan ratios for the three groups of states as percentages of the Texas loan ratio is shown in Table V. This index indicates that the standing of the Texas loan index relative to that for the branch banking states in 1967 is very similar to that which existed in 1958. The Texas system lost ground during the period in relation to the loan output of limited area and

TABLE V  
INDEX OF LOAN RATIOS, 1958-1967\*  
(Texas=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States
1958	110.9	101.0	94.4
1959	112.3	103.9	96.0
1960	115.6	104.7	99.4
1961	116.6	106.0	101.2
1962	113.7	104.1	99.6
1963	115.2	102.9	100.7
1964	112.6	104.0	99.1
1965	111.1	102.8	99.1
1966	112.1	104.4	99.7
1967	109.4	104.3	99.9

\*Source: Computed from Table IV.

unit banking states, as indicated by three and five point increases in the index for those groups of states. On the whole, however, this index indicates that the relation between the loan output ratio for Texas and the average ratios for the three groups of states has been rather stable. The ten year period reveals no sizable shifts in the relationship.

An index of the growth of loans, using 1958 as a base, is given in Table VI. An examination of the relative growth of loans, shown in this table, reveals that the rate of growth of total loans for the Texas banking system has varied little from the average rates of growth for branch, limited, and unit banking states, which have paralleled each other rather closely. This suggests that the pattern of relatively low output for the Texas system is a stable one.

TABLE VI  
INDEX OF LOAN GROWTH, 1958-1967\*  
(1958 Loans=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	100	100	100	100
1961	130	120	126	122
1964	187	164	178	180
1967	241	232	242	236

\* Source: Computed from Appendix Table XLVII.

### Loan Output and Total Resource Growth

An index of loan growth based only on total loans outstanding is potentially misleading, since it does not take into account the possibility of different rates of asset growth. Rapid asset growth could conceal evidence of restrictions of loan output, or relatively slow growth of total resources could mask a relatively high loan output of loans in relation to assets. This problem can be eliminated by the use of an index of ratios of loans to total assets. Total assets reflect banking system resource growth. The index, which is given in Table VII, indicates how well the Texas banking system's loan growth has kept pace with its asset growth, in relation to the base year of 1958, and also in relation to changes in the ratio of loans to total assets for the three groups of states by branching status.

TABLE VII  
INDEX OF LOAN TO ASSET RATIOS, 1958-1967\*  
(1958=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	100	100	100	100
1959	104	106	105	103
1960	111	110	112	106
1961	113	113	115	108
1962	113	114	116	110
1963	119	117	123	115
1964	123	125	127	121
1965	126	128	132	125
1966	129	132	134	127
1967	125	131	134	127

\*Sources: F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

Table VII reveals that the Texas banking system has increased its output of loans relative to assets rather steadily since 1958, to 127 per cent of the beginning ratio. The index for Texas increased at a rate very closely paralleling that of the branch banking states, indicating that the Texas loan ratio increased by about the same proportion as the average branch banking system loan ratio. The index indicates that limited area branching and unit banking states increased their loan to asset ratios a little more rapidly than did Texas. This means that the loan output of the Texas system is not only low but also is consistently low in relation to the three groups of states and is either not improving or is deteriorating slightly in its relative position.

The comparative loan output of the Texas unit banking system is an important indicator of performance. It is, therefore, important that necessary manipulation of the original data should not give misleading results. The index of Table VII was constructed on the base year of 1958. Similar results were obtained using 1959 as the base year.<sup>3</sup> It is possible, however, that both 1958 and 1959 were unusual years for the Texas banking system or for other state systems. Therefore, an index of loan ratios using the arithmetic mean of loan to asset ratios for all states in

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<sup>3</sup>Using 1959 as a base year, in order to avoid the use of the recession year of 1958 as a base, produced similar results, giving a 1967 index of 128, 120, 124, and 123, respectively, for branch, limited, unit banking states, and Texas.



each year as a base has been constructed, and is given in Table VIII.

TABLE VIII  
INDEX OF LOAN RATIOS ON AN ANNUAL BASIS, 1958-1967\*  
(Average annual loan to asset ratio  
for all states=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	109.3	99.6	93.1	98.6
1959	108.3	100.6	92.5	96.4
1960	108.7	98.6	93.5	94.1
1961	108.3	98.5	94.0	92.9
1962	107.7	98.6	94.4	94.7
1963	108.6	97.1	94.9	94.3
1964	107.3	99.1	94.4	95.3
1965	106.7	98.7	95.1	96.0
1966	106.6	99.3	94.8	95.1
1967	104.8	99.9	95.8	95.6

\*Sources: F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

If the rate of loan expansion of the Texas system or the average rate of loan expansion for one of the three groups of states not only keeps pace with the rate of growth of assets, but also keeps pace with the average loan to asset ratio for all states, the index will be 100 for each year. An index of less than 100 indicates poorer performance; one greater than 100 shows higher performance than this standard. This index shows that, even though the Texas

loan to asset ratio increased during the 1958-1967 period, it has not kept pace with the average increase in loan output per dollar of assets, since the index has ranged from 93 to 96 in nine of the ten years. Branch bank loan output, on the other hand, has outpaced the all-state average in each year. The index for limited area branching states generally is near 100. For unit banking states it is very similar to the index for Texas, indicating that the rate of increase in the loan to asset ratio for Texas has been typical of unit banking systems.

#### Bank Size and Loan Output

An examination of the 1967 comparative loan output of the Texas unit banking system by size segments indicates that the relatively low Texas loan output, in comparison with branch and limited branching states, is found in each of the five deposit size segments for which information is available. Table IX gives average loan to asset ratios for the banks in each size segments for Texas and arithmetic means of the same parameters for branch, for limited area branching, and for unit banking states. Average Texas loan output is low in relation to branch banking and to limited banking system output for each of the five size segments. It is similar to the general level of loan output shown for unit banking states, except for banks with more than 100 million dollars of deposits. The higher unit banking ratio

of 53.7 per cent, compared with 51 per cent for Texas for the largest size group, may have limited meaningfulness because data for this class were not available for six of the unit banking states.

TABLE IX  
AVERAGE LOAN RATIO, BY DEPOSIT SIZE, DECEMBER, 1967<sup>a</sup>  
(Percentages)

Deposit Size (millions)	Branch Banking States <sup>b</sup>	Limited Area Branching States <sup>b</sup>	Unit Banking States <sup>b</sup>	Texas <sup>c</sup>
0-5	48.9 <sup>e</sup>	47.9	47.3	46.0
5-10	54.0 <sup>e</sup>	49.5	48.0	48.3
10-25	53.9 <sup>e</sup>	51.2	49.0	49.1
25-100	56.4 <sup>e</sup>	52.1	50.8	50.0
Over 100	55.0 <sup>f</sup>	52.9 <sup>d</sup>	53.7 <sup>g</sup>	51.0
All Banks	52.5	49.8	47.0	47.7

<sup>a</sup>Source: Compiled and computed from Bank Operating Statistics, 1967.

<sup>b</sup>Arithmetic means of unweighted average ratios for states in each group.

<sup>c</sup>Arithmetic means (unweighted) of ratios for individual banks.

<sup>d</sup>Data withheld by F.D.I.C. for three states because of small number of banks in class.

<sup>e</sup>Data withheld for four states.

<sup>f</sup>Data withheld for five states.

<sup>g</sup>Data withheld for six states.

The loan ratio for Texas banks is a function of bank size. The average loan ratio for the size segments of the Texas banking system, shown in Table IX, increases directly with bank deposit size, as it does for each group of states by branching status. The 51 per cent average loan to asset ratio for banks with deposits of more than 100 million is 11 per cent greater than the 46 per cent ratio of the smallest group of banks. The 51 per cent loan ratio for the largest size segment in the state is only slightly higher than the 1967 loan ratio of 50.7 per cent for the state as a whole, which is shown in Table IV. The average loan ratio is also very close to the 1967 unit banking ratio, but is appreciably lower than the corresponding ratio for branch banking states.

#### Investment Output

Investment ratios for Texas banks are generally the complements of loan ratios, although loans and investments do not make up the total of bank assets.<sup>4</sup> "Flexibility provided by the investment portfolio is one of the major reasons for the proven ability of commercial banking to adapt to changing economic conditions."<sup>5</sup> Investment portfolios enable

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<sup>4</sup>Cf. Alhadeff, *op. cit.*, pp. 61-64 for a survey of the history of the relationship between loans and investments of member banks for the periods preceding, during, and following World War II.

<sup>5</sup>American Bankers Association, The Commercial Banking Industry, Monograph Prepared for the Commission on Money and Credit (Englewood Cliffs, N. J., 1962), p. 270.

banks to meet their individual needs, which vary with size, with the seasons, and with economic conditions.

Investments are the focal point for balancing the conflicting needs of banks and banking systems for liquidity, safety, and profitability.<sup>6</sup> Since a large part of bank liabilities is in the form of demand deposits, liquidity must be provided, in order to meet anticipated withdrawals and to provide a margin of safety. Liquidity is also needed in order to satisfy the needs of credit worthy borrowers. The part of bank investments which constitutes secondary reserves is a primary source of liquidity.

Second, commercial banks, being highly leveraged institutions with small proportions of equity capital,<sup>7</sup> must limit their risk exposure. Investments provide a means for the limitation of overall risk exposure.

Finally, banks are expected to earn satisfactory profits on stockholders' investments; a banking system cannot attract or hold the capital needed unless reasonable returns on investments can be obtained.<sup>8</sup> Bond portfolios and other parts of the investments of a banking system contribute to the profitability goal.

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<sup>6</sup>Ibid.

<sup>7</sup>Cf. Chapter V.

<sup>8</sup>Jerome B. Cohen and Edward D. Zinbarg, Investment Analysis and Portfolio Management (Homewood, Ill., 1967), pp. 663-670; American Bankers Association, op. cit., p. 271.

The investment ratio for the Texas system and for the three groups of state systems being used for comparison with it is shown in Table X. This ratio indicates that the investment output of the Texas banking system is consistently lower than the investment outputs of branch, limited area branch, and unit banking states. The ratio for Texas is lower than the average ratio for each group of states in every year from 1958 through 1967.

TABLE X  
INVESTMENTS AS A PERCENTAGE OF TOTAL ASSETS,  
1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	36.7	37.3	39.0	30.7
1959	34.9	36.8	39.1	30.8
1960	31.3	34.1	36.2	29.4
1961	32.0	34.3	36.1	30.5
1962	32.1	34.3	36.3	30.2
1963	30.1	33.4	35.1	29.6
1964	28.3	31.0	33.6	27.7
1965	27.0	30.0	32.2	26.4
1966	26.0	28.7	31.6	26.1
1967	27.1	28.8	31.8	26.3
10 Year Average	30.6	32.9	35.1	28.8

\*Sources: Computed from F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

The relations between branch, limited, and unit banking investment ratios are quite different from the

relations between their loan ratios. Branch banking systems have the highest average loan ratio, but the lowest investment ratio. Unit banking states generally have the lowest proportion of assets in the form of loans, and the highest average investment ratio. This makes the low Texas investment ratio, which is even lower than the average investment ratio for branch banking states, even more striking. The Texas banking system does not display the typical unit banking system tendency to offset, at least partially, a low loan output with a relatively high investment ratio. Thus both components of the load factor, loan output and investment output, are lower for the Texas unit banking system than for branch and limited area branch banking systems. This accounts for the low position of the Texas load factor in relation to average load factors for branch and limited banking systems.

Investment ratios for U. S. banking systems have generally declined since 1958, as loan output has increased at the expense of investment output. The Texas system has followed this general trend, as is seen in Tables IV and X. An index of investment ratios, using 1958 investment ratios as a base, however, shows that the decline in the proportion of total resources committed to investments has been much less steep for Texas than for statewide branching and for limited area branch banking states. This index is shown in Table XI. The Texas investment ratio fell only 14 per cent

between 1958 and 1967, while it dropped 26 and 23 points, respectively, for branch and limited branching states. During the same period its average decline for unit banking states was 18 per cent.

TABLE XI  
INDEX OF INVESTMENT RATIOS, 1958-1967\*  
(1958=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	100	100	100	100
1959	95	99	100	100
1960	85	91	93	96
1961	87	92	93	99
1962	87	92	93	98
1963	82	89	90	96
1964	77	83	86	90
1965	74	80	83	85
1966	71	77	81	85
1967	74	77	82	86

\*Source: Computed from Table X.

Table XII gives 1967 investment to asset ratios, derived in the same manner as the loan to asset ratios of Table IX, for size segments of the Texas system and for the three groups of states. Texas investment output generally varies inversely with bank size, as it does generally for branch, limited and unit banking systems. For Texas and for the branch banking group, however, the 10 to 25 million dollar deposit size class has a slightly higher ratio than



TABLE XII  
INVESTMENT TO ASSET RATIOS BY DEPOSIT SIZE,  
DECEMBER, 1967<sup>a</sup>

(Percentages)

Deposit Size (millions)	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
0-5	35.2 <sup>c</sup>	36.4	39.0	32.1
5-10	31.8 <sup>c</sup>	35.6	37.6	31.8
10-25	32.0 <sup>c</sup>	34.5	36.0	32.1
25-100	29.5 <sup>c</sup>	31.5	32.0	29.3
Over 100	26.7 <sup>d</sup>	27.4 <sup>b</sup>	25.7 <sup>e</sup>	23.4
All Banks	32.4	35.4	37.6	31.6

<sup>a</sup>Source: Bank Operating Statistics, 1967. Arithmetic means of average ratios for states.

<sup>b</sup>Data withheld for three states.

<sup>c</sup>Data withheld for four states.

<sup>d</sup>Data withheld for five states.

<sup>e</sup>Data withheld for six states.

than the class immediately below it in size. The general relationship is roughly the inverse of the direct relationship between bank size and loan output. The largest size class of Texas banks, however, has a much lower investment ratio than the size class immediately below it. The fact that the largest

Texas banks hold a much smaller proportion of assets in the form of investments than any other size class has a considerable influence upon the investment to asset ratio for the state as a whole (Table X). This large drop in investment output between the 25 to 100 million and the largest classes of banks also accounts for the similar drop in the load ratio for Texas banks, revealed in Table III, since the loan ratio does not decline for the ultimate size class.

Table XII also shows that investment output for Texas is lower for all five size segments than for limited area branching and unit banking systems. For the three size groups which include banks with from 5 to 100 million dollars of deposits, the average Texas output is equal to or very nearly equal to the figures for branch banking states. Texas banks in the smallest and largest classes, however, have lower levels of investment output than the branch banking average output for the same size groups. Thus the smallest and largest Texas banks cause the 1967 Texas aggregate investment ratio to be slightly lower than that of the branch banking states. This relationship is most easily seen in Table XIII, which gives an index of investment ratios by bank size.

