



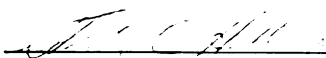
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thesis entitled  
COMPARATIVE PATTERNS OF  
BUSINESS FAILURES IN MICHIGAN  
AND THE UNITED STATES

presented by

A. Coskun Samli

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1963



**COMPARATIVE PATTERNS OF  
BUSINESS FAILURES IN MICHIGAN  
AND THE UNITED STATES**

**By**

**A. Coskun Samli**

**AN ABSTRACT**

**of a thesis submitted to  
Michigan State University  
in partial fulfillment of the requirements  
for the degree of**

**DOCTOR OF PHILOSOPHY**

**Department of Marketing and Transportation  
Administration**

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Business failures and their interrelationships with the economy as a whole are a neglected subject. Most of the available studies of business failures analyze the internal but not the external causes of failure. It is, however, the changes in business conditions, producing different results in different economic structures, that is the determinant factor in explaining fluctuations in business failure statistics. There are always vulnerable marginal firms in existence; their failure or success, nonetheless, is dependent upon business conditions and the economic structure.

In this study an attempt was made to explain why and how the business failure pattern in Michigan differed from the national. First the relevancy of a study of external causes of business failures was discussed. Then failure statistics for Michigan and the nation were analyzed both in terms of industrial composition, age, and size of firms, and in terms of cyclical characteristics of the economy. Next, the pertinent dissimilarities between Michigan and the national economies were considered. The analyses here were based on employment, income, and value added in different segments of the two economies. Investigation of the influence of the dissimilarities on the failure pattern was the next step. At this stage correlation analyses proved

that it is not the number of new entries but income that correlates more readily with failure figures, thus ruling out the proposition that failures are a function of entries. While the structure of Michigan's economy makes it relatively more dependent on durable goods production, the national economy proved to be relatively more dependent on the production of nondurable goods. Hence, as correlation analyses showed, when business conditions in durable goods industries were better, i.e., the ratio of inventories to new plus unfilled orders was going down, or the industrial productivity index of durable goods was soaring, Michigan's economy prospered and the failure rate in the state declined. Similarly, when nondurable goods industries showed favorable conditions, the national economy prospered and the U. S. failure rate declined.

A discussion of other pertinent factors that might have important influence on business failures, e.g., credit availability, the mood of consumers, wholesale prices, demographic changes, etc. were presented in the fifth chapter. In an additional chapter devoted to summary, conclusions, and welfare implications, advantages and disadvantages of having business failures in the economy, and the future avenues of further study, were discussed.

Three findings of this study are of major importance:

1. The characteristics of the business population is one of the major determinants of the basic

failure pattern.

2. Economic structure, which is a major determinant of income, and changing business conditions, play a very conspicuous role in the formation of the failure pattern. This was ascertained from the part they played in the creation of the differences between the national and Michigan failure scene.
3. There is still much remaining to be explored in the area of business failures, their causes, their interrelationships with the rest of the economy, their advantages and disadvantages.

This study may be especially useful in that: it released certain pertinent statistics not previously disclosed; it may attract further attention to failure analyses, which may then shed more light on this comparatively neglected topic; its approach and method could be used for further comparative studies in different states; and lastly, it may be regarded as providing a better understanding of an economy's overall performance and structural changes.

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## TABLE OF CONTENTS

|                                                                                                             | Page |
|-------------------------------------------------------------------------------------------------------------|------|
| PREFACE . . . . .                                                                                           | 111  |
| LIST OF TABLES . . . . .                                                                                    | v11  |
| LIST OF ILLUSTRATIONS . . . . .                                                                             | x11  |
| Chapter                                                                                                     |      |
| I. THE PROBLEM AND THE METHOD OF APPROACH . . . . .                                                         | 1    |
| II. THE COMPOSITION AND CHARACTERISTICS OF BUSINESS<br>FAILURES IN MICHIGAN AND THE UNITED STATES . . . . . | 40   |
| Appendix to Chapter II, NUMBER OF BUSINESS<br>FAILURES IN MICHIGAN . . . . .                                | 103  |
| III. DIFFERENCES IN INDUSTRIAL PATTERNS AND THEIR<br>IMPACT ON INCOME GENERATION . . . . .                  | 105  |
| IV. BUSINESS FAILURES AND THE ECONOMY . . . . .                                                             | 146  |
| V. OTHER FACTORS . . . . .                                                                                  | 171  |
| VI. SUMMARY CONCLUSIONS AND WELFARE IMPLICATIONS . . . . .                                                  | 189  |
| APPENDIX I . . . . .                                                                                        | 208  |
| APPENDIX II . . . . .                                                                                       | 209  |
| APPENDIX III . . . . .                                                                                      | 210  |
| APPENDIX IV . . . . .                                                                                       | 211  |
| BIBLIOGRAPHY . . . . .                                                                                      | 212  |

## PREFACE

In this study an attempt was made to find out why and how the business failure pattern in Michigan is different from its national counterpart. In the process of searching for an answer (or answers) four different steps were taken. First, the relevancy of a study of external causes of failure was examined. Second, business failure statistics for Michigan and the nation as a whole were analyzed in terms of industrial composition, age and size of firms, and cyclical characteristics. Third, the pertinent dissimilarities between the two economic structures were noted. And lastly the influence of these dissimilarities upon the failure pattern was investigated.

While the first two steps are relatively separate entities, the latter two are integrated. One could not associate disparities in the failure rates with differences in the economies without knowing what these differences are. Thus, this study is composed of four major chapters. Chapter One consists of a detailed statement of the problem and a description of the analytical approaches used. Chapter Two delves into the failure pictures of the two economies. Here an investigation of similarities and dissimilarities between the components of the total failure statistics is presented for four selected years. In the

same chapter the industrial composition of the failure pattern and the size and age of firms at the time of failure are emphasized. Included here also is the analysis of the cyclical differences between the two failure patterns. Chapter Three sets forth a structural analysis of the Michigan and national economies. This analysis is based on employment, income, and value added in different segments of the two economies in an effort to bring out the disparities between the two structures. Chapter Four examines the associations among the failure statistics, economic structure and business conditions. Here a partial answer is given to the question: "Why is the failure pattern in Michigan different from the national picture?"

Due to the existence of numerous variables playing a role in the formation of the general failure pattern, Chapter Four has only a partial answer to the problem. As a supplement to this chapter, the fifth one points out the presence of other pertinent factors and suggests the possible roles that they may be playing in the formation of the total failure pattern. Lastly, in the sixth chapter, a discussion of the findings and their implications is presented.

### Significance of the Study

There have been numerous studies of business failures. Most of these studies analyzed the failure



pattern at one point in time, and attributed the cause of failure to internal weaknesses in the firms. This study represented a different approach to the same problem by emphasizing external causes of failure. Instead of studying failures in one particular field or in a restricted geographic area, such as a city or a county, at a given point in time, an attempt was made to analyze failures as aggregates, either in different selected years or as a continuum in the flow of time. A macro rather than a micro approach is taken and failures were analyzed in the light of economic structure and business conditions. The major analyses in Chapter Two were restricted to four selected years. This facilitated comparisons between failure statistics for prosperous and recession years. Analyses, on the other hand, in Chapter Four pertained to a period of at least fourteen years which made it possible to analyze failures as a continuum in time.

The significance of this study may be fourfold: it, first of all, releases certain statistics never before disclosed. The basic data of the second chapter are the result of special compilations, which the author requested from Dun and Bradstreet, Inc. Second, the study may attract further attention to failure analyses, which may then shed more light on this relatively neglected topic. Third, its approach and method may be used for further comparative studies of the same nature in different states. Fourth,

work of this sort may give a better understanding of an economy's overall performances and of structural changes in that economy.

### Acknowledgments

This dissertation could not have been written without the help, encouragement, and advice of many people. First of all Dean B. F. Landuyt of the University of Detroit and Dean E. J. Kelley of New York University should be acknowledged for their encouragement of the author at the beginning of graduate study. Dr. Eli P. Cox of Michigan State University aided the author in getting the project started. The study matured slowly under the very careful and constructive criticisms of Professor Stanley C. Hollander who assumed chairmanship of the advisory committee. Professors H. Zwarensteijn, J. L. Hazard, and T. A. Staudt served on the committee. Professor C. F. Healy of Sacramento State College made a number of criticisms which improved the manuscript. Last, but most of all, Marcqueta H. Samli painstakingly went through each and every word and sentence in the manuscript and offered advice to improve the style. The author is deeply indebted to all of these and to many others who helped directly or indirectly in the preparation of this manuscript. Needless to say, responsibility for all the omissions and commissions rests solely with the author.

## LIST OF TABLES

| Chapter I                                                                                                                                                                       | Page |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 1. Annual Average Number of Firms, Failures, and Failure Rate, (1945-1959) . . . . .                                                                                            | 1    |
| 2. Classification of Causes of Business Failures in Michigan and the U. S., 1959 . . . . .                                                                                      | 12   |
| Chapter II                                                                                                                                                                      |      |
| 1. Number and Percent Distribution of Business Failures in Major Industrial and Commercial Categories, Michigan and the United States . .                                       | 43   |
| 2. Distribution of Michigan and United States Manufacturing Failures . . . . .                                                                                                  | 45   |
| 3. Number of Manufacturing Establishments and Their Percent Distribution in Michigan and the United States, 1958 . . . . .                                                      | 46   |
| 4. Number of Manufacturing Failures Expressed as a Percent of Number of Establishments in Manufacturing in Michigan and the United States: 1953, 1954, 1958, and 1959 . . . . . | 49   |
| 5. Liability-Size Distribution of Michigan and United States Manufacturing Failures . . . . .                                                                                   | 54   |
| 6. A Comparison of the Ages of Michigan and United States Manufacturing Failures . . . . .                                                                                      | 56   |
| 7. Distribution of Michigan and United States Wholesaling Failures . . . . .                                                                                                    | 59   |
| 8. Number of Wholesaling Failures Expressed as a Percent of Number of Establishments in Michigan and the United States, 1958, 1959 . .                                          | 60   |
| 9. Wholesaling Failures as a Percent of Total, in Michigan and the United States . . . . .                                                                                      | 61   |
| 10. Liability-Size Distribution of Michigan and United States Wholesale Failures . . . . .                                                                                      | 62   |