In Table XIII an index number of 100 indicates an investment output equal to that of Texas. A number greater than 100 means an average level of investment output greater than that of Texas. The relatively large index numbers for

TABLE XIII  
 INDEX OF INVESTMENT RATIOS BY DEPOSIT  
 SIZE, DECEMBER, 1967\*

(Texas=100)

Deposit Size (millions)	Branch Banking States	Limited Area Branching States	Unit Banking States
0-5	109.7	113.4	121.5
5-10	100.0	111.9	118.2
10-25	99.7	107.5	112.1
25-100	100.7	107.5	109.2
Over 100	114.1	117.1	109.8
All Banks	102.5	112.0	115.8

\*Source: Computed from Table XII.

the smallest and largest bank classes for all three groups of states indicate that, in proportion to their assets, the smallest and the largest Texas banks have the lowest investment outputs in relation to the three groups of state banking systems.

#### Loan Output and Credit Allocation

Business firms and other non-governmental borrowers are almost entirely dependent upon loans for access to bank credit. At the end of 1967 fifty-eight per cent of all United States commercial bank investments were in securities

of the federal government or of federal agencies. Forty per cent of them were in municipal bonds. Only two per cent of total investments were in other securities. For Texas the corresponding percentages were 59, 39, and 2 per cent.<sup>9</sup> The 2 per cent of bank investments in other securities represents about one-half of one per cent of the total assets of the Texas banking system, as well as for all states. Since this small portion of investment portfolios includes all of the securities of business corporations which are held by commercial banking systems, it is apparent that only a tiny part of banking system resources is made available to business firms through the purchase of corporate securities. Business firms, therefore, must rely almost wholly upon the "loan desks" of banking systems for their credit needs. Individuals, it should be noted, are entirely dependent upon loans for access to bank resources.

An analysis of the composition of loan output by type of loan reveals that the real estate loan output of the Texas banking system is very low in comparison with average outputs of the three groups of states used for comparison. The differences between the Texas real estate output and the outputs of the branch, limited, and unit banking systems are great enough to account for the differences between total Texas loan output and the average total loan outputs of the

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<sup>9</sup>F.D.I.C. Report of Call No. 82 (Washington, 1968), p. 8.

three groups of states. Ratios of gross loans by type of loan are given in Table XIV for 1967. The ratio of residential mortgage loans to total assets for Texas was only 2.5 per cent, while it averaged 11.8 per cent for branch banking states and 8.6 and 8.2 per cent, respectively, for limited area branching and unit banking states.

TABLE XIV  
 LOAN TO ASSET RATIOS BY TYPE OF LOAN,  
 DECEMBER, 1967\*  
 (Percentages)

Type of Loan	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas	United States
Real Estate					
Residential	11.8	8.6	8.2	2.5	8.3
Other	6.5	5.9	5.8	3.4	4.7
Total	18.3	14.5	14.0	5.9	13.0
Commercial and Industrial	16.7	17.1	15.3	20.9	19.6
Agricultural	1.8	1.8	8.9	2.8	2.1
Individuals	14.1	14.6	13.5	13.2	11.5

\*Source: Bank Operating Statistics, 1967.

Other mortgage loans, largely commercial and industrial, were only 3.4 per cent for the Texas system, in comparison with averages of 6.5 for branch banking systems, 5.9 per cent for limited area states, and 5.8 for all unit banking states.

The Texas banking system also has a somewhat lower output of loans to individuals than the groups of states which

permit branch banking, but has an appreciably higher output of commercial and industrial loans than these groups of banking systems. \* The Texas agricultural loan output, 2.8 per cent of 1967 assets, ranks above the 1.8 per cent average output of branch and limited area branch banking states, but well below the 8.9 per cent average output of unit banking states.

Average loan to asset ratios by type of loan and by bank size are given in Table XV.

TABLE XV  
AVERAGE LOAN RATIOS OF TEXAS COMMERCIAL BANKS  
BY TYPE OF LOAN AND BANK SIZE,  
DECEMBER, 1967\*

(Percentages)

Type of Loan	Deposit Size					
	0-5	5-10	10-25	25-100	Over 100	All Banks
Commercial and Industrial	11.3	14.9	16.1	20.0	23.7	14.3
Agricultural	11.8	7.6	4.9	1.2	1.4	8.2
Real Estate	5.6	6.4	7.7	7.8	5.3	6.4
Individuals	15.0	16.3	17.3	16.1	11.3	15.8

\*Source: Bank Operating Statistics, 1967. Ratio of gross loans to total assets.

It is apparent that Texas banks in all size classes hold only a small proportion of assets in the form of real estate

loans, with the percentage varying from 5.3 to 7.8. Commercial and industrial loans increase with bank size, from 11.3 per cent of total assets for banks with less than five million dollars of deposits to 23.7 per cent for the largest group of banks in Texas. Agricultural loan output varies inversely with bank size, from 11.8 per cent to an average of only 1.4 per cent of total assets for banks with more than 100 million dollars of deposits. Loans to individuals show a "U" shaped pattern, with a peak average output of 17.3 per cent for the median size class and a minimum of 11.3 per cent for the ultimate size class.

#### Summary

The Texas commercial banking system has a relatively low total credit in comparison with the average output levels of branch banking states, of limited area branching states, and of unit banking states. This low load ratio for Texas is a reflection of a relatively low output of both loans and investments. The Texas loan output has been consistently lower than that of each of the three groups of states by branching status. Texas investment output is also appreciably lower than the investment output of limited area branching and unit banking systems and somewhat lower than the investment output of statewide branch banking systems. The chief deficiency in relative output of the Texas system is in real estate loans.

## CHAPTER III

### COMPARATIVE COST PATTERNS

An examination of production costs is an integral part of the study of the profit performance of the Texas unit banking system. This chapter will deal with the question whether the Texas unit banking system has a cost advantage over the average operating expense levels of banking systems in states which permit statewide or limited area branch banking.

Since the output of banking systems consists largely of loans and investments, ratios of operating expenses to loans plus investments are used for comparing production costs of the Texas commercial banking system with those of branch, limited branching, and unit banking states. Since data for size segments of the Texas system are not available on this basis, ratios of operating costs to total operating revenue will be used for the examination of operating expenses by size segments. This basis is widely used in the analysis of public utilities and transportation companies. It is less satisfactory for the study of multi-product industries, such as banking, than for single product firms, since diversities may be covered up by the figures, but it is the only basis



on which data for banking system size segments are available.

#### Total Operating Cost

Since the output of commercial banking systems consists mainly of loans and investments, the ratio of total operating expenses to loans plus investments, expressed as a percentage, is a good measure of the average total unit cost of production per 100 dollars of output.<sup>1</sup> Table XVI shows clearly

TABLE XVI

TOTAL OPERATING EXPENSE AS A PERCENTAGE OF LOANS PLUS INVESTMENTS, TEXAS AND ALL STATES BY TYPE OF BRANCHING LAW, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	3.61	3.38	3.27	3.28
1959	3.99	3.53	3.39	3.45
1960	4.07	3.75	3.68	3.64
1961	4.14	3.82	3.72	3.55
1962	4.37	4.02	3.91	3.79
1963	4.47	4.06	4.04	3.97
1964	4.61	4.19	4.18	4.12
1965	4.79	4.35	4.34	4.27
1966	5.07	4.57	4.59	4.56
1967	5.38	4.87	4.89	4.73
10 Year Average	4.45	4.05	4.00	3.94

\*Sources: F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

<sup>1</sup>Alhadeff, op. cit., p. 77.

that the average total unit cost of production of loans and investments for the Texas system has been consistently lower than the average of this ratio for both limited area and statewide branch banking systems. The Texas ratio has also been slightly lower than the average unit banking system total operating expense ratio since 1959. An index of ratios of operating expenses to loans and investments, given in Table XVII, indicates that branch banking unit costs were from 10 to 16 per cent higher than those of the Texas system and averaged 113 per cent of the Texas ratio during the 1958-1967 period. Limited area branching system costs averaged 103 per cent of the Texas total operating expense ratio.

TABLE XVII  
INDEX OF RATIO OF TOTAL OPERATING EXPENSES TO  
LOANS AND INVESTMENTS, 1958-1967\*  
(Texas=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States
1958	110	103	100
1959	116	102	98
1960	112	103	101
1961	116	107	105
1962	115	106	103
1963	112	102	102
1964	112	102	102
1965	112	102	102
1966	110	100	101
1967	114	103	103

\*Source: Computed from Table XVI.

Unit banking system total operating cost ratios averaged 101.7 per cent of the Texas ratio. The index does not reveal any tendency for the relation of Texas total production costs to those of the three groups of states to change over time, even though unit operating costs increased 44 per cent for the Texas system between 1958 and 1967.

Average ratios of total operating costs to total operating revenue for size segments of the Texas system are given in Table XVIII. The pattern of this cost ratio for five deposit size classes is "Ω" shaped. Average total operating costs per dollar of operating revenue rise with bank size through the 10 to 25 million dollar deposit size class, only to drop for the 25 to 100 and again for banks with more than 100 million dollars of deposits. Those size classes which have the highest average total credit output of loans and investments also have the highest ratios of total operating costs to total operating revenue.<sup>2</sup> This pattern is similar to that of the ratio of loans plus investments to total assets for the size segments of the Texas banking system.

The patterns of variation of total unit costs in different size banks in Texas and between the Texas system and the groups of states being studied are the result of the

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<sup>2</sup>Appendix Table XLVIII gives arithmetic means of this ratio for branch, limited, and unit banking states by size segments and for Texas. The Texas ratio is lower than the average for all three groups in the smallest and largest size classes, and lower than the branch banking figure in the 5-10 and 25-100 million dollar deposit size classes.

TABLE XVIII  
 AVERAGE RATIOS OF TOTAL OPERATING COSTS TO  
 TOTAL OPERATING REVENUE, TEXAS  
 BANKS, 1967\*  
 (Percentages)

Deposit Size (millions)	Personnel Expense	Interest on Time Deposits	Net Occupancy Expense	Miscellaneous Expense	Total Operating Expense
0-5	32.8 (46.0)**	18.8	5.7	17.5	74.8 (72.7)***
5-10	28.0 (48.3)	25.9	5.4	17.3	76.7 (74.2)
10-25	26.2 (49.1)	29.0	5.2	17.3	77.7 (75.8)
25-100	23.9 (50.0)	32.4	5.2	15.9	77.4 (74.6)
Over 100	21.0 (51.0)	32.4	2.8	16.8	72.9 (73.1)
All Banks	29.2 (47.7)	24.2	5.4	17.3	76.1 (73.5)

\*Source: Bank Operating Statistics, 1967.

\*\*Average loan to total assets ratio.

\*\*\*Average ratio of loans and investments to total assets.

patterns among the components of total unit cost. The largest components of banking system "production costs" are personnel expense and interest on time and savings deposits. Net occupancy expense ratios will also be compared. All other expenses will be lumped together for comparative analysis.

#### Personnel Expense

Ratios of personnel costs to loans and investments are shown for Texas and for all branch, limited area branching, and unit banking states in Table XIX for 1961 through 1967. Wages, salaries, and benefits of officers and employees are included in the numerator of the personnel cost ratio.

TABLE XIX

PERSONNEL EXPENSE AS A PERCENTAGE OF LOANS PLUS INVESTMENTS,  
TEXAS AND ALL STATES BY TYPE OF BRANCHING LAW, 1961-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1961	1.87	1.67	1.68	1.58
1962	1.85	1.66	1.66	1.53
1963	1.84	1.62	1.61	1.50
1964	1.84	1.59	1.60	1.46
1965	1.82	1.56	1.57	1.43
1966	1.83	1.58	1.55	1.44
1967	1.90	1.56	1.51	1.46
7 Year Average	1.85	1.61	1.60	1.49

\*Sources: F.D.I.C. Annual Reports and Reports of Call, 1961-1967.

Consistent personnel cost data for the states are available beginning with 1961. Earlier figures obtainable from the Federal Deposit Insurance Corporation do not permit the inclusion of fringe benefits in personnel expense figures. Table XIX shows that the personnel costs of the Texas unit banking system are lower than the average costs of unit and limited area branch banking states, and are appreciably lower than the average personnel costs of branch banking systems. In addition, the personnel cost ratio for Texas dropped from 1.58 per cent in 1961 to 1.46 per cent of loans and investments in 1967. During the period when this 8 per cent cost reduction for the Texas system occurred, the average branch banking personnel expense ratio increased slightly. As a result the branch banking personnel cost ratio, expressed as a percentage of the Texas ratio, increased from 118 in 1961 to 130 in 1967, as is indicated by the index of personnel expense ratios in Table XX. In this table average branch, limited area, and unit banking ratios are compared with the Texas ratio. During the period covered by Tables XIX and XX, the average unit banking system personnel cost ratio and the ratio for limited area branching states decreased by 10 and 7 per cent, respectively. The ratios for limited and unit banking states remained 7 and 3 per cent higher, respectively, than the Texas ratio at the end of the period, however.

Since their ratios of personnel costs to output declined during the 1961-1967 period, it is clear that personnel costs

TABLE XX  
 INDEX OF PERSONNEL COST RATIOS, 1961-1967\*  
 (Texas=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States
1961	118	106	106
1962	121	108	108
1963	123	108	107
1964	126	109	110
1965	127	109	110
1966	127	110	108
1967	130	107	103

\*Source: Computed from Table XIX.

did not rise as fast as did loan and investment output for Texas, for unit banking states, and for limited branching states. The loans of the Texas banking system increased from 43 per cent of total assets in 1961 to 51 per cent in 1967, while investments dropped from 30 to 26 per cent of total assets.<sup>3</sup> In spite of this shift to a higher proportion of loans, which are more expensive to administer than investments, and a substantially higher ratio of total credit output to total assets, the Texas personnel expense ratio was lower in 1967 than in 1961. The same pattern is found to hold for the groups of unit banking and limited branching states. The branch banking states also had a shift in output from investments to loans and a slight increase in the average load ratio, but practically

<sup>3</sup>Cf. Tables IV and X.

no change in its personnel cost ratio. The decreasing Texas ratio of personnel costs to loan and investment output, viewed in contrast with the more stable ratio for the branch banking states, indicates that the Texas banking system is not only maintaining its personnel cost advantage over statewide branch banking systems, but is increasing that advantage somewhat.