| Chapter II                                                                                                                                                          | Page |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 11. Age of Wholesaling Failures in Michigan and the United States . . . . .                                                                                         | 62   |
| 12. Percent Distribution of Business Failures by Life Span, Michigan and the United States . .                                                                      | 63   |
| 13. Life Expectency for Business Population in Different Industry Division, Percent of Firms Surviving to Specified Age . . . . .                                   | 64   |
| 14. Retailing Failures as a Percent of Total in Michigan and United States . . . . .                                                                                | 68   |
| 15. Distribution of Michigan and United States Retailing Failures . . . . .                                                                                         | 69   |
| 16. Percent Distribution of Retailing Establishments in Michigan and United States, 1954, 1958 . .                                                                  | 70   |
| 17. Number of Retailing Failures Expressed as a Percent of the Number of Establishments in Retailing in Michigan and the United States, 1954 and 1958 . . . . .     | 71   |
| 18. Liability-Size Distribution of Michigan and United States Retailing Failures . . . . .                                                                          | 75   |
| 19. A Comparison of the Ages of Michigan and United States Retailing Failures . . . . .                                                                             | 76   |
| 20. Rate of Construction Failures in Michigan and United States . . . . .                                                                                           | 77   |
| 21. Liability-Size Distribution of Michigan and United States Construction Failures . . . . .                                                                       | 78   |
| 22. Distribution of Selected Service Establishments in Michigan and United States, 1958 . . . . .                                                                   | 81   |
| 23. Number of Failures in Selected Services Expressed as a Percent of the Number of Establishments in Selected Services in Michigan and the United States . . . . . | 83   |
| 24. Liability-Size Distribution of Commercial Services Failures in Michigan and the United States . . . . .                                                         | 87   |

| Chapter II                                                                                                                | Page |
|---------------------------------------------------------------------------------------------------------------------------|------|
| 25. Three Postwar Recessions: Michigan and the United States . . . . .                                                    | 88   |
| 26. Indexes of Sensitivity . . . . .                                                                                      | 91   |
| 27. Percent Distribution of Business Failures in Michigan and the United States for Selected Years . . . . .              | 93   |
| 28. Failures in Selected Industrial Categories as a Percent of Total Failures in Michigan and the United States . . . . . | 94   |
| 29. Liability-Size Distribution of Total Michigan and the United States Business Failures . . .                           | 100  |
| 30. A Comparison of the Ages of Michigan and the United States Business Failures . . . . .                                | 101  |

### Chapter III

|                                                                                                                                                                                   |     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 1. The Distribution of Michigan's Total Nonfarm Employment . . . . .                                                                                                              | 107 |
| 2. The Distribution of United States Total Nonfarm Employment . . . . .                                                                                                           | 109 |
| 3. Industrial Sources of Civilian Income Received by Persons for Participation in Production in Michigan and the United States . . . . .                                          | 114 |
| 4. Percent Distribution of Civilian Income Received by Persons for Participation in Production . .                                                                                | 115 |
| 5. Percent Distribution of Value Added by Manufacturing in Michigan and the United States . . . . .                                                                               | 118 |
| 6. Value Added by Manufacture in Michigan and the United States . . . . .                                                                                                         | 120 |
| 7. Trends in the Auto Industry . . . . .                                                                                                                                          | 122 |
| 8. Wage and Salary Workers Employed in the Manufacture of Motor Vehicles and Equipment and Value Added in Transportation Equipment Industries, Michigan and United States . . . . | 126 |

| Chapter III                                                                                      | Page |
|--------------------------------------------------------------------------------------------------|------|
| 9. Department of Defense Expenditures for Fiscal Years 1953 and 1959 . . . . .                   | 129  |
| 10. Defense Employment in Michigan, 1951-1958 . . .                                              | 132  |
| 11. Unemployment as Percent of the Total Labor Force in Michigan and the United States . . . . . | 133  |
| 12. Concentration of the Economic Power in Manufacturing, 1954 . . . . .                         | 139  |
| 13. Concentration of the Economic Power in Wholesaling, 1954 . . . . .                           | 140  |
| 14. Concentration of the Economic Power in Selected Services, 1958 . . . . .                     | 141  |
| 15. Concentration of the Economic Power in Retailing, 1958 . . . . .                             | 142  |

#### Chapter IV

|                                                                                                   |     |
|---------------------------------------------------------------------------------------------------|-----|
| 1. Net Increase or Decrease in Michigan's Personal Income and in Failures, 1947-1959 . . . . .    | 149 |
| 2. Net Increase or Decrease in Personal Income and in Failures of the U. S., 1947-1959 . . . . .  | 150 |
| 3. Net Change in the Number of Firms in Michigan and the United States, 1947-1959 . . . . .       | 153 |
| 4. Names Added in the Dun and Bradstreet Reference Book, Michigan and the United States . . . . . | 155 |
| 5. Indexes of Industrial Production and Business Failures . . . . .                               | 163 |
| 6. The Ratio of Inventories to New Plus Unfilled Orders . . . . .                                 | 165 |

#### Chapter V

|                                                                                                  |     |
|--------------------------------------------------------------------------------------------------|-----|
| 1. Employee Size of Michigan and the National Establishments, 1956 . . . . .                     | 186 |
| 2. Number of Establishments Per 1,000 of Population in Retailing and Selected Services . . . . . | 188 |

## Chapter VI

Page

1. Number of Failures Expressed as a Percent of  
Number of Establishments in Different  
Economic Sectors in Michigan and the United  
States, 1954, 1958 . . . . . 194