Unit personnel costs for the Texas banking system vary inversely with bank size, as Table XVIII reveals,<sup>4</sup> and are also negatively related to the loan to asset ratio. Instead of rising with the loan ratio, personnel expense per unit of output falls. The larger the bank, the higher the average loan ratio and the lower the personnel cost per dollar of loan and investment output. This indicates that labor is used more efficiently in the larger Texas banks. As a result, no doubt, of serving principally small customers, making relatively small loans and investments, and doing relatively small volumes of total business, the smallest banks have the highest unit labor costs. Larger banks can include larger loans and investments in their output mix and can use more specialization of labor, both of which should tend to

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<sup>4</sup>Average unit banking system personnel costs also decrease with increasing bank size. No such clear patterns appear for limited area and branch banking states. Cf. Appendix Table XLIX, which gives the average personnel cost to total operating revenue ratio for Texas and averages for the three groups of states. This table also reveals that in the two smallest size classes Texas has a higher personnel cost to revenue ratio than any of the three groups, but has much lower personnel expense than the branch banking group in the two largest size classes.



reduce the cost of producing a given volume of loans and investments.<sup>5</sup>

### Interest Expense

Unit interest costs for time and savings deposits have risen each year since 1958 for Texas and for branch, limited, and unit banking states. Table XXI gives interest on time

TABLE XXI  
INTEREST ON TIME DEPOSITS AS A PERCENTAGE OF LOANS  
AND INVESTMENTS, TEXAS AND ALL STATES BY  
BRANCHING LAW, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	1.013	0.759	0.719	0.573
1959	1.065	0.824	0.780	0.644
1960	1.064	0.915	0.981	0.662
1961	1.143	1.004	0.960	0.799
1962	1.391	1.209	1.159	1.059
1963	1.465	1.331	1.501	1.240
1964	1.560	1.420	1.630	1.394
1965	1.774	1.575	1.583	1.532
1966	1.967	1.790	1.807	1.760
1967	2.174	1.975	2.040	1.914
10 Year Average	1.462	1.280	1.316	1.158

\*Sources: Computed from F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

<sup>5</sup>Bentson found slight economies of scale with regard to loans and somewhat larger economies of scale for investments. These economies were most pronounced among relatively small banks. George J. Bentson, "Economies of Scale and Marginal Costs in Banking Operations," Studies in Banking Competition and the Banking Structure (Washington, 1966), pp. 380-386.

and savings deposits as a percentage of loans and investments for Texas and the average of this ratio for each of the three groups of states. A comparison of the ratios in this table with the personnel cost ratios of Table XIX indicates that by 1966 unit interest expense had replaced personnel expense as the largest component of the cost of production of loans and assets.

An index of unit interest costs on time and savings deposits, given in Table XXII, shows, however, that this cost advantage with respect to the three groups of states has decreased rather steadily since 1958. The average branch

TABLE XXII  
INDEX OF RATIO OF INTEREST PAID ON TIME DEPOSITS TO  
LOANS AND INVESTMENTS, 1958-1967\*

(Texas=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States
1958	177	132	125
1959	165	128	121
1960	161	138	148
1961	143	126	120
1962	131	114	109
1963	118	107	121
1964	120	102	117
1965	116	103	103
1966	112	102	103
1967	114	103	107

\*Computed from Table XIX.

banking interest cost ratio dropped from 177 per cent of the Texas ratio in 1958 to 114 per cent of it in 1967. For limited area branching states the index fell from 132 to 103 during the same period, while it declined from 125 to 107 for the unit banking group of states.

Unit interest costs for time and savings deposits depend upon the effective rate of interest paid on time and savings deposits and the ratio of time and savings deposits to total deposits. Most of the variation in the ratio of interest expense to loan and investment output is caused by wide variations in the ratio of time deposits to total deposits.

The variation between the effective interest rate paid by the Texas banking system and the average effective rates paid by statewide branch, limited area branch, and unit banking states is small, as is seen in Table XXIII. The figures in this table represent the effective rates of interest paid on time and savings deposits, which may vary from nominal interest rates.

TABLE XXIII  
EFFECTIVE INTEREST RATE ON TIME AND SAVINGS DEPOSITS,  
TEXAS AND ALL STATES BY TYPE OF BRANCHING  
LAW, 1958-1967\*

(Percentages)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	2.35	2.20	2.22	2.24
1959	2.52	2.57	2.51	2.43
1960	2.52	2.57	2.59	2.39
1961	2.63	2.64	2.68	2.50
1962	3.10	3.05	3.08	3.13
1963	3.21	3.20	3.30	3.30
1964	3.32	3.32	3.37	3.47
1965	3.63	3.54	3.55	3.62
1966	3.87	3.95	3.81	3.94
1967	4.04	4.02	4.08	4.13
10 Year Average	3.12	3.08	3.12	3.11

\*Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

The ratio of time deposits to total deposits for Texas, in contrast to the effective rate of interest paid on time deposits, is much lower than the average ratios for branch, limited, and unit banking states. Table XXIV, which gives the ratio of time deposits to total deposits for 1958 through 1967, reveals that the Texas ratio for each year was at least 4.6 percentage points lower than the second lowest ratio for each year.

TABLE XXIV  
 TIME AND SAVINGS DEPOSITS AS A PERCENTAGE  
 OF TOTAL DEPOSITS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	35.6	29.9	27.1	19.7
1959	36.8	30.9	28.2	20.9
1960	37.4	31.6	29.4	22.1
1961	41.5	34.0	31.7	25.4
1962	40.5	35.1	34.2	27.8
1963	42.5	37.8	36.9	31.6
1964	43.0	39.2	39.2	34.2
1965	44.7	41.1	41.2	36.2
1966	47.0	43.2	43.5	38.5
1967	49.7	44.6	46.4	40.0
10 Year Average	41.9	36.7	35.8	29.6

\* Sources: F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

Table XXV, which gives an index of the time deposit ratio for branch, limited, and unit banking systems, based on the Texas ratio, shows that the difference between the Texas time to total deposit ratio and the averages for the three groups of states has decreased greatly since 1958. The index for branch banking states fell from 180 in 1958 to 124 in 1967. For limited area branching states it dropped from 151 to 116, while it declined from 137 to 116 during the same period for unit banking states.

TABLE XXV  
 INDEX OF TIME DEPOSIT TO TOTAL DEPOSIT RATIO, 1958-1967\*  
 (Texas=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States
1958	180.3	151.3	137.1
1959	175.6	147.8	134.7
1960	169.4	143.1	133.1
1961	163.7	134.0	124.8
1962	145.9	126.4	123.2
1963	134.4	119.4	116.6
1964	125.7	114.7	114.5
1965	123.4	113.5	114.0
1966	122.0	112.3	112.9
1967	124.3	111.4	116.1
10 Year Average	141.2	124.0	120.7

\*Source: Computed from Table XXIV.

The average ratio of interest paid on time deposits to total operating revenue for Texas banks, which is given in Table XVIII, varies directly with bank size through the penultimate size class, but is the same for the two largest size groups.<sup>6</sup> Larger Texas banks pay a higher interest rate and generally pay interest on a higher percentage of total deposits than small banks. The effective rate of interest

<sup>6</sup>Appendix Table L gives averages of the same ratio for branch, limited, and unit banking states by size segment. For all three groups the indicated interest cost curve is "U" shaped.

paid on time and savings deposits varies directly with bank size in Texas. Table XXVI gives the effective rate of interest by size segments for the Texas banking system for 1967. The smallest Texas banks paid an average effective rate of 3.30 per cent for their 1967 time deposits, while the largest banks paid 4.10 per cent, or 24 per cent more for theirs.

TABLE XXVI  
RATIOS OF INTEREST PAID TO TIME DEPOSITS AND TIME  
TO TOTAL DEPOSITS, TEXAS BANKS, 1967\*

(Percentages)

Bank Size (Deposits in millions)	Effective Rate of Interest on Time Deposits**	Time Deposit Ratio***
0-5	3.30	30.9
5-10	3.60	40.2
10-25	3.64	44.7
25-100	3.69	45.4
Over 100	4.10	37.9
All Banks	3.50	37.5

\*Source: Bank Operating Statistics, 1967, Texas Tables, B and E.

\*\*Average rate of interest on time and savings deposits to total time and savings deposits.

\*\*\*Average ratio of time and savings deposits to total deposits.

The average rates paid by the other three classes of banks were close together, ranging only from 3.60 to 3.69 per cent. It appears likely that many of the smallest Texas banks are located in one bank or two bank towns, with limited rate competition for deposits, whereas the largest banks face more competition from banks and other financial institutions.

The time to total deposit curve for Texas banks is " $\wedge$ " shaped, increasing through four size classes, and dropping sharply for banks with more than 100 million dollars on deposit. This ratio is also given in Table XXVI.<sup>7</sup>

#### Occupancy Expense

Table XXVII, which gives the ratio of net occupancy expense to total loans and investment output, reveals that occupancy expense is a relatively small part of the cost of producing loans and investments, in comparison with interest and personnel costs.

Net occupancy expense includes the gross expenses of operation for bank premises less rental income from bank premises and any other similar income items which are not the products of bank operations. Included in gross expenses

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<sup>7</sup>Table LI in the Appendix gives averages of the ratio of time deposits to total deposits for branch, limited, and unit banking states. For each of the three groups of states the average time deposit ratio for the largest size class is much lower than for the penultimate size group and lower than for any other size class.



are personnel costs of building employees, depreciation, insurance costs, utilities, rents paid, and taxes on bank premises.

TABLE XXVII  
NET OCCUPANCY EXPENSE AS A PERCENTAGE OF LOANS  
AND INVESTMENTS, 1961-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1961	0.283	0.265	0.228	0.249
1962	0.283	0.266	0.228	0.250
1963	0.286	0.265	0.226	0.245
1964	0.297	0.259	0.231	0.268
1965	0.290	0.258	0.238	0.280
1966	0.302	0.260	0.238	0.269
1967	0.309	0.250	0.236	0.250
7 Year Average	0.293	0.260	0.232	0.259

\*Sources: F.D.I.C. Annual Reports and Reports of Call, 1961-1967.

Unit occupancy costs for the Texas banking system are lower than the average costs for branch banking states, very similar to those of the limited area branching states, and higher than the average ratio of occupancy expenses to loan and investment output for the eighteen unit banking states, as is seen in Table XXVII. Texas banking system unit occupancy costs for the 1961-1967 period averaged 12 per cent less than the branch banking average, and 11 per cent more than the seven year average for all unit banking

states. Year to year shifts in occupancy cost relationships do not have great significance, since they may well be influenced by variations in accounting practices and in the timing of intensive periods of building construction.

Average ratios of net occupancy expense to total operating revenue for size segments of the Texas system are given in Table XVIII. This measure of unit occupancy expense varies inversely with bank size. The ratio drops sharply for banks with more than 100 million dollars of deposits, indicating the existence of great economies of scale in occupancy expense.

#### Miscellaneous Expense

All operating expenses, other than those for personnel, interest on time deposits, and occupancy, are included in data for miscellaneous expenses. The ratio of miscellaneous expense to total output of loans and investments for 1961-1967 is given in Table XXVIII for Texas and for branch, limited, and unit banking states. Consistent data are not available for earlier years. Texas has higher miscellaneous costs than any of the three groups of states. Its unit miscellaneous costs were exceeded only once during the period, by the unit banking states in 1965. The miscellaneous expense ratio for Texas has been consistently 10 to 13 per cent higher than the average for branch banking states, and an average of 8 per cent higher than the limited area branch

banking figure. Unit banking miscellaneous costs have been more variable over time than those of branch banking states, but the two groups of states have 1961-1967 average ratios which are almost identical.

TABLE XXVIII  
MISCELLANEOUS EXPENSE AS A PERCENTAGE OF  
LOANS AND INVESTMENTS, 1961-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1961	0.846	0.884	0.850	0.929
1962	0.846	0.894	0.866	0.954
1963	0.879	0.845	0.703	0.991
1964	0.907	0.926	0.719	0.993
1965	0.911	0.957	0.935	1.025
1966	0.966	0.941	0.991	1.089
1967	1.007	1.082	1.105	1.106
7 Year Average	0.909	0.932	0.881	1.012

\* Sources: F.D.I.C. Annual Reports and Reports of Call, 1961-1967.

Unit miscellaneous costs of production rose 19 per cent for Texas between 1961 and 1967, an equal amount for branch banking states, 22 per cent for limited area branching states, and 30 per cent for the unit banking group. Thus it is seen that the relative cost disadvantage for Texas declined in relation to the unit and limited branching groups, but remained essentially unchanged with respect to the statewide branching group.

Miscellaneous costs as a percentage of total revenue for the size segments of the Texas system are given in Table XVIII. This measure of miscellaneous costs generally declines with increasing bank size, but is higher for the largest size group than for the penultimate group. The smallest banks have the highest ratio of miscellaneous expenses to total operating revenue, while the median or 25 to 100 million dollar deposit class has the lowest average ratio.

#### Comparative Costs

The Texas unit banking system has significantly lower unit costs than average branch banking system costs because three of the four cost components--personnel expense, interest on time and savings deposits, and net occupancy expense--are lower. Interest on time deposits and personnel costs together account for approximately 70 per cent of total unit operating costs. The lower average personnel and interest cost to output ratios for the Texas system are associated with a lower loan to asset ratio. The higher average loan output of branch banking systems accounts for at least part of their higher average personnel costs, since loans are far more costly to transact and to administer than investments.<sup>8</sup>

The relatively high unit interest costs of branch banking systems are to a great extent the result of a high time

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<sup>8</sup>Cf. Functional Cost Analysis, 1967 Average Banks (Washington, n.d.), pp. A13, A14, A17 and A18.

deposit to total deposit ratio. Their relatively high time deposit ratio not only exerts an upward push on unit costs of production, but also contributes to the feasibility of a higher loan output ratio. Banking systems with high time deposit ratios not only have lower reserve requirements than would otherwise be the case, but also have more stable deposits, permitting them to reduce the proportion of assets kept in highly liquid form as secondary reserves without increasing their risks of illiquidity. Conversely, the lower time to total deposit ratio of the Texas banking system reduces the interest cost component and tends to cause restriction of loan output. The relatively high demand deposit ratio of the Texas system causes reserve requirements to be higher than would otherwise be the case. Higher secondary reserves are also needed, since demand deposits can be expected to be more volatile than time deposits. The relatively low loan ratio of the Texas system may, in turn, permit economization on personnel costs, since a higher proportion of earning assets is kept in the form of investments.

## CHAPTER IV

### INCOME AND PRICE PATTERNS

Before studying the profitability of the Texas unit banking system, the relationship of its income to the income of branch, limited area branching, and unit banking systems is examined. The revenues of a banking system are primarily the product of the effective rates of interest paid and the volume and types of credit produced. The principal components of credit output are investments and loans and discounts. Revenues are also received from service charges on demand deposits. Other fees and commissions are minor sources of revenue for state banking systems.

#### The Rate of Return on Loans

Since discounts and interest on loans produced from 61 to 68 per cent of the total annual revenues of all insured United States banks in the 1961-1967 period, the rate of return on loans is a primary determinant of banking system profitability.

Table XXIX gives total income on loans and discounts as a percentage of total loans and discounts for the Texas unit banking system and unweighted averages of the same ratio for the branch,

limited area branching, and unit banking states. Service charges and fees have been added to interest and discount, in order that total loan income may be used as the numerator of the ratio. Since banking systems charge varying proportions of their total loan charges as fees and service charges, the use of total loan income avoids distortion from this source. The percentages used for each state ratio in the preparation of Table XXIX are effective rates of interest. They have not been adjusted for loan losses and recoveries.

TABLE XXIX  
RATE OF RETURN ON LOANS AND DISCOUNTS, TEXAS AND  
ALL STATES BY TYPE OF BRANCHING LAW,  
1958-1967\*

(Percentages)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	5.77	5.79	5.84	5.63
1959	6.50	6.14	6.08	5.94
1960	6.52	6.21	6.24	6.09
1961	6.48	6.20	6.23	6.06
1962	6.62	6.30	6.32	6.21
1963	6.53	6.27	6.25	6.20
1964	6.52	6.14	6.23	6.12
1965	6.57	6.08	6.26	6.12
1966	6.82	6.52	6.53	6.44
1967	7.14	6.67	6.74	6.62
10 Year Average	6.55	6.23	6.27	6.14

\* Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

Table XXIX reveals that the rate of return on loans for Texas is considerably lower than that of each of the three groups of states shown. The Texas ratio is lower than branch, limited, and unit banking state averages for every year of the 1958-1967 period. The unit banking average rate of return on loans is similar to that of the limited area branching states, while the branch banking states have higher average effective interest rates than either of these groups. The ten year average rate of return on loans for statewide branching systems is 6.55 per cent, compared to 6.23 for limited area branching states, and to 6.27 per cent for the unit banking group. The Texas ratio ranks consistently below that of all three groups, averaging only 6.14 per cent for the 1958-1967 period.

#### Loan Losses

In order to determine whether the low loan ratios of the Texas unit banking system, which are indicated in Chapter II, and the relatively low rate of return on loans for the system may be associated with a tendency to restrict loan portfolios to relatively low risk contracts, a ratio of net losses and chargeoffs on loans has been computed for reserve accounts for bad debts. The net loan loss and charge-off figures thus derived from F.D.I.C. Annual Reports are not equal to the net loan losses and net transfers to reserve accounts for loan losses which are deducted from net current



operating income to give reported net profits before income taxes. The latter deductions, which are made for income tax purposes, would not be useful as indicators of actual loan losses and would not reflect the loan risks assumed by banking systems, since banks are not restricted to income tax deductions based on loan loss experience. For income tax purposes, banks have generally been able to deduct from revenues sums greater than their actual or average losses on loans.<sup>1</sup>

Table XXX gives ratios of net loan losses to total loans for Texas and average ratios for all unit, limited area branching, and statewide branching states for the 1958-1967 period. The Texas banking system has a loan loss ratio which is consistently higher than those of the three groups of states. The ten year average loss ratio for Texas is 0.25 per cent, compared to 0.16 to 0.17 for branch, limited and unit banking states.

The ratio of loan losses to loans for Texas and for all three of the groups of states has increased much more rapidly than the rate of return on loans. While the effective rate

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<sup>1</sup>Since 1964 the Internal Revenue Service has permitted commercial banks to build up a reserve for bad debts equal to 2.4 per cent of loans which are not subject to federal government guarantees. In any one year a bank can add 10 per cent of any difference between 2.4 per cent of any increase in outstanding loans for the year.

TABLE XXX  
NET LOSSES AND CHARGEOFFS ON LOANS TO TOTAL  
LOANS, 1958-1967\*

(Percentages)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	0.08	0.10	0.09	0.11
1959	0.08	0.10	0.07	0.13
1960	0.15	0.19	0.15	0.26
1961	0.15	0.18	0.16	0.28
1962	0.15	0.17	0.14	0.24
1963	0.19	0.18	0.14	0.19
1964	0.17	0.17	0.17	0.29
1965	0.17	0.16	0.23	0.31
1966	0.26	0.21	0.20	0.34
1967	0.25	0.22	0.21	0.34
10 Year Average	0.17	0.17	0.16	0.25

\*Source: F.D.I.C. Annual Reports, 1958-1967.

of interest charged on loans was increasing 18 per cent for Texas and 15 to 24 per cent for the three groups of states (Table XXIX), the loan loss ratio tripled for Texas and for the branch banking group of states and more than doubled for limited and unit banking states, as Table XXX indicates.

The ratio of net loan losses to total loan interest also increased rapidly between 1958 and 1967, as Table XXXI reveals, indicating that loan losses have risen more rapidly than the effective interest rate charged on loans. The growing impact of loan losses on bank profitability has been

greater for Texas than for the branch, limited, and unit banking groups of states. The 1958-1967 Texas losses averaged 4.1 per cent of total loan interest, as compared with averages of 2.5 to 2.7 per cent for the three groups of states. This ratio also increased by 1967 to 274 per cent of the 1958 ratio for Texas, while the corresponding increases for branch, limited, and unit banking states were 257 per cent, 194 per cent, and 213 per cent, respectively.

TABLE XXXI  
LOAN LOSSES AS A PERCENTAGE OF TOTAL LOAN INTEREST,  
INSURED COMMERCIAL BANKS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	1.4	1.7	1.5	1.9
1959	1.3	1.6	1.2	2.2
1960	2.4	3.0	2.4	4.3
1961	2.3	3.0	2.6	4.7
1962	2.3	2.7	2.3	3.9
1963	3.0	2.8	2.3	3.1
1964	2.7	2.7	2.7	4.7
1965	2.5	2.7	3.6	5.0
1966	3.8	3.3	3.0	5.3
1967	3.6	3.3	3.2	5.2
10 Year Average	2.5	2.7	2.5	4.1

\*Source: Computed from F.D.I.C. Annual Reports, 1958-1967.

The Texas banking system not only has a well established pattern of relatively high loan losses, but has demonstrated

a tendency for that position to become worse in relation to the average loan loss performance of branch, limited, and unit banking states.

The Adjusted Rate of Return on Loans

After adjustment for actual net losses on loans, the rate of return on loans for Texas falls short of the average rates of return for all unit, limited area branching, and statewide branch banking systems by a wider margin than before adjustment. Table XXXII gives the rate of return on loans after the deduction of net loan losses and chargeoffs.

TABLE XXXII

RATE OF RETURN ON LOANS, ADJUSTED FOR NET LOSSES  
AND CHARGEOFFS, 1958-1967\*

(Percentages)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	5.69	5.70	5.75	5.52
1959	6.42	6.04	6.01	5.81
1960	6.37	6.02	6.09	5.83
1961	6.33	6.01	6.07	5.77
1962	6.47	6.13	6.17	5.97
1963	6.34	6.09	6.11	6.01
1964	6.34	5.97	6.06	5.84
1965	6.40	5.92	6.03	5.81
1966	6.56	6.30	6.33	6.10
1967	6.89	6.45	6.53	6.27
10 Year Average	6.38	6.06	6.12	5.89

\*Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

The pattern seen in this table is similar to that of the ratio of income on loans before adjustment for loan losses of Table XXIX. Because of its higher net losses on loans, however, the adjusted Texas rate of return falls below that of the three groups of states by a wider margin than is the case with the unadjusted rate of return on loans.

#### Texas Banking System Size Segments

The rate of return on loans for the Texas unit banking system, both before and after adjustment for net losses and chargeoffs, varies inversely with bank size. Table XXXIII shows the unweighted averages for these ratios and of net loan loss ratios for individual banks in each of five size segments of the Texas system.<sup>2</sup> The average rate of return on loans before losses for banks with more than 100 million dollars of deposits is only 79 per cent of the average effective interest rate charged by banks with 5 million dollars or less on deposit. As Table XXIII shows, the average Texas ratio of net losses on loans to total loans also decreases as bank size increases. The largest Texas banks had average loan loss ratios of 0.24 per cent, a figure very close to the average 1967 branch banking system loss ratio of 0.25 (Table XXX), while the two smallest size groups of Texas banks had loss ratios of 0.44 and 0.48 per cent. The high average loan loss ratios of the smaller

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<sup>2</sup>Appendix Table LII gives arithmetic means of the average rates of return on loans of individual banks in five deposit size classes for branch, limited, and unit banking states.

Texas banks apparently play a large role in producing the relatively high aggregate loss ratio for the state as a whole, which was seen in Table XXXI.

TABLE XXXIII  
AVERAGE RATES OF RETURN ON LOANS, TEXAS  
BANKS BY SIZE, 1967\*

(Percentages)

Deposit Size (millions of dollars)	Rate of Return Before Losses	Ratio of Net Losses and Chargeoffs to Loans	Rate of Return After Net Losses	Number of Banks
0-5	7.44	0.44	7.00	482
5-10	7.04	0.48	6.56	311
10-25	6.87	0.38	6.49	220
25-100	6.52	0.33	6.19	92
Over 100	5.90	0.24	5.72	28
All Banks	7.11	0.43	6.68	1133

\*Source: Bank Operating Statistics, 1967.

Even after adjustment for net losses on loans, small Texas banks receive a higher rate of return on loans. The smaller Texas banks apparently generally make loans involving higher degrees of risk than those of the larger banks, but the resultant higher net loan losses are more than compensated for by the higher effective interest rates which they charge on loans.

The relatively high loan loss ratio for Texas as a whole indicates that the state system has a loan portfolio which

has a higher average degree of risk than the average risks faced by branch, limited, and unit banking systems, yet receives a relatively low yield on this portfolio. In the light of these relationships there is no reason to assume that Texas banks generally restrict loan output in order to maintain high interest rates or to avoid loans involving relatively high degrees of risk.

The inverse relationship between bank size in Texas and the rate of return on loans is probably related to variations in loan size mixes and to variations in mixes of different types of loans. Data on loan yields by type of loan are not available for the Texas banking system or for other state systems. Functional cost analysis studies of 1035 member banks in eleven Federal Reserve districts, however, have produced some statistics which bear on the subject. Table XXXIV, which gives some of these statistics for 1967, indicates that installment loans to individuals produce a much higher rate of return than any other type of loan. Texas banks with more than 100 million dollars of deposits have a relatively low output of this type of loan (Table XV), which contributes to their low rate of return on loans. The Texas banking system as a whole also has a slightly lower output of consumer loans than the average consumer loan outputs of branch, limited, and unit banking states.<sup>3</sup>

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<sup>3</sup>Cf. Table XIV.

TABLE XXXIV  
 AVERAGE GROSS YIELDS ON LOANS OF BANKS IN ELEVEN  
 FEDERAL RESERVE DISTRICTS BY TYPE OF LOAN  
 AND DEPOSIT SIZE, 1967\*

(Percentages)

Type of Loan	Deposit Size in Millions		
	0 to 50 (N=769)	50 to 200 (N=224)	Over 200 (N=79)
Direct Consumer Installment	9.81	10.05	10.28
Indirect Consumer Installment	8.86	8.39	8.64
Agricultural	6.44	6.51	6.53
Commercial and Industrial**	6.23	6.10	6.08
Real Estate Mortgage	5.82	5.74	5.72

\*Source: Functional Cost Analysis, 1967 Average Banks (Washington, 1967), pp. A13-A17.

\*\*These yields do not include benefits from compensating balance requirements.

Alhadeff found that interest rates for California unit banks vary inversely with bank size. He attributed this relationship to variations in the loan size mixes of different size banks.

For example, small banks, largely because of their size and location, usually make a preponderance of small loans, whereas the large loans are preponderantly transacted by big banks. Furthermore, small loans are made by small borrowers who do not have a significant number of alternate sources of supply. The weakness of their bargaining position is reflected in the higher rates they must pay.<sup>4</sup>

<sup>4</sup>Alhadeff, op. cit., p. 109.



Donald Jacobs more recently reached similar conclusions: "Surveys which studied bank loan portfolios indicate that large banks make a large fraction of their loans to large business and a small fraction to small business. The opposite is true of small banks."<sup>5</sup>

The size mix of large banks tends to reduce their rate of return on loans, while the loan size mix of small banks tends to increase their average rate of return on loans.<sup>6</sup>

#### Investment Income

Table XXXV gives the rate of return on investments for the Texas banking system and for the three groups of states by branching status. All fixed income securities are included in the data from which the ratio was calculated. Various maturities and types of issues, as well as municipal bonds

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<sup>5</sup>Jacobs, op. cit., pp. 344-345.

<sup>6</sup>George Bentson believes that much of the interest rate differential between large and small loans is caused by differences in lending costs and risks. See "Commercial Bank Price Discrimination Against Small Loans," The Journal of Finance, XIII (December, 1964), 641-643. The per dollar cost of making loans should be expected to move oppositely to loan size. The 1967 functional cost analysis studies of 1035 average banks in eleven Federal Reserve districts indicated that both the cost of processing and the total cost of making 1000 dollars of real estate, commercial and agricultural loans were lower for larger banks than for smaller banks, but that the costs associated with making consumer installment loans increased with bank size. Functional Cost Analysis, 1967 Average Banks, pp. A13-A17.

and taxable securities are included. The income data used are on a pre-tax basis, and have not been adjusted for gains or losses on securities.

TABLE XXXV  
INCOME ON INVESTMENTS AS A PERCENTAGE OF  
INVESTMENTS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	2.51	2.52	2.54	2.59
1959	2.90	2.79	2.84	2.78
1960	3.01	3.09	3.14	3.07
1961	2.99	3.05	3.09	2.98
1962	3.09	3.18	3.20	3.19
1963	3.29	3.25	3.29	3.28
1964	3.34	3.42	3.49	3.41
1965	3.56	3.48	3.53	3.49
1966	3.78	3.77	3.83	3.73
1967	3.96	3.98	3.98	3.93
10 Year Average	3.24	3.25	3.29	3.25

\*Sources: F.D.I.C. Annual Reports and Reports of Call, 1958-1967.

No significant differences between the yield on investments for Texas and the yields for branch, limited, and unit banking systems are seen in Table XXXV. The average rates of return on investments for Texas and for the three

groups of states remained close together throughout the ten-year period. This occurred even though the rate of return on investments for Texas and for each group of states increased markedly between 1958 and 1967. No tendency for the relationship of near-equality to change over time is indicated. The ten year Texas average yield of 3.25 per cent is indistinguishable from the ten year averages of 3.24 and 3.25 per cent, respectively, for branch and limited area states. Variations in total investment income between the three groups of states, therefore, are almost entirely the result of variations in the allocation of financial resources committed to investment in marketable securities.