## LIST OF ILLUSTRATIONS

| Chapter I                                                                                                          | Page |
|--------------------------------------------------------------------------------------------------------------------|------|
| <b>Figure</b>                                                                                                      |      |
| 1. Number of Business Failures in Michigan and the United States, 1945-1959 . . . . .                              | 3    |
| 2. Business Failures as a Percent of the Total Number of Firms . . . . .                                           | 4    |
| 3. Business Failures and Business Discontinuances in the U. S. as a Percent of Total Business Population . . . . . | 33   |
| 4. U. S. Wholesaling Failures and Discontinuances .                                                                | 37   |
| 5. U. S. Retailing Failures and Discontinuances . .                                                                | 38   |
| 6. U. S. Manufacturing Failures and Discontinuances                                                                | 39   |
| <br><b>Chapter II</b>                                                                                              |      |
| <b>Figure</b>                                                                                                      |      |
| 1. Michigan's Percent Share of Military Procurements . . . . .                                                     | 131  |
| 2. Per Capita Personal Income in Michigan and the United States, 1947-1959 . . . . .                               | 132  |



## CHAPTER I

### THE PROBLEM AND THE METHOD OF APPROACH

#### The Problem

A comparison of business failures in Michigan and the United States revealed significant differences as presented in Table 1. The table brings forth the fact that the postwar trend in business failures has been an upward one in both economies. During the immediate postwar period the average failure rate in the U. S. was a little higher than in Michigan. In the second five-year period (1950-1954) this rate doubled in the nation, but Michigan's figure

TABLE 1

ANNUAL AVERAGE NUMBER OF FIRMS, FAILURES  
AND FAILURE RATE, 1945-1959

| Years     | Average Number of Firms <sup>a</sup> |          | Average Number of Failures |          | Failures as Percent of Firms |          |
|-----------|--------------------------------------|----------|----------------------------|----------|------------------------------|----------|
|           | U. S.                                | Michigan | U. S.                      | Michigan | U. S.                        | Michigan |
| 1945-1949 | 2,337,000                            | 89,000   | 3,982                      | 140      | .17                          | .16      |
| 1950-1954 | 2,646,200                            | 100,200  | 8,956                      | 191      | .34                          | .19      |
| 1955-1959 | 2,659,600                            | 102,800  | 13,282                     | 436      | .50                          | .42      |

<sup>a</sup>Firms as defined by Dun and Bradstreet, Inc. are not exactly comparable to the census term of establishments. The difference between the two will be explained elsewhere in this chapter.

SOURCE: Computed from Dun and Bradstreet, Inc. data as appeared in the Statistical Abstract of the U. S., U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1946-1960).

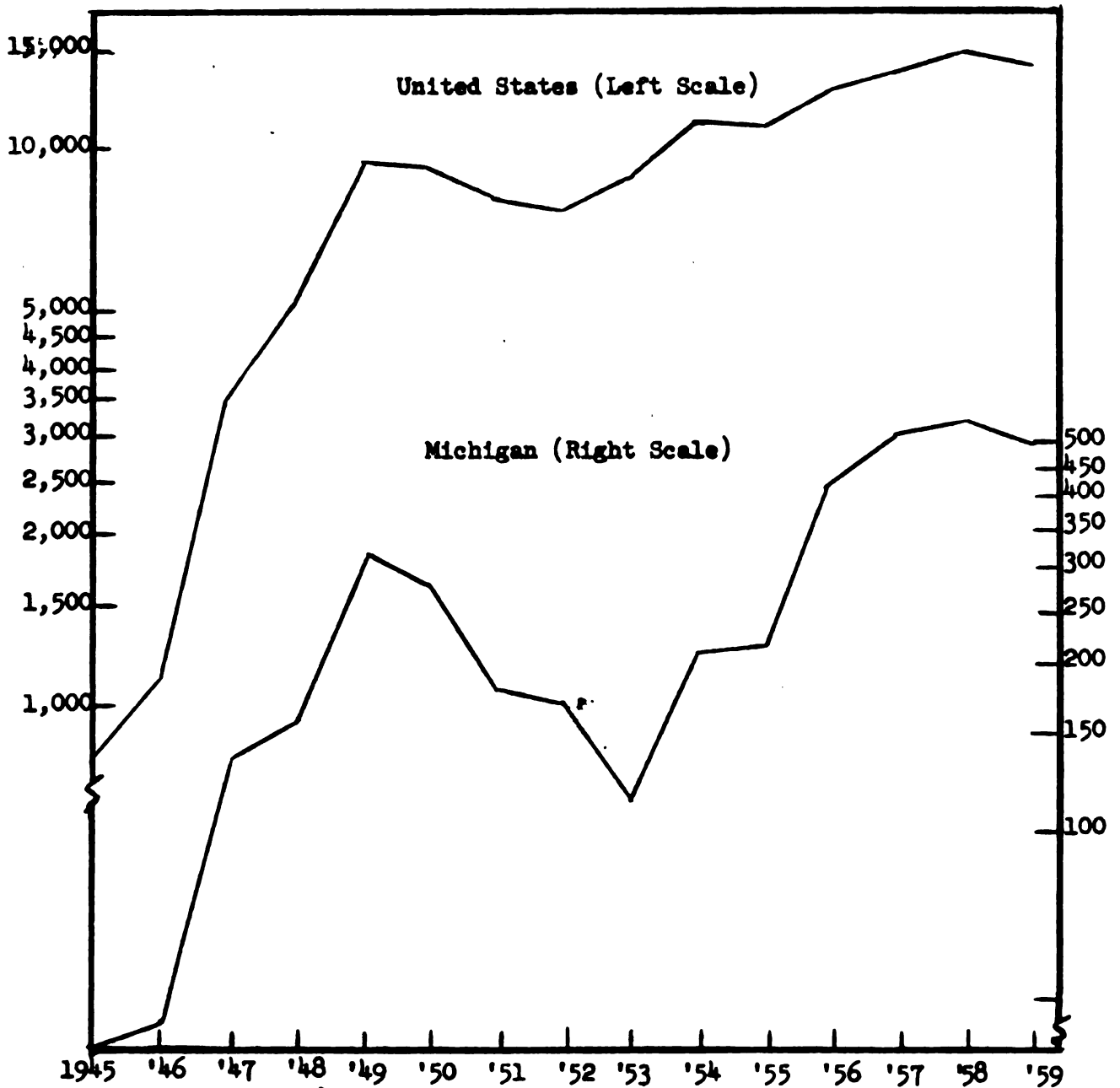
remained relatively low. However, during 1955-1959 the Michigan failure rate increased much more sharply than the national rate. It is noteworthy that throughout this 15-year period the average failure rate for Michigan was consistently lower than the national average.