The ratio of investment income to total operating revenue for Texas banks varies inversely with bank size, as Table XXXVI shows. Investment income on the average accounted for 25.7 per cent of 1967 total operating revenue for banks with five million dollars or less of deposits. The ratio declines to 20.4 per cent for banks with deposits of more than 100 million dollars. Data for the calculation of the ratio of investment income to total investments are not available for size classes of the Texas system. However, in the light of the very limited variation in rates of return on investments, shown by Table XXXVI, it is reasonable to believe that the inverse

TABLE XXXVI

RATIO OF INTEREST INCOME ON INVESTMENTS TO  
TOTAL OPERATING REVENUE AND RATIO OF  
SERVICE CHARGES TO DEMAND DEPOSITS,  
TEXAS BANKS, 1967\*

Bank Size (millions of deposits)	Interest on Securities as a Percentage of Total Operating Revenue	Service Charges as a Percentage of Demand Deposits
0-5	25.7	0.61
5-10	23.8	0.84
10-25	23.0	0.99
25-100	21.7	0.63
Over 100	20.4	0.21
All Banks	24.2	0.74

\*Source: Computed from Bank Operating Statistics, 1967.

relationship between the ratio of investment income to total operating revenue and bank size is largely the result of the similar relationship between the ratio of investments to total assets and bank size, which was seen in Chapter II.

## Service Charges on Demand Deposits

Service charges on demand deposits produced only 4 to 7 per cent of total United States bank operating revenue in the ten years ending with 1967. They may be an important determinant of profitability, however, because they vary widely from state to state. Table XXXVII gives the parameters needed for comparing the Texas service charge ratio with those of the three groups of states.

TABLE XXXVII

## SERVICE CHARGES ON DEMAND DEPOSITS AS A PERCENTAGE OF DEMAND DEPOSITS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	0.541	0.354	0.379	0.278
1959	0.595	0.384	0.434	0.303
1960	0.628	0.419	0.441	0.335
1961	0.689	0.457	0.477	0.357
1962	0.721	0.478	0.499	0.365
1963	0.735	0.489	0.509	0.379
1964	0.733	0.492	0.506	0.390
1965	0.753	0.499	0.532	0.403
1966	0.792	0.520	0.561	0.450
1967	0.823	0.555	0.582	0.477
10 Year Average	0.701	0.465	0.492	0.373

\*Sources: Computed from F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

Service charges for statewide branch banking states are generally much higher than for limited area branching states and for unit banking states. The ten year average ratio for limited area systems is only about two-thirds of the average branch banking state ratio. The Texas ratio is much lower than the average ratio for each of the three groups of states, averaging only 53 per cent of the branch banking service charge ratio for the 1958-1967 period. An index of service charge ratios, given in Table XXXVIII, indicates this relationship clearly.

TABLE XXXVIII  
INDEX OF RATIOS OF SERVICE CHARGES ON DEMAND  
DEPOSITS TO DEMAND DEPOSITS\*

(Branch banking ratio=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	100	65	70	51
1959	100	65	73	51
1960	100	67	70	53
1961	100	66	69	52
1962	100	66	69	51
1963	100	67	69	52
1964	100	67	69	53
1965	100	66	71	54
1966	100	66	71	57
1967	100	67	71	58
10 Year Average	100	66	70	53

\*Source: Computed from Table XXXVII.

Service charges on demand deposits generally increased markedly between 1958 and 1967. The average increases for branch, limited, and unit banking states during this period were 52, 57, and 54 per cent, respectively, as may be seen in Table XXXVII. The rate of increase for the Texas system of 72 per cent, computed from the same table, was even more rapid. As the index of ratios in Table XXXVIII also indicates, the gap between service charges by the Texas system and the average charges imposed by branch banking systems is narrowing. The Texas ratio rose from 51 per cent of the branch figure in 1958 to 58 per cent of it in 1967. Texas banking system service charges may approach or equal the averages charged by unit and limited area branch banking systems within a few years, but appear unlikely to approach the average charges of branch banking states for some time.

Branch banking has generally been associated with high service charges on demand deposits. Kohn, in his 1962 study of New York banks, found that in communities with both branch banking offices and unit banks, the latter had either the same or lower service charges on both regular and special checking accounts than those of neighboring branch banks.<sup>7</sup> Horvitz and Shull found that, when branch banks entered counties in the Philadelphia area in 1962 by means of acquisitions, service charges were promptly increased in

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<sup>7</sup>Kohn, op. cit., pp. 133-136.

44 per cent of the acquired banks.<sup>8</sup> Paul S. Anderson found that banks in the branch banking state of Vermont, however, generally had lower service charges on checking accounts than banks in the unit banking state of New Hampshire. The differences, however, were very small.<sup>9</sup>

Guttentag and Herman found "the evidence overwhelming that the extension of branch banking into suburban and rural areas tends to increase service charges on demand deposits."<sup>10</sup> They are not certain, however, that branch banking increases service charges in metropolitan areas, observing that

. . . service charges are relatively high in Chicago and other unit banking cities, so that the high service charges brought by the branch banks to the suburbs and countryside appears [*sic*] to be a product of the financial centers and large banks rather than branch banks as such.<sup>11</sup>

The evidence shown in Table XXXVI, which includes service charge ratios for the five size segments of the Texas system, does not support the belief that high service charges are a product of large banks and of the financial centers in which they are located, at least insofar as the Texas unit banking system is concerned. Indeed, the largest banks in Texas

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<sup>8</sup>Paul M. Horvitz and Bernard Shull, "The Impact of Branch Banking on Bank Performance," The National Banking Review, II (December, 1964), 157-160.

<sup>9</sup>Paul S. Anderson, "What Price Branching?" New England Business Review, II (August, 1964), 7.

<sup>10</sup>Guttentag and Herman, op. cit., p. 102.

<sup>11</sup>Ibid.



(those with more than 100 million dollars of deposits) have by far the lowest average service charges in the state. The average service charge ratio for this size segment of the Texas system is only 33 per cent of the next lowest ratio. On the other hand, the evidence from the present study shows clearly that banking systems in which statewide branching is permitted are associated with much higher average service charge ratios than those of unit banking systems, including the Texas commercial banking system.

Branch banking systems appear to pass on to depositors as service charges a considerable part of their higher operating expenses. Unit banking systems generally, and particularly the Texas system, appear to receive a larger portion of their compensation for services, such as the provision of checking accounts, through demand deposit balances, since they have higher demand deposit ratios.

#### Summary

The Texas unit banking system has an established pattern of relatively low income. The rate of return on loans is lower than the average rates of return of branch, limited area branching, and unit banking states, both before and after the adjustment of the rates of return for net loan losses. Texas banking system service charges are also lower than those of each of the three groups of states. The rates of return on investments for the Texas system and the average

rates of return for branch, limited, and unit banking states do not differ significantly.

## CHAPTER V

### PROFITABILITY

A comparative study of the profitability of the Texas unit banking system serves to integrate the analyses of the output, cost structure, and income patterns in earlier chapters. Profitability parameters reveal the net positions of banking systems in the interplay of output, prices and costs, and are a clue to overall effectiveness.<sup>1</sup> This chapter compares the profitability of the Texas commercial banking system with the average profitability of all unit banking states, of all systems in which statewide branch banking is permitted by law, and of the states in which branching is permitted in areas which are less than statewide.

The parameters used for comparisons are the ratio of net income after taxes to total assets and the ratio of net income after taxes to total capital accounts or total shareholders equity. After-tax net income data are the only ones which reflect the effects of all revenue and expense items, including net loan charge-offs, investment gains and losses, transfers to and from valuation reserves, mixes of taxable and tax-free investments, and corporate income taxes.

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<sup>1</sup>Alhadeff, op. cit., p. 173.

The ratio of net income after taxes to total assets indicates the economic earning power of banking systems. The use of total loans plus investments in the denominator of the ratios would ignore other assets which are directly or indirectly productive.

#### Return on Investment

The ratio of net income after taxes to total assets for Texas is consistently and appreciably lower than the ratio for each of the three groups of states by type of branching law. Table XXXIX, which gives this ratio for the 1958-1967 period, reveals that the ten year average rate of return on

TABLE XXXIX  
NET INCOME AFTER TAXES AS A PERCENTAGE OF  
TOTAL ASSETS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	0.760	0.711	0.817	0.695
1959	0.659	0.633	0.640	0.616
1960	0.868	0.811	0.867	0.748
1961	0.779	0.789	0.797	0.718
1962	0.735	0.758	0.770	0.686
1963	0.727	0.718	0.737	0.650
1964	0.751	0.735	0.731	0.631
1965	0.839	0.728	0.727	0.641
1966	0.743	0.745	0.756	0.672
1967	0.770	0.795	0.785	0.701
10 Year Average	0.763	0.742	0.763	0.676

\*Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

total assets for Texas was only 89 per cent of the average ratios for the branch and unit banking groups, and 91 per cent of the average for limited area branching systems.<sup>2</sup>

An index of the ratio of net income to total assets, based on 1958 ratios and given in Table XL, does not reveal any tendency for the relationship of the profitability of the Texas system to that of the groups of states to change significantly over time. All three groups of state banking systems and the Texas system suffered a moderate decline of

TABLE XL  
INDEX OF NET INCOME TO TOTAL ASSETS  
RATIO, 1958-1967\*

(1958=100)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	100	100	100	100
1959	87	89	78	89
1960	125	114	106	108
1961	112	111	98	103
1962	106	107	94	99
1963	105	101	90	94
1964	108	103	89	91
1965	121	102	89	92
1966	107	105	93	97
1967	101	112	96	101

\*Computed from Table XXXIX.

<sup>2</sup>Appendix Table LIII gives the ratio of net income after taxes to total assets for each state.

profitability in 1959, probably as a result of the 1958 recession in the United States economy, but no general tendency for profitability to increase or to decrease is revealed for Texas or for any group of states.

The relatively low profitability of the Texas commercial banking system is partially a result of its low output of loans, and of its low rate of return on loans. The combination of a relatively low loan ratio with a low rate of return on loans results in a low contribution from loans to the rate of return on total assets. Since the 1958-1967 average Texas loan to asset ratio was only 88.5 per cent of the corresponding branch banking average,<sup>3</sup> and the ten year Texas average rate of return on loans was 93.7 per cent of the branch banking average,<sup>4</sup> the product of these two figures indicates that loan interest charges per dollar of assets were only 83.0 per cent as high as the average loan interest income of branch banking systems. Texas loan revenue per dollar of assets for the period under study, computed in the above manner, was 94.8 per cent as high as for the limited area branching group of states, and almost equal to unit banking loan revenue. If the rates of return on loans were adjusted for net loan losses, the differences between the ratio of loan revenue to total assets for Texas and for the three groups of states would be greater than those indicated

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<sup>3</sup>Computed from Table IV.

<sup>4</sup>Computed from Table XXIX.

above, since loan losses for Texas are higher than the average net loan losses and chargeoffs of branch, limited, and unit banking states.<sup>5</sup>

The low loan revenue per dollar of assets for the Texas banking system combines with relatively low service charges on demand deposits, shown in Chapter IV, to more than offset the low total unit cost of producing loans and investments and to produce a relatively low rate of net return on total invested assets for the state.

The ratio of net income to total assets for size segments of the Texas banking system is given in Table XLI.

TABLE XLI  
AVERAGE PROFITABILITY AND CAPITAL TO ASSET RATIOS,  
TEXAS INSURED COMMERCIAL BANKS BY SIZE, 1967\*

(Percentages)

Ratios	Deposit Size (millions)				
	0-5	5-10	10-25	25-100	Over 100
Net Income After Taxes to Total Assets	0.79	0.66	0.66	0.62	0.64
Total Capital to Total Assets	10.6	8.0	7.3	6.8	7.2
Net Income After Taxes to Total Capital	7.50	8.37	9.35	9.39	8.94

\*Source: Bank Operating Statistics, 1967.

<sup>5</sup>Cf. Table XXX.

This ratio forms a pattern which is roughly "L" shaped, with the 25 to 100 million dollar deposit size group having the lowest average ratio of net income to total assets. The smallest Texas banks have the highest average ratio of net income after taxes to total assets. These banks also have the lowest ratio of time to total deposits and a low ratio of total operating costs to total operating revenue, as shown in previous chapters. These factors are favorable to higher profitability. The banks with less than five million dollars of deposits also have the highest rate of return on loans, but have the lowest ratio of loans to assets. The latter ratio is unfavorable to profitability, but is not sufficient to offset the effect on revenues of the higher average rates of returns on loans, before and after adjustment for loan losses, of these small banks.

Corporate income tax rates, which are low on the first \$25,000 of net income, favor the smallest size segments more than any other. Since the average tax rate on taxable income per bank rises as such income increases from \$25,000, banks with lower incomes before taxes are able to retain larger proportions of pre-tax income than banks with higher earnings. Since average net income before taxes is undoubtedly positively related to bank size, the progressive nature of corporate income taxes favors the profitability ratios of small banks.

#### Return on Equity Capital

The second measure of banking system profitability relates net income after taxes to total shareholders' equity capital. The ratio of after-tax net income to total capital



is a function of the ratio of net income to total assets and of the ratio of total equity capital to total assets.

An examination of the ratio of total capital to total assets, given in Table XLII for Texas and for the three groups of states for the 1958-1967 period, reveals that the Texas banking system finances a larger proportion of its assets with equity capital than the average ratio for branch banking systems, but uses a slightly smaller percentage of equity capital than the averages for unit banking and limited area branching states.

TABLE XLII

TOTAL CAPITAL AS A PERCENTAGE OF TOTAL ASSETS, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	7.48	7.64	7.76	7.64
1959	7.39	8.02	7.69	7.80
1960	7.62	8.15	8.22	8.12
1961	7.98	8.60	8.59	8.40
1962	6.91	8.53	8.53	8.30
1963	7.82	8.41	8.48	8.26
1964	7.86	8.48	8.48	8.21
1965	7.93	8.15	8.37	8.24
1966	7.95	8.07	8.31	8.15
1967	7.75	8.00	8.18	8.05
10 Year Average	7.77	8.21	8.26	8.12

\* Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

Table XLII also shows that the Texas system, like all three of the groups of states, has been financing a

larger proportion of its assets with equity in recent years than in 1957 and 1958. A trend toward the use of slightly less financial leverage in United States commercial banking is indicated. There is no indication of any tendency for the relationship between the degree of financial leverage used by the Texas system and the higher average leverage of branch banking states to change over time.

Differences in the degree of financial leverage are reflected in the relationship of the rate of return on equity of the Texas system to that of branch, limited and unit banking states. The rate of return on equity capital for the Texas banking system is lower than the average rates of return for the three groups of states, as Table XLIII reveals. The Texas ratio has been lower than the average ratios of branch, limited, and unit banking states for each year of the 1958-1967 period.<sup>6</sup> For the ten year period it averaged only 8.34 per cent, as compared with 9.88 per cent for the sixteen branch banking states, 9.10 per cent for the same number of limited branching states, and 9.29 per cent for all unit banking states. Thus the ten year profit ratio for Texas is only 84 per cent of the branch banking figure, 92 per cent of the average limited branching state ratio, and 90 per cent of that of the eighteen unit banking states.

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<sup>6</sup>The ratio of net income to total capital for individual states is given in Appendix Table LIV.

TABLE XLIII  
NET INCOME AFTER TAXES AS A PERCENTAGE OF  
TOTAL CAPITAL, 1958-1967\*

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	10.44	9.17	10.75	9.10
1959	9.07	7.96	8.26	7.90
1960	11.41	10.12	10.66	9.22
1961	9.85	9.19	9.35	8.55
1962	8.35	8.99	9.05	8.27
1963	9.31	8.54	8.73	7.84
1964	9.44	8.85	8.64	7.67
1965	10.74	8.80	8.79	7.83
1966	9.30	9.26	9.11	8.24
1967	9.87	10.18	9.53	8.71
10 Year Average	9.88	9.10	9.29	8.34

\*Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967.

As noted above, the rate of return on equity capital is a direct resultant of the rate of return on total assets and of the degree of financial leverage used. Average ratios of total equity capital accounts to total assets and of net income after taxes to total assets are given in Table XLI for the five deposit size segments of the Texas system for 1967.

Within the Texas system a high capital to asset ratio is associated with small bank size. As Table XLI shows, the average ratio of equity capital to total assets for Texas drops from 10.8 per cent for the smallest size class of banks to

6.8 per cent for the penultimate class, and rises modestly to 7.2 per cent for the ultimate size group.

Since the proportionate decline of the ratio of total capital to total assets with bank size is greater than that of the ratio of net income to total assets, the relationship of the average rate of return on equity to bank size is the inverse of the relationship between the rate of return on total assets and bank size. Instead of falling with bank size, as is generally the case with the ratio of net income to total assets, the ratio of net income to total capital generally increases with bank size. The highest rate of return on equity, however, is produced by the penultimate size class.

The high average capital to asset ratios of small Texas banks may reflect a relatively high degree of risk from serving small borrowers, and from the inability to diversify loan portfolios as effectively as larger banks. Large banks are also better able to take advantage of the principle of large numbers regarding deposit withdrawals and loan losses. Small banks also cannot generally expect to enjoy as large a flowback of deposits from withdrawals as can larger banks. In the light of these factors it appears reasonable that the equity capital ratio should vary inversely with bank size, as it does in the Texas system.

Following the same logic, the high equity capital to asset ratio of the Texas banking system, in comparison with

that of branch banking systems appears to be related to the unit banking structure of the Texas system. Funds flow more freely between branches of a branch bank than between small unit banks or between correspondent banks. The correspondent system has been judged to be less effective in the allocation of resources between unit banks than the flow of funds within branch banks.<sup>7</sup> A higher ratio of equity capital to total capitalization, therefore, is to be expected in a purely unit banking system. The relatively high equity capital ratio of the Texas system appears to be related to its unit structure. The high equity capital ratio, in turn, reduces the ratio of net income to total equity capital.

#### Summary

The Texas banking system has a low level of profitability, in comparison with branch, limited area branching, and unit

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<sup>7</sup>Guttentag and Herman found the flow of funds between correspondent banks to be much less free than that within branch banks. Examining data from a report prepared for the House Subcommittee on Banking and Currency, by Ira Scott, Jr., A Report on the Correspondent Banking System (Washington, 1964), they found credit flows within the correspondent system to be very small, that a majority of small unit banks had no participation arrangements with correspondents in 1963, that only a very few had sold assets to their correspondents, or had borrowed from them. Less than 9 per cent of the unit banks with less than 50 million dollars of assets had lines of credit or loans from correspondents. They found that larger unit banks participated more heavily in loans of correspondent banks, but that the other credit flows were not of quantitative importance. They found deposit flows to be of some quantitative importance, but that these flows are predominantly from the smaller banks in smaller communities to larger banks in larger cities. Guttentag and Herman, op. cit., pp. 132-141.

banking states. The ratios of after-tax net income to total assets and to total equity capital have been consistently lower for Texas than for the three groups of states.

## CHAPTER VI

### CONCLUSION

The purpose of this study has been to examine the performance of the unit commercial banking system of the state of Texas and to compare it with the average performance of branch banking systems, limited area branch banking systems, and unit banking systems. It has focused upon the question whether the Texas banking system is less effective in its utilization of funds, as indicated by relative output and profitability, than branch banking systems.

The conclusions reached by this study are as follows:

1. The Texas commercial banking system is less effective than statewide branching systems and limited area branch banking systems in its utilization of banking funds. It is also generally less effective than unit banking systems in other states.

2. The output of loans plus investments of the Texas system is low in comparison with the average outputs of branch banking systems, of limited area branching systems, and of unit banking systems.

3. The output of loans of the Texas system, while similar to the average output level of all unit banking

states, is low in comparison with both statewide and limited area branch banking systems.

4. The investment output of the Texas unit banking system is lower than the average outputs of statewide branching and limited branching systems, and is far below that of other unit banking states. Texas banks with more than one hundred million dollars of deposits are responsible for much of this deficiency.

5. The profitability of the Texas commercial banking system is rather low in comparison with statewide branch banking systems, and is also lower than the average profitability of limited area branching and unit banking states.

6. The Texas banking system enjoys relatively low costs of production. Personnel costs are low in relation to all three groups of states. Occupancy expense is lower than that of branch banking states. A low time-deposit ratio keeps interest costs below those of all three groups of states and considerably below those of branch banking states.

7. The low production costs of the Texas system are more than offset by a low rate of return on loans and low service charges, in addition to the low output level of loans. Loan losses for the system are higher than for each of the three groups of states, which do not differ greatly from each other in this respect.



8. Small banks are generally more profitable than large banks in Texas.

9. The comparatively low output of the Texas banking system is related to its unit banking structure, but is not completely explained by it. It is possible that the relatively low output of loans and investments implies that the system has relatively high cash holdings, since assets other than cash, loans, and investments constitute a very small percentage of banking system assets. Such high cash holdings may well be explained by a disproportionately high percentage of interbank deposits, which have a relatively high volatility, and which make it prudent for Texas banks to keep relatively large proportions of their assets in the form of cash. Appendix information on cash holdings and interbank deposits, given in Tables LV and LVI and discussed in Appendix B, support this possibility.

10. The legalization of statewide branching in Texas could be expected to lead to a relatively higher credit output level and to a higher time deposit ratio for the system. Higher service charges on demand deposits could also be expected. Loan loss experience might well remain high for Texas, as it is probably not closely related to the system's unit banking structure.

The Texas banking system, in spite of its low output level, has several aspects of performance that make it appear benevolent in its relations with its customers. Its

average interest rates on loans are low, as are its service charges on checking accounts. It suffers high losses on loans. It pays interest rates on time deposits which are not out of line with other banking systems, and its profits are below the general levels for the banking industry.

The suppliers of equity capital for the Texas unit banking system are generally not faring well in comparison with the common stockholders of the average unit, limited, or branch banking state. While it is possible that a number of owner-managers of the smaller Texas banks are receiving a part of their return on equity capital in the form of generous salary payments, there is no reason to believe that this is more prevalent in Texas than in unit banks elsewhere.<sup>1</sup> It is more likely that the typical common stockholder in Texas is forced to take more of his return on investment in the form of psychic income or status in his community than is generally the case in unit banking, limited area branching, or branch banking states.

The credit output and profit performance of the Texas system are so poor that the question arises as to why this situation exists. Answers to this question are outside the scope of this study, so it is possible only to speculate regarding possible answers and to suggest this as a possible area for other studies. It is possible that unusually intense competition in the rental of money from other

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<sup>1</sup>The 1967 ratio of total salaries of bank officers to total assets for Texas was only 0.41 per cent, while the average ratio for the 18 unit banking states was 0.61 per cent.

financial intermediaries, such as savings and loan associations and insurance companies tends to limit the output of the Texas banking system, to hold down its loan rates, and to restrict its profitability. The heavy loan losses suffered by the Texas system may be related to a legal environment which restricts the available recourses of lenders more severely than in most states. This factor, together with a cultural situation tending to value individual independence and freedom at the expense of social and financial responsibility, could cause loan losses to be high and could also make bank managers cautious and conservative in the degree of commitment of resources to loans.

It would seem logical for the Texas banking system to seek a higher rate of return on loans than most states, in view of the risks indicated by its high loan loss ratio. As already noted, it is possible that competitive forces restrict its freedom in this direction. It is also possible, however, that agrarian and populist resistance to high bank charges remain strong enough in Texas to inhibit bank managers and to make loan rates and service charges more "sticky" than would otherwise be the case in a decade of rising bank costs and bank rates.

The Texas ratio of time to total deposits in recent years has increased steadily but has lagged about two years behind the average ratio for unit banking states, three years behind that of the limited area branching group, and

five to seven years behind the statewide branching states, as is seen in Table XXIV. If this lag should narrow or disappear the operating costs of the Texas system would increase greatly. Such an increase in costs would require that average interest rates be increased considerably, and would put upward pressure on service charges on demand deposits. The alternative would be the acceptance of highly unsatisfactory rates of return on invested capital, and the probability of a shortage of equity capital for the Texas unit banking system.

APPENDIX A

ADDITIONAL STATISTICAL MATERIAL

TABLE XLIV  
LOAD RATIO FOR STATES BY TYPE OF BRANCHING LAW, 1958-1967\*  
(Percentages)

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Branch Banking										
Alaska	. .	80.84	81.81	80.65	82.82	83.26	81.74	82.80	83.48	74.89
Ariz.	79.61	79.70	79.45	82.37	81.29	83.39	83.65	83.27	83.60	78.58
Calif.	81.32	85.90	80.38	81.03	81.14	81.25	81.51	82.33	82.27	81.28
Conn.	79.18	80.15	79.35	81.54	81.47	81.80	82.17	82.31	82.03	81.96
Dela.	81.82	81.98	79.62	82.49	81.42	82.27	79.16	79.38	81.22	89.17
Hawaii	. .	81.03	74.85	85.15	83.90	85.13	84.30	81.98	82.03	82.76
Idaho	80.15	82.36	82.62	83.48	84.13	84.81	83.83	84.28	84.26	84.52
Md.	78.20	79.13	79.01	80.74	81.08	81.57	82.37	82.54	82.33	82.07
Nev.	84.25	84.66	84.92	85.69	85.25	85.07	83.87	83.79	84.38	83.75
N.C.	75.81	76.21	75.77	77.10	78.50	79.43	79.69	80.10	80.93	81.41
Ore.	80.58	80.73	80.52	81.13	81.42	82.16	81.86	82.14	82.45	81.79
R.I.	84.21	84.79	84.89	87.69	85.81	86.79	86.95	86.94	87.85	86.68
S.C.	76.62	76.88	77.44	78.34	79.21	79.77	79.81	79.80	79.25	79.65
Utah	78.92	79.80	78.84	80.11	80.30	81.72	81.19	81.61	81.88	82.11
Vt.	84.64	86.11	86.53	87.46	87.73	88.75	91.69	88.53	89.38	89.39
Wash.	78.73	78.53	77.79	79.03	79.66	80.93	80.84	80.52	80.45	80.35
Avg.	80.32	81.17	80.24	82.12	82.20	83.01	82.79	82.64	82.99	82.52
Limited Area Branching										
Ala.	76.58	77.72	77.75	79.33	79.66	80.48	81.01	81.25	81.26	81.57
Ga.	75.59	76.32	75.31	76.82	77.73	77.97	77.87	78.65	79.26	79.03
Ind.	78.77	79.40	79.45	81.16	81.17	81.83	81.85	82.24	82.71	82.23
Ky.	75.10	76.15	77.06	78.58	78.78	78.97	79.00	78.85	79.83	80.16
La.	73.92	75.17	75.25	77.02	76.67	73.53	78.15	78.46	78.73	78.98
Me.	81.26	82.43	83.03	84.09	84.59	84.75	84.99	84.92	85.31	85.30
Mass.	76.39	77.49	76.92	78.47	78.34	78.52	79.29	78.60	78.84	78.40
Mich.	82.30	82.77	82.51	83.69	83.91	84.72	84.74	84.92	85.08	84.88

TABLE XLIV--Continued

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Limited Area Branching										
Miss.	75.84	77.02	77.36	78.79	78.10	79.64	80.25	80.69	81.39	81.53
N.J.	82.59	83.18	83.43	84.89	84.70	85.80	85.87	85.99	85.69	85.81
N.M.	75.92	76.38	77.39	78.52	78.79	80.55	81.59	82.30	82.69	82.15
N.Y.	74.45	74.95	73.72	75.38	75.65	76.60	76.86	76.80	76.57	74.37
Ohio	79.87	80.50	80.22	81.87	82.17	82.93	83.16	83.29	83.84	84.03
Pa.	79.67	80.13	80.24	81.96	82.02	82.05	83.54	83.30	83.40	83.90
Tenn.	75.04	93.60	76.23	77.78	77.73	79.12	79.51	79.67	79.67	79.68
Va.	78.28	79.24	79.78	81.23	81.98	83.00	83.35	83.39	84.19	84.35
Avg.	77.60	79.53	78.47	79.97	80.12	80.65	81.31	81.46	81.78	81.65
Unit Banking										
Ark.	74.30	74.87	75.06	76.35	76.68	78.46	78.52	78.35	79.17	79.79
Colo.	75.56	76.81	76.55	77.62	78.91	79.56	79.69	80.04	79.99	79.96
Fla.	75.22	76.15	75.87	77.11	78.21	79.12	79.13	79.02	79.32	79.77
Ill.	78.96	79.73	79.68	80.93	81.26	82.95	83.18	82.91	83.02	82.74
Iowa	79.46	81.34	80.81	81.27	82.09	83.26	83.17	83.12	83.52	83.93
Kans.	78.26	79.57	79.69	80.65	80.94	82.69	82.97	83.05	83.00	83.59
Minn.	78.17	79.23	78.99	79.87	80.14	80.53	81.65	81.76	82.63	83.19
Mo.	76.05	76.73	76.17	77.72	78.59	79.86	79.92	80.47	80.71	81.04
Mont.	79.69	80.14	80.64	81.36	81.64	83.04	83.52	83.62	83.45	83.95
Nebr.	76.45	77.08	77.33	78.33	78.93	80.03	79.75	80.15	80.70	80.95
N.H.	79.43	80.62	81.71	83.28	83.11	84.14	84.83	84.66	85.24	85.85
N.D.	68.36	84.99	84.99	84.56	84.75	86.75	87.06	87.17	87.29	87.50
Okla.	71.63	74.00	73.15	74.41	75.78	76.81	77.23	77.39	76.25	76.35
S.D.	82.63	83.91	83.59	83.66	84.13	85.37	85.34	85.65	85.80	86.22
Texas	70.61	71.91	71.77	73.46	74.26	75.55	76.13	76.45	76.89	76.92
W.Va.	78.41	78.69	79.49	80.79	81.12	82.49	82.95	83.35	83.77	84.91
Wisc.	80.42	81.25	80.89	81.81	81.77	82.49	82.81	83.44	84.39	84.10
Wyo.	77.57	78.09	78.25	78.66	80.15	80.84	80.17	80.61	80.95	81.38
Avg.	76.73	78.62	78.33	79.55	80.14	81.39	81.56	81.73	82.12	82.45

\* Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967. Averages consist of three call dates for each year.