Figure 1 shows total failures in Michigan and the United States for the period of 1945-1959, divided for purposes of comparison into three parts. The first includes the years 1945-1949, the second 1950-1953, and the third 1954-1959. In the first period it can be noted that failures in the national economy had a sharper increase. Between 1949 and 1953 failures declined in both, with Michigan displaying the obviously better picture of the two. In the last period failures increased in Michigan at an appreciably faster rate. Differences between the two failure patterns can be depicted more easily from the failure rates. Figure 2 portrays the number of failures expressed as a percent of total existing firms in Michigan and the United States. While the overall picture had improved in Michigan between 1949 and 1953, this trend has since reversed itself noticeably. Michigan's failure rate, nevertheless, has been below that of the nation since 1947.

The problem which confronted us here was just what causes this obvious dissimilarity between the two patterns. The present study undertook the task of exploring the conditions underlying this dissimilarity. Some major

Figure 1

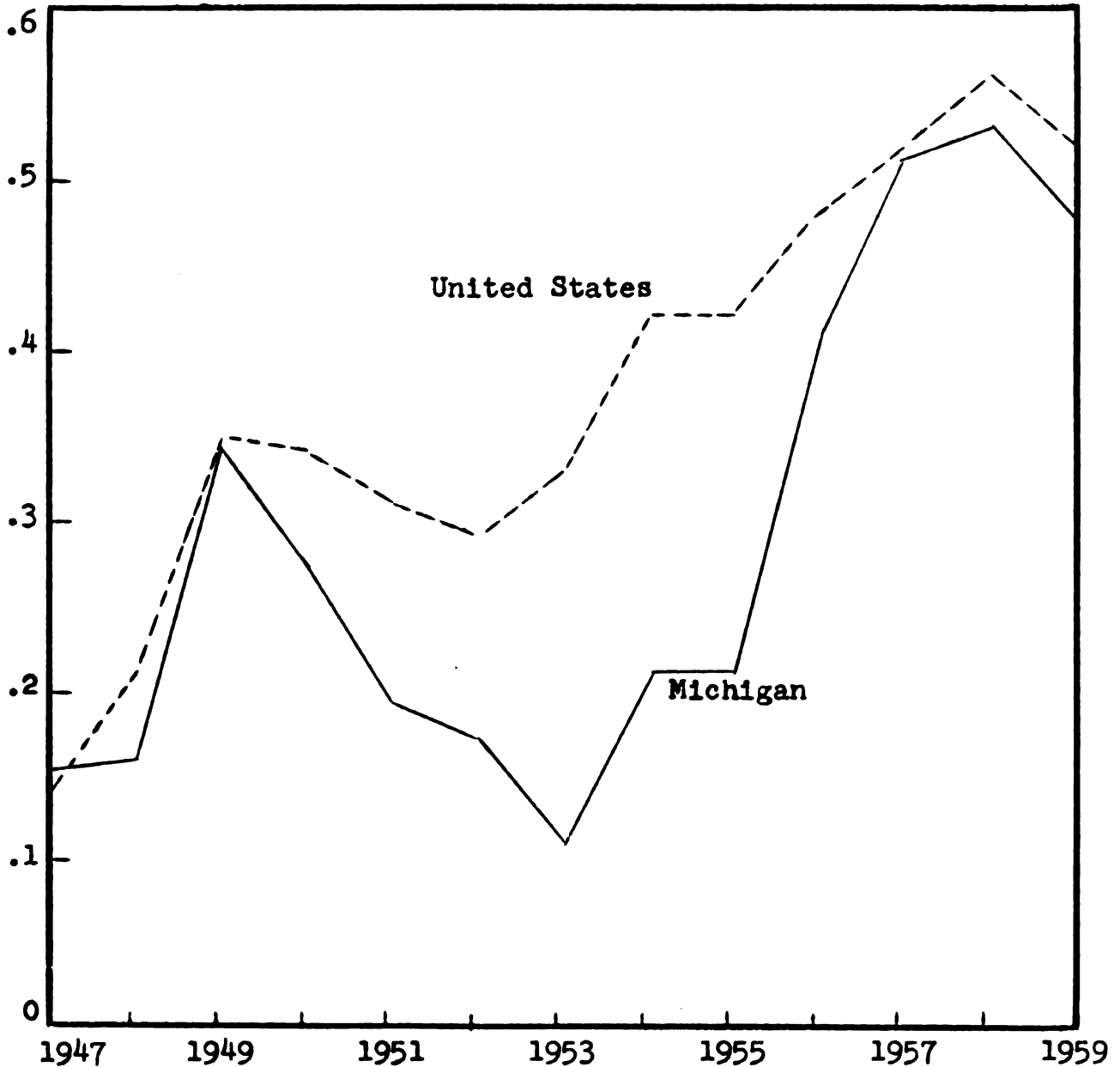
NUMBER OF BUSINESS FAILURES IN MICHIGAN  
AND THE UNITED STATES, 1945-1959



SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S., op. cit.

Figure 2

BUSINESS FAILURES AS A PERCENT OF THE TOTAL NUMBER OF FIRMS  
(Mich. and the U. S., 1947-1959)



SOURCE: Dun and Bradstreet, Inc., as reported in  
the Statistical Abstract of the U. S., op. cit.

subquestions were: in which commercial and industrial fields are businesses likely to experience higher failure rates? What is the size distribution of the firms that failed? Is there a significant pattern in so far as life span is concerned? What is the interrelationship between the economic structures and the failure pattern? What are some of the major changes in the economy reflecting on the business failure picture? How do these affect the begetting of business casualties?

#### Failures Defined

It is a truism that failure is caused by losses in business transactions. Two classes of losses may be distinguished. Economic loss comes about whenever receipts are short of the sum of contractual obligations, depreciation charges, and implicit interest, wage, and rent costs. If on the other hand receipts are not large enough to cover even the contractual obligations plus depreciation, the situation may be described as a business loss in an accounting sense.<sup>1</sup>

Businesses experiencing economic losses may liquidate because of the lack of desirable return on original investments. Many firms incurring business losses may discontinue business activities without causing a loss to creditors, but nevertheless depleting their own assets.

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<sup>1</sup>John F. Due, Intermediate Economic Analysis (Homewood: Richard D. Irwin, Inc., 1956), p. 449.

Either one of these two groups might resort to a merger also as an avenue of exit. When broadly defined, failures can include these two cases; however, in this study, a much more limited definition of failure was utilized. A failure throughout the present study was defined as any business discontinuance that causes a loss to its creditors.

According to this definition incurring economic or business losses is not enough to be included in failure statistics; a firm must also entail a loss to its creditors. Failure, then, in this thesis includes more than bankruptcies as it also includes firms that did not go bankrupt but yet entailed losses to creditors. A firm can cause losses to its creditors without resorting to bankruptcy in two basic ways: voluntary arrangements with its creditors outside the court or involuntary arrangements with its creditors through court action.<sup>2</sup>

In summarizing, while our definition of failure goes beyond its common usage which emphasizes only bankruptcy, it must be stressed that its scope still is very limited. This limitation is due to the exclusion of firms closing shop because of economic or business losses but not entailing a loss to their creditors. For instance, of 347,000 firms in

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<sup>2</sup>For a detailed description of the mechanics of these avenues of exit see Francis J. Calkins, "Liquidation and Bankruptcy" and "Involuntary Reorganization," in Karl A. Boedecker et al., Essays on Business Finance (Ann Arbor: Masterco Press, 1957), pp. 359-383.

the U. S. which ceased existence in 1959, approximately half were considered to be discontinuances due to unsatisfactory results and other types of failures.<sup>3</sup> However, in the same year only 14,053 firms, or 4 percent of all the discontinued firms, failed in the strict sense of causing a loss to creditors. The reason for using the limited definition obviously is the absence of detailed statistics on the broader concept. Elsewhere in this chapter, when the data are discussed, special reference will be made to the contents of the failure statistics to point out what specific cases are included.

#### Two Approaches to Analysis

Two different methods may be used in studying business failures. At any given time a number of failures can be analyzed through interviews and by compiling opinions of their creditors as to why the failure took place. The second method involves accumulation of statistical data and their analyses in terms of their characteristics (type, size, and age) and in respect to the particularities of the economy in which they occurred.

In the complexity of the business world where many variables interact quite inseparably, it is almost impossible

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<sup>3</sup>See Melville J. Ulmer and Alice Nielson, "Business Turnover and Causes of Failure," Survey of Current Business, April, 1947, p. 10. The authors here estimated that approximately half of total discontinuances are involuntary.

to single out one certain cause which is solely responsible for the failure.<sup>4</sup> There are actually as many difficulties to which failure is attributed as there are problems of business.<sup>5</sup> Nonetheless, it has been customary to give a reason for failure. The following are general factors that are commonly accepted as the major causes of failures. The factors listed here are in the main internal and derived through the first method cited above.

Deficiencies in management: Managerial deficiency is generally claimed to be the most important among all factors.<sup>6</sup> This involves an ineptness of the management

<sup>4</sup>A. M. Woodruff and T. G. Alexander, Success and Failure in Small Manufacturing (Pittsburgh: University of Pittsburgh Press, 1958), p. 12.