TABLE XLV  
TOTAL DEPOSITS IN TEXAS BANKS BY DEPOSIT  
SIZE, JUNE 30, 1967\*

(All commercial banks)

Bank Size (millions of deposits)	Number of Banks	Total Deposits (millions)	Percentage of Total Deposits for State
0-5	587	1,456	8.3
5-10	280	1,968	11.3
10-25	181	2,798	16.0
25-100	72	3,327	19.1
100 and over	24	7,901	45.3
Total	1,144	17,449	100.0

\*Source: Summary of Accounts and Deposits in All Commercial Banks, FDIC District 11, June 30, 1966, Table 1B, Texas.



TABLE XLVI

LOANS AS A PERCENTAGE OF TOTAL ASSETS, STATES BY TYPE  
OF BRANCHING LAW, 1958-1967\*

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Branch Banking										
Alaska	. .	39.88	43.80	48.84	45.15	48.48	48.06	50.83	53.84	43.54
Ariz.	51.38	53.86	56.43	56.63	57.65	61.87	62.88	62.47	62.45	56.61
Calif.	47.13	52.31	53.15	51.85	51.73	54.50	56.93	58.94	60.15	58.29
Conn.	12.44	45.23	48.11	50.31	50.59	51.85	53.98	56.53	57.95	56.54
Dela.	44.79	47.18	47.03	49.16	49.84	48.09	47.49	46.70	50.41	51.68
Hawaii	. .	48.81	52.28	51.91	51.97	56.04	57.68	57.48	58.77	58.37
Idaho	42.14	44.66	47.52	47.73	49.68	53.22	55.16	56.97	58.60	58.03
Md.	37.31	39.34	42.60	43.73	44.76	47.77	51.13	53.94	56.46	56.06
Nev.	42.20	43.35	49.72	49.92	49.72	52.93	56.22	55.97	54.31	53.27
N.C.	40.68	42.44	45.46	47.13	45.59	50.46	52.48	53.72	55.00	53.57
Ore.	40.91	43.46	46.83	46.21	46.96	50.86	53.95	54.28	55.38	54.87
R.I.	51.83	52.54	55.19	58.09	55.91	59.48	56.78	57.62	61.47	60.90
S.C.	38.08	38.91	40.33	41.58	42.26	44.66	47.18	49.04	50.33	50.68
Utah	45.75	48.34	50.05	51.56	52.90	56.23	57.88	58.48	56.96	55.66
Vt.	51.61	54.30	56.38	57.49	57.88	59.53	61.60	62.32	63.33	63.79
Wash.	43.22	44.94	48.30	47.98	48.15	50.47	52.61	54.40	55.64	55.08
Avg.	44.25	46.22	48.95	50.01	50.05	52.90	54.50	55.61	56.94	55.43
Limited Area Branching										
Ala.	38.03	39.77	43.35	43.40	43.35	44.75	46.43	47.44	47.31	47.69
Ga.	42.37	44.27	40.92	47.55	47.74	49.51	51.19	52.89	54.30	53.40
Ind.	35.37	37.30	39.93	41.25	41.42	43.19	45.00	46.82	48.97	49.48
Ky.	37.51	39.01	42.23	43.28	42.03	42.95	45.45	46.82	48.40	48.82
La.	35.18	36.72	39.10	39.61	40.36	37.12	43.41	45.87	46.77	47.19
Me.	45.71	47.26	50.40	52.66	53.47	55.01	56.06	56.85	57.66	56.98
Mass.	45.45	47.15	49.03	49.90	50.50	52.45	55.00	56.11	57.84	55.98
Mich.	39.23	41.45	44.31	44.85	45.01	46.68	48.93	51.89	54.99	55.65

TABLE XLVI--Continued

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Limited Area Branching										
Miss.	35.38	35.97	47.81	49.74	41.11	43.11	45.46	46.94	48.40	49.73
N.J.	40.54	41.57	44.84	46.30	46.49	48.47	50.97	53.20	55.00	55.03
N.M.	34.49	38.50	41.26	42.13	43.58	47.58	50.35	52.68	53.30	51.86
N.Y.	46.11	47.91	49.66	47.80	48.01	49.50	51.59	53.89	56.24	54.70
Ohio	40.98	43.33	45.61	46.28	46.66	48.49	50.84	52.00	53.49	52.68
Pa.	44.10	45.53	48.32	48.76	47.74	48.26	50.41	53.02	56.22	56.86
Tenn.	42.17	53.65	45.86	46.90	46.88	48.61	49.95	51.02	51.94	52.22
Va.	42.44	44.60	47.32	48.10	48.79	50.97	53.90	55.49	57.79	57.27
Avg.	40.32	42.74	44.37	45.53	45.82	47.29	50.31	51.43	53.04	52.83
Unit Banking										
Ark.	34.92	36.28	38.60	40.78	42.03	44.35	46.65	48.48	48.64	48.64
Colo.	41.54	45.13	47.28	47.87	48.19	50.72	53.06	54.72	55.95	55.17
Fla.	34.61	36.50	38.11	37.47	37.60	39.86	42.73	44.55	45.58	45.54
Ill.	36.37	38.05	41.79	42.30	42.18	44.73	47.26	49.50	51.85	52.11
Iowa	39.47	43.22	45.57	45.91	46.25	48.43	48.31	48.43	49.85	51.00
Kans.	35.12	36.91	38.64	40.37	40.64	42.92	44.31	46.41	47.45	47.00
Minn.	41.20	43.23	45.99	46.51	45.74	47.17	47.73	48.88	50.92	51.46
Mo.	38.18	39.75	42.48	44.02	44.76	45.79	46.87	48.59	49.89	49.15
Mont.	36.75	38.76	42.34	43.65	43.83	46.54	49.05	51.24	51.59	51.18
Nebr.	37.75	40.18	43.38	45.50	46.36	49.60	49.62	51.08	52.47	51.71
N.H.	47.47	48.64	50.86	52.62	53.99	56.83	60.02	62.34	63.87	63.49
N.D.	34.18	35.08	39.33	41.95	40.54	46.40	45.72	47.41	47.23	47.87
Okla.	35.37	37.47	49.19	40.63	41.70	42.91	45.98	47.90	48.79	47.84
S.D.	37.31	38.37	42.27	44.49	43.26	47.23	48.62	49.15	49.96	50.39
Texas	39.91	41.14	42.38	42.95	44.02	45.94	48.38	50.04	50.80	50.66
W.Va.	34.62	35.64	37.90	39.10	39.45	41.01	42.91	43.83	44.99	46.36
Wisc.	38.31	39.50	42.53	44.10	44.13	45.60	47.53	49.29	51.06	50.84
Wyo.	35.24	36.86	39.45	41.90	44.56	46.37	47.92	50.39	50.81	50.47
Avg.	37.68	39.48	42.12	43.45	43.85	46.24	47.93	49.57	50.65	50.61

\*Sources: F.D.I.C. Reports of Call and Annual Reports, 1958-1967. Averages consist of three call dates for each year.

TABLE XLVII  
TOTAL LOANS, 1958-1967\*  
(Millions of dollars)

Year	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
1958	19,075**	50,765	24,969	4,677
1961	24,793	60,792	31,349	5,693
1964	35,579	83,325	44,347	8,397
1967	46,062	117,607	60,359	11,021

\*Source: F.D.I.C. Reports of Call, 1958, 1961, 1967.

\*\*Includes Alaska and Hawaii, although they did not become states until 1959.

TABLE XLVIII  
 AVERAGE RATIOS OF TOTAL OPERATING COSTS TO TOTAL  
 OPERATING REVENUE BY DEPOSIT SIZE, 1967<sup>a</sup>  
 (Percentages)

Bank Size (millions of deposits)	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
0-5	80.3 <sup>b</sup>	76.2	76.4	74.8
5-10	79.5 <sup>b</sup>	76.2	76.5	76.7
10-25	77.8 <sup>b</sup>	76.7	77.8	77.7
25-100	80.1 <sup>c</sup>	77.0	76.4	77.4
Over 100	75.6 <sup>d</sup>	70.0 <sup>e</sup>	73.2 <sup>f</sup>	72.9
All Banks	79.2	76.2	76.5	76.0

<sup>a</sup>Source: Bank Operating Statistics, 1967.

<sup>b</sup>Data withheld by F.D.I.C. for four states because of small number of banks in category.

<sup>c</sup>Data withheld for two states.

<sup>d</sup>Data withheld for six states.

<sup>e</sup>Data withheld for three states.

<sup>f</sup>Data withheld for five states.

TABLE XLIX  
 AVERAGE RATIOS OF PERSONNEL EXPENSE TO TOTAL OPERATING  
 REVENUE BY DEPOSIT SIZE, 1967<sup>a</sup>  
 (Percentages)

Bank Size (millions of deposits)	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
0-5	29.2 <sup>b</sup>	26.4	30.3	32.8
5-10	27.4 <sup>b</sup>	24.7	25.8	28.0
10-25	26.7 <sup>b</sup>	24.4	25.0	26.2
25-100	28.6 <sup>c</sup>	25.4	23.5	23.9
Over 100	29.3 <sup>d</sup>	24.8 <sup>e</sup>	23.1 <sup>f</sup>	21.0
All Banks	27.8	25.3	27.8	29.2

<sup>a</sup>Source: Bank Operating Statistics, 1967.

<sup>b</sup>Data withheld by F.D.I.C. for four states.

<sup>c</sup>Data withheld for two states.

<sup>d</sup>Data withheld for six states.

<sup>e</sup>Data withheld for three states.

<sup>f</sup>Data withheld for seven states.

TABLE L  
 INTEREST PAID ON TIME DEPOSITS AS A PERCENTAGE  
 OF TOTAL OPERATING REVENUE, 1967\*

Bank Size (millions of deposits)	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
0-5	30.8	29.9	26.9	18.8
5-10	32.5	32.2	32.3	25.9
10-25	32.5	33.1	33.7	29.0
25-100	31.9	31.3	33.8	32.4
Over 100	28.7	31.0	30.9	32.4
All Banks	31.2	31.5	26.9	24.2

\*Source: Bank Operating Statistics, 1967.

TABLE LI  
 AVERAGE RATIOS OF TIME AND SAVINGS DEPOSITS TO  
 TOTAL DEPOSITS BY DEPOSIT SIZE, 1967<sup>a</sup>  
 (Percentages)

Bank Size (millions of deposits)	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
0-5	52.9 <sup>b</sup>	50.4	43.7	30.9
5-10	53.5 <sup>b</sup>	52.4	49.7	40.2
10-25	52.6 <sup>b</sup>	50.9	50.8	44.7
25-100	52.7 <sup>c</sup>	48.9	48.4	45.4
Over 100	44.5 <sup>d</sup>	45.9 <sup>e</sup>	38.0 <sup>f</sup>	37.9
All Banks	51.4	50.3	46.5	37.5

<sup>a</sup>Source: Bank Operating Statistics, 1967.

<sup>b</sup>Data withheld by F.D.I.C. for four states.

<sup>c</sup>Data withheld for two states.

<sup>d</sup>Data withheld for five states.

<sup>e</sup>Data withheld for three states.

<sup>f</sup>Data withheld for seven states.

TABLE LII  
 AVERAGE RATES OF RETURN ON LOANS, INSURED COMMERCIAL  
 BANKS BY DEPOSIT SIZE, 1967\*

(Percentages)

Bank Size (millions of deposits)	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
0-5	6.96	6.73	6.85	7.44
5-10	6.88	6.73	6.64	7.04
10-25	6.82	6.57	6.64	6.87
25-100	7.03	6.59	6.46	6.52
Over 100	6.53	6.23	6.10	5.90
All Banks	7.02	6.64	6.72	7.11

\*Source: Bank Operating Statistics, 1967.



TABLE LIII  
NET INCOME AFTER TAXES AS A PERCENTAGE OF TOTAL  
ASSETS, STATES BY TYPE OF BRANCHING  
LAW, 1958-1967\*

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Branch Banking										
Alaska . .	0.674	0.796	0.598	0.407	0.519	0.477	0.969	0.624	0.669	
Ariz.	0.640	0.733	0.887	0.580	0.651	0.563	0.544	0.592	0.473	0.499
Calif.	0.694	0.665	0.741	0.669	0.579	0.583	0.570	0.614	0.548	0.620
Conn.	0.657	0.591	0.739	0.788	0.801	0.787	0.763	0.808	0.801	0.792
Dela.	0.975	0.872	1.102	1.030	0.920	0.969	1.252	1.072	1.221	1.271
Hawaii . .	1.246	0.813	0.756	0.768	0.781	0.871	0.777	0.780	0.850	
Idaho	1.297	0.305	1.213	0.691	0.820	0.859	0.798	0.846	0.708	0.715
Md.	0.638	0.529	0.691	0.726	0.708	0.679	0.907	0.723	0.823	0.831
Nev.	0.735	0.617	1.001	1.089	1.077	0.886	0.812	1.226	0.785	0.825
N.C.	0.799	0.673	0.779	0.774	0.811	0.746	0.697	0.772	0.758	0.797
Ore.	0.645	0.547	0.700	0.654	0.536	0.561	0.577	0.721	0.583	0.512
R.I.	0.602	0.620	0.663	0.706	0.687	0.734	0.743	1.297	0.812	0.869
S.C.	0.786	0.732	0.917	0.910	0.919	0.892	0.849	0.977	0.940	0.899
Utah	0.883	0.564	1.059	0.973	0.839	0.717	0.830	0.802	0.708	0.818
Vt.	0.593	0.556	0.977	0.677	0.487	0.644	0.562	0.573	0.635	0.603
Wash.	0.696	0.625	0.808	0.846	0.748	0.725	0.758	0.662	0.670	0.749
Avg.	0.760	0.659	0.868	0.779	0.735	0.727	0.751	0.839	0.742	0.770
Limited Area Branching										
Ala.	0.882	0.617	0.945	0.936	0.905	0.821	0.799	0.846	0.784	0.942
Ga.	0.899	0.521	0.977	0.821	0.775	0.776	0.930	0.776	0.818	0.634
Ind.	0.731	0.512	0.714	0.737	0.689	0.704	0.663	0.683	0.687	0.791
Ky.	0.758	0.687	1.021	0.801	0.817	0.766	0.832	0.834	0.809	0.795
La.	0.624	0.635	0.721	0.627	0.716	0.613	0.663	0.670	0.813	0.691
Me.	0.471	0.601	0.681	0.780	0.672	0.666	0.700	0.683	0.704	0.896
Mass.	0.782	0.768	0.948	0.920	0.850	0.790	0.914	0.802	0.781	1.148
Mich.	0.737	0.627	0.747	0.745	0.644	0.639	0.612	0.611	0.655	0.595