<sup>5</sup>U. S. Congress, Temporary National Economic Committee, Problems of Small Business, Monograph No. 17, 76th Cong., 3d Sess. (Washington: U. S. Government Printing Office, 1941), p. 81.

<sup>6</sup>See, for instance, U. S. Congress, Report to the Committee on Banking and Currency and Select Committees, Financing Small Business, Parts 1 and 2, 85th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1958), especially p. 7. Kaplan said: ". . . the determining factor in discontinuances of very small business enterprises is not the business cycle so much as it is the personality, experience, and ability of the enterpriser." A. D. H. Kaplan, Small Business (New York: McGraw-Hill Book Company, Inc., 1948), p. 58. Sanzo stated: More than 50 percent of all failures are among relatively new concerns whose primary lack is experience and business know-how. Richard Sanzo, "What is Behind the Rise in Business Failures," Dun's Review, December, 1957, p. 40. Sadd and Williams in their study wrote: "The methods of production and of distribution undergo frequent revolutionary changes, and the consequent affects are disastrous to many businessmen who are slow to heed and to conform to inevitable economic transition. The business executive whose training and experience give him a



which may reflect on the general product, sales, administrative, and financial policies and strategies. Both inability to cope with competitors' policies and inability to satisfy market needs are considered the basis for failure.

Insufficient capital: Most studies have considered inadequate capital as one of the most important causes of failure, ". . . if an enterprise is established on a 'shoe-string' it may logically be classified as lacking economic reason for existence."<sup>7</sup> In fact it has been established that "there is a negative correlation between capital invested and rate of failure."<sup>8</sup>

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static conception of business problems, can have but little hope of success. The slightest misjudgment of the actual course of events often means for the business but one outcome, failure." Victor Sadd and Robert T. Williams, Causes of Commercial Bankruptcies, U. S. Department of Commerce, Domestic Commerce Series No. 69 (Washington: U. S. Government Printing Office, 1932), p. 7. See also Emmet E. Barbee, "Reason for Failure," Credit and Financial Management, November, 1941, 9ff.

<sup>7</sup>T.N.E.C., Monograph No. 17, op. cit., p. 87.

<sup>8</sup>Ibid., p. 92. An opposing hypothesis asserts that insufficient capital is not a cause but a symptom or an effect of some other inadequacies in the management. Woodruff and Alexander had the following to say on this aspect: ". . . the early general feeling that a shortage of working capital was the underlying reason for most bankruptcies was strengthened by much published material. As the study progressed, however, this hypothesis was disproved" (Woodruff and Alexander, op. cit., p. 4). Sanzo said: "it is difficult to make a case for . . . the lack of capital as an important cause of failure. Here and there failures occur among small concerns which borrowed money heavily at the start and were unable to repay or renew loans. By and large, however, failures result from lack of know-how, not from lack of capital" (Sanzo, op. cit., p. 47). A study of business failures concluded: "Lack of capital was not an important cause of failure in the cases studied. In most

Increased competition: This factor refers in part to incompetency in management since many failures occur because of inability to cope with increased competition. However, apart from managerial incompetence this concept also pertains to a declining market share for the individual firm.<sup>9</sup> It is claimed that increasing competition arising from a growing number of new firms creates an ever difficult and growing cost-price squeeze in which all businesses find themselves.<sup>10</sup> Furthermore increased competition enhances the changing patterns in demand and corollary changes in methods of approaching business problems.<sup>11</sup> These changes are, in some cases, almost impossible for some firms to keep up with; thus, they have an increased failure susceptibility.

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of these cases where failure was attributed to lack of capital, something else was the cause." U. S. Department of Commerce, Domestic Commerce Series, Causes of Business Failures in New Jersey in 1929-30 (Washington: U. S. Government Printing Office, 1931), p. 20.

<sup>9</sup>Sadd and Williams about 30 years ago, wrote: "The existence of surplus producing and distributing facilities is evident through the whole of our economic system. Consequently, the consumer's dollar is being sought by a larger number of business units, and with much greater zeal and effort than ever before" (Sadd and Williams, op. cit., p. 6). Thirty years later Sylvia Porter wrote: "The fundamental reason . . . for excessive failures . . . is that our economy has entered the toughest, roughest phase of competition in modern times," Detroit Free Press, February 22, 1961, p. 7.

<sup>10</sup>Sanzo, op. cit.

<sup>11</sup>Ibid.

Adverse domestic and personal factors: Sanzo said that "nearly all failures reflect some element of personal weakness, human, moral, physical frailty, etc."<sup>12</sup> Similarly Barbee attributed 80 to 90 percent of failures directly to the man who fails.<sup>13</sup> Extravagance, intemperance, indolence, gambling, and other habits are shown as important causes of failures. Family problems, dishonesty, and fraud, and lastly "acts of God" are all factors causing many commercial failures.<sup>14</sup>

There is no one commonly accepted list of factors. A classification of causes of failure bearing some resemblance to the above is used by Dun and Bradstreet, Incorporated (D. & B.) which is shown in Table 2. This agency lists as the "underlying causes" of failures such factors as neglect, fraud, lack of experience, and disaster. As the "apparent causes" such factors as poor health, irregular disposal of assets, competitive weaknesses, and others are listed. The table is derived from the annual surveys of the agency's credit reports and the opinions of informed creditors. The D. & B. analyses illustrate the tendency to ascribe a single cause for the failure of any given firm. Probably the one cited is most readily detectable among the

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<sup>12</sup>Ibid.