TABLE LIII--Continued

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Limited Area Branching										
Miss.	0.638	0.583	0.706	0.808	0.829	0.848	0.782	0.769	0.778	0.805
N.J.	0.705	0.557	0.649	0.681	0.667	0.635	0.782	0.709	0.738	0.797
N.M.	0.558	0.607	0.816	0.702	0.623	0.459	0.537	0.605	0.706	0.783
N.Y.	0.791	0.642	0.855	0.843	0.789	0.837	0.727	0.671	0.634	0.713
Ohio	0.683	0.657	0.788	0.882	0.738	0.689	0.728	0.746	0.766	0.799
Pa.	0.752	0.675	0.777	0.807	0.766	0.811	0.764	0.810	0.724	0.789
Tenn.	0.652	0.777	0.791	0.736	0.712	0.691	0.698	0.713	0.761	0.808
Va.	0.718	0.668	0.808	0.801	0.940	0.752	0.739	0.719	0.767	0.730
Avg.	0.711	0.633	0.811	0.789	0.758	0.718	0.735	0.728	0.745	0.795
Unit Banking										
Ark.	0.807	0.685	0.853	0.815	0.763	0.760	0.802	0.798	0.781	0.782
Colo.	0.768	0.513	0.856	0.693	0.685	0.866	0.607	0.614	0.679	0.734
Fla.	0.685	0.546	0.709	0.630	0.644	0.571	0.610	0.546	0.647	0.664
Ill.	0.771	0.547	0.812	0.806	0.717	0.660	0.620	0.727	0.701	0.779
Iowa	0.891	0.614	0.905	0.784	0.821	0.730	0.769	0.759	0.779	0.793
Kans.	0.823	0.746	0.939	0.882	0.890	0.834	0.865	0.835	0.879	0.903
Minn.	0.830	0.616	0.783	0.768	0.709	0.640	0.674	0.646	0.630	0.660
Mo.	0.736	0.691	0.823	0.851	0.759	0.720	0.792	0.721	0.829	0.851
Mont.	1.140	0.673	1.062	0.740	0.757	0.735	0.809	0.633	0.824	0.778
Nebr.	0.802	0.717	0.913	0.782	0.828	0.802	0.763	0.817	0.827	0.864
N.H.	0.881	0.482	0.890	0.807	0.888	0.783	0.762	0.771	0.749	0.859
N.D.	0.931	0.791	1.010	0.949	0.890	0.780	0.750	0.791	0.807	0.800
Okla.	0.782	0.731	0.859	0.879	0.814	0.785	0.769	0.729	0.758	0.724
S.D.	0.820	0.750	0.937	0.826	0.787	0.747	0.780	0.840	0.845	0.873
Texas	0.695	0.616	0.748	0.718	0.686	0.650	0.631	0.641	0.672	0.701
W.Va.	0.794	0.658	0.854	0.803	0.807	0.815	0.833	0.860	0.880	0.984
Wisc.	0.673	0.466	0.752	0.813	0.713	0.642	0.654	0.654	0.675	0.658
Wyo.	0.880	0.679	0.901	0.807	0.694	0.753	0.666	0.700	0.656	0.731
Avg.	0.817	0.640	0.867	0.797	0.770	0.737	0.731	0.727	0.756	0.785

\*Sources: Computed from F.D.I.C. Reports of Call and Annual Reports, 1958-1967. Averages for three or more call dates each year.

TABLE LIV  
NET INCOME AFTER TAXES AS A PERCENTAGE OF TOTAL CAPITAL ACCOUNTS,  
STATES BY TYPE OF BRANCHING LAW, 1958-1967\*

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
	Branch Banking									
Alaska	•	11.900	13.370	9.193	6.451	8.346	8.068	17.043	10.450	10.762
Ariz.	9.757	11.300	12.590	7.890	9.221	8.333	7.340	7.328	6.008	7.558
Calif.	11.166	10.184	11.529	10.068	8.543	8.783	8.067	8.319	7.614	8.958
Conn.	8.332	7.312	9.044	9.288	9.457	9.467	9.195	9.729	9.394	9.641
Dela.	10.464	8.838	11.135	9.694	9.108	10.007	12.988	11.658	13.107	13.322
Hawaii	•	17.636	10.996	9.816	9.411	9.181	9.910	7.919	7.786	8.603
Idaho	20.946	4.765	17.776	9.484	11.185	11.493	10.491	11.746	9.636	9.994
Md.	8.766	7.157	9.081	9.216	8.986	8.591	11.540	9.100	10.240	10.441
Nev.	12.481	10.962	16.530	15.782	15.812	13.154	10.992	15.468	9.417	10.350
N.C.	9.775	8.210	9.300	8.944	9.612	8.990	8.364	9.168	9.266	10.172
Ore.	8.442	7.211	8.969	8.148	6.930	7.508	7.880	10.182	8.345	7.567
R.I.	7.182	7.369	7.791	8.314	8.264	9.060	9.592	16.942	10.162	10.841
S.C.	9.710	9.021	10.853	10.219	10.275	9.789	9.308	10.982	10.811	10.372
Utah	12.969	8.335	15.210	13.076	11.203	9.555	10.934	10.437	9.453	10.921
Vt.	6.599	6.356	7.659	7.544	5.479	7.518	6.777	7.232	8.213	7.894
Wash.	9.540	8.615	10.720	10.830	9.618	9.210	9.559	8.525	8.956	10.475
Ave.	10.438	9.073	11.410	9.846	9.347	9.312	9.438	10.736	9.304	9.867

TABLE LIV--Continued

States	Year										
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	
Limited Area Branching											
Ala.	11.109	7.706	11.339	10.566	10.167	9.356	9.197	10.024	9.518	11.295	
Ga.	10.658	6.279	11.449	8.924	8.565	8.805	10.407	8.723	9.539	10.565	
Ind.	10.005	6.903	9.291	9.047	8.451	8.576	8.388	9.101	9.368	10.897	
Ky.	9.176	8.176	11.579	8.480	8.783	8.477	9.407	9.679	9.382	9.558	
La.	8.796	8.582	9.242	7.524	8.639	7.396	8.055	8.358	10.201	8.659	
Me.	5.333	6.879	7.730	8.592	7.243	7.162	7.625	7.702	7.949	10.237	
Mass.	8.632	8.315	10.060	9.453	8.793	8.347	9.764	8.826	8.840	13.587	
Mich.	10.547	8.707	10.172	9.744	8.655	8.972	8.908	9.072	9.905	9.340	
Miss.	8.619	8.097	9.546	9.921	10.188	10.453	9.854	9.751	9.946	10.354	
N.J.	10.060	7.957	9.085	9.280	9.002	8.581	9.078	9.411	9.749	10.576	
N.M.	9.525	10.247	12.524	9.122	8.426	6.068	7.260	8.060	9.142	10.196	
N.Y.	9.173	7.245	10.067	9.427	9.112	9.993	8.725	8.006	7.730	8.939	
Ohio	9.109	8.423	9.780	10.442	8.711	8.259	8.728	8.085	9.468	10.026	
Pa.	7.771	6.919	9.923	8.128	7.790	8.568	8.251	9.070	8.180	9.029	
Tenn.	8.851	8.546	10.457	9.328	9.012	8.825	9.154	9.440	9.792	10.318	
Va.	9.123	8.362	9.651	9.132	12.091	8.817	8.752	8.764	9.466	9.269	
Avg.	9.168	7.959	10.120	9.194	8.987	8.541	8.848	8.879	9.261	10.178	

TABLE LIV--Continued

States	Year									
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
	Unit Banking									
Ark.	9.508	8.215	10.001	9.153	8.796	9.062	9.750	9.827	9.631	9.525
Colo.	10.717	7.171	11.528	9.018	9.124	11.045	7.466	7.542	8.417	9.339
Fla.	10.242	7.943	9.499	7.916	8.102	7.081	7.468	6.787	8.286	8.777
Ill.	10.709	7.309	10.514	9.862	8.920	8.379	8.035	9.688	9.372	10.321
Iowa	10.899	7.311	10.150	8.420	8.939	7.945	8.531	8.794	8.916	9.389
Kans.	10.072	8.898	10.695	9.823	9.898	9.201	9.459	9.168	9.670	10.036
Minn.	10.858	7.838	9.652	9.159	8.583	7.860	8.438	8.413	8.102	8.802
Mo.	9.841	8.885	10.064	9.837	8.781	8.487	9.303	8.547	9.824	10.310
Mont.	19.429	10.949	15.694	10.230	10.324	10.297	11.239	8.781	11.322	10.779
Nebr.	9.613	8.567	10.254	8.571	9.059	8.834	8.399	9.024	9.100	9.873
N.H.	8.630	4.869	8.984	7.960	8.850	7.867	7.752	9.587	8.055	9.431
N.D.	13.045	11.005	13.083	11.742	10.805	10.055	9.699	10.178	10.430	10.369
Okla.	9.486	8.584	9.752	9.437	8.901	8.500	8.111	7.870	8.430	8.322
S.D.	11.214	10.442	12.177	10.367	9.983	9.422	9.841	10.639	10.703	11.033
Texas	9.104	7.899	9.217	8.552	8.269	7.844	7.674	7.835	8.244	8.713
W.Va.	8.094	6.623	8.395	7.587	7.790	7.872	8.204	8.777	9.125	9.000
Wisc.	9.778	6.775	10.647	10.779	9.271	8.405	8.681	8.768	9.019	9.007
Wyo.	12.207	9.332	11.591	9.821	8.448	9.004	7.839	8.032	7.551	8.569
Avg.	10.747	8.256	10.661	9.346	9.047	8.733	8.641	8.792	9.107	9.531

\* Sources: Computed from F.D.I.C. Reports of Call and Annual Reports, 1958-1967. Averages for three or more call dates for each year.

TABLE LV  
 CASH AND DUE FROM BANKS, AS A PERCENTAGE OF  
 TOTAL ASSETS, DECEMBER, 1967<sup>a</sup>

Bank Size (millions of deposits)	Branch Banking States	Limited Area Branching States	Unit Banking States	Texas
0-5	13.5 <sup>b</sup>	13.9	14.0	20.0
5-10	8.7 <sup>b</sup>	12.8	12.4	17.4
10-25	11.5 <sup>b</sup>	11.2	12.9	16.0
25-100	11.1 <sup>c</sup>	13.2	14.6	17.4
Over 100	15.2 <sup>d</sup>	17.0 <sup>e</sup>	22.8 <sup>f</sup>	22.4
All Banks	12.4	12.2	13.4	18.4

<sup>a</sup>Source: Bank Operating Statistics, 1967.

<sup>b</sup>Data withheld by F.D.I.C. for four states.

<sup>c</sup>Data withheld for two states.

<sup>d</sup>Data withheld for six states.

<sup>e</sup>Data withheld for three states.

<sup>f</sup>Data withheld for seven states.

TABLE LVI  
 RATIO OF DOMESTIC INTERBANK DEMAND DEPOSITS  
 TO TOTAL ASSETS, DECEMBER, 1967\*

Unit Banking		Limited Area Branch Banking		Statewide Branch Banking	
State	Percentage	State	Percentage	State	Percentage
Ark.	5.19	Ala.	3.99	Alaska	0.45
Colo.	4.80	Ga.	5.40	Ariz.	0.72
Fla.	5.48	Ind.	3.08	Cal.	1.52
Ill.	4.68	Ky.	6.25	Conn.	0.56
Iowa	4.13	La.	6.62	Dela.	1.07
Kans.	3.88	Me.	0.83	Hawaii	1.11
Minn.	5.28	Mass.	4.84	Ida.	0.41
Mo.	8.07	Mich.	2.07	Md.	2.81
Mont.	2.88	Miss.	4.07	Nev.	0.91
Nebr.	7.49	N.J.	0.71	N.C.	5.03
N.H.	0.30	N.M.	1.82	Ore.	0.95
N.D.	1.22	N.Y.	5.98	R.I.	0.29
Okla.	5.56	Ohio	2.29	S.C.	2.09
S.D.	1.24	Pa.	3.09	Utah	3.30
Tex.	8.00	Tenn.	8.76	Vt.	0.09
W.Va.	2.37	Va.	2.37	Wash.	2.45
Wis.	2.64				
Wyo.	3.45				
Average	4.26		3.89		1.49

\*Source: Computed from F.D.I.C. Report of Call No. 82 (Washington, 1968), pp. 17-41.

## APPENDIX B

### CASH ASSETS AND INTERBANK DEPOSITS

The Texas commercial banking system holds a very high proportion of its assets in the form of cash. In December, 1967, 20.7 per cent of the assets of the Texas system were cash and balances due from other banks. The only state with a higher percentage of cash accounts to total assets was New York, which includes a great wholesale banking center, with 22.6 per cent of its assets in this form. The average ratios for branch, limited, and unit banking states were 14.0, 16.4, and 15.8 per cent, respectively.<sup>1</sup> Average cash ratios for Texas banks and arithmetic means of these ratios for the three groups of states, shown in Appendix Table LV, indicate that all size segments of the Texas system are relatively rich in cash. The Texas cash ratios are considerably higher than those of all three groups of states in each size class, with the exception of the unit banking ratio for the ultimate size class. In the latter case, the average Texas ratio of 22.4 per cent is slightly lower than the 22.8 per cent figure for the eighteen unit banking states. Appendix

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<sup>1</sup>Computed from F.D.I.C. Report of Call No. 82 (Washington, 1968), pp. 17-41.



Table LV also reveals that the largest Texas banks have the highest average cash ratios, as has been implied by their low load ratios.

The high cash holdings of the Texas system, which would on first consideration appear to represent excessive liquidity, may well be prudent holdings against a relatively high proportion of interbank deposits. The ratio of domestic interbank demand deposits to total assets for Texas and average ratios for branch, limited, and unit banking states are given in Appendix Table LVI. The parameters shown in this table indicate that Texas does have a high ratio of interbank deposits to assets. The 1967 Texas ratio is 8.0 per cent, while the average ratios for branch, limited area branching, and unit banking states are only 1.5 per cent, 3.9 per cent, and 4.3 per cent, respectively.

State banks which are not members of the Federal Reserve System may, and commonly do, keep their reserves as deposits in other commercial banks. These reserves would ordinarily be deposited in larger banks, largely in Texas. Since interbank deposits are potentially highly volatile, the depository banks would, as a matter of prudence, need to keep larger cash holdings than would otherwise be necessary.<sup>2</sup>

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<sup>2</sup>Cf. Raymond P. Kent, Money and Banking, 5th ed. (New York, 1966), pp. 225-226; Eli Shapiro, Ezra Solomon, and William L. White, Money and Banking, 5th ed. (New York, 1968), p. 207; and Gerald C. Fischer, American Banking Structure (New York, 1968), pp. 111-112.

It appears likely that one of the major factors contributing to the low output of the Texas commercial banking system is its unusually high proportion of volatile inter-bank demand deposits. Other aspects of performance may also be affected by the ratio of cash to total assets.

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