<sup>13</sup>Barbee, op. cit.

<sup>14</sup>Sadd and Williams, op. cit., p. 25, 26 and Kaplan, op. cit., p. 68.

TABLE 2

CLASSIFICATION OF CAUSES OF BUSINESS FAILURES  
IN MICHIGAN AND THE U. S., 1959

| Underlying Causes                   | Apparent Causes                                                    | Percent of all Failures |       |
|-------------------------------------|--------------------------------------------------------------------|-------------------------|-------|
|                                     |                                                                    | Mich.                   | U. S. |
| Neglect                             | due to . . .                                                       | -                       | 0.8   |
|                                     | Bad Habits                                                         | -                       | 1.7   |
|                                     | Poor Health                                                        | 0.4                     | 0.3   |
|                                     | Marital difficulties                                               | -                       | 0.4   |
|                                     | Other                                                              | -                       | 3.2   |
|                                     |                                                                    | 0.4                     |       |
| Fraud                               | on the part of the principals reflected by . . .                   | -                       | 0.0   |
|                                     | Misleading name                                                    | -                       | 0.3   |
|                                     | False Financial Statement                                          | -                       | 0.2   |
|                                     | Premeditated Overbuy                                               | -                       | 1.0   |
|                                     | Irregular Disposal of Assets                                       | 0.2                     | 0.2   |
|                                     | Other                                                              | 0.2                     | 1.7   |
|                                     |                                                                    | 0.4                     |       |
| Lack of Experience in the Line      | evidenced by inability to avoid conditions which resulted in . . . | 52.4                    | 50.3  |
|                                     | Inadequate Sales Heavy Operating Expenses                          | 24.0                    | 4.7   |
| Lack of Managerial Experience       | Receivables Difficulties                                           | 9.1                     | 9.1   |
|                                     | Inventory Difficulties                                             | 9.5                     | 6.5   |
| Unbalanced Experience* Incompetence | Excessive Fixed Assets                                             | 2.4                     | 5.3   |
|                                     | Poor Location                                                      | 1.0                     | 2.7   |
|                                     | Competitive Weakness                                               | 6.7                     | 24.8  |
|                                     | Other                                                              | 1.0                     | 4.6   |
|                                     |                                                                    | 97.8                    | 91.4  |

TABLE 2--Continued

| Underlying Causes | Apparent Causes                                                              | Percent of all Failures |       |
|-------------------|------------------------------------------------------------------------------|-------------------------|-------|
|                   |                                                                              | Mich.                   | U. S. |
| Disaster          | some of these occurrences could have been provided against through insurance | Fire                    | 0.4   |
|                   |                                                                              | Flood                   | 0.7   |
|                   |                                                                              | Burglary                | 0.0   |
|                   |                                                                              | Employees' Fraud        | 0.1   |
|                   |                                                                              | Strike                  | 0.1   |
|                   |                                                                              | Other                   | 0.1   |
|                   |                                                                              |                         | 0.3   |
|                   |                                                                              | 0.4                     | 1.3   |
| Reason Unknown    |                                                                              | 1.0                     | 2.4   |

\*Experience not well rounded in sales, finance, purchasing, and production on the part of an individual in case of a proprietorship, or two or more partners or officers constituting a management unit.

SOURCE: The Failure Record Through 1959, Dun and Bradstreet, Inc., New York, 1960, and special report for Michigan.

many complex forces resulting in failure. Besides the difficulty of determining the cause of failure, another shortcoming to this type of study is the extreme subjectivity involved. Some people, for instance, may attribute the failure of a concern to lack of managerial skills whereas others may hold economic conditions responsible. Or again heavy operating expenses may be simply a reflection of inadequate sales, or inventory difficulties. Similarly, excessive fixed assets can come about because of inadequate sales, for if sales volume is satisfactory, fixed assets may not seem excessive. The picture, therefore, is not at all clearcut.

In the table managerial inability is given primary importance as the cause of failure. If survival is considered to be a test of managerial superiority, it logically follows that managerial incompetence is the major cause of failure. Contrariwise it is reasonable to assume that the supply of managerial ability in a society does not vary erratically from one year to the next. Assuming that the total supply of potentially good or bad managers does not vary substantially, then among numerous entrants each year there is an equal probability of having an average number of qualified or nonqualified managers. Claiming that failures are mainly due to a lack of managerial skills, therefore, is far from being the best approach. Since human weaknesses are ever existent they are not very useful in explaining ups and

downs in the aggregate failure statistics.<sup>15</sup> What causes, then, the wide variations in failure rates?

Because of lack of managerial ability, knowledge, inadequate records, poor location, etc. some firms are particularly vulnerable to failure when adverse conditions appear in their environment. These are basically high cost, inefficient, or otherwise handicapped concerns. There are always many of these in existence, and from this point of view the basic causes of failure are ever-present.<sup>16</sup> However, basically changes in the economy trigger failure,<sup>17</sup> causing ups and downs in aggregate failure statistics. Most failures occurring in prosperous years take place among submarginal firms. However, when business conditions at large worsen additional troubles arise and factors beyond

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<sup>15</sup>Victor Zarnowitz and Lionel J. Lerner, "Cyclical Changes in Business Failures and Corporate Profits," in Geoffrey H. Moore (ed.), Business Cycle Indicators, Vol. I (Princeton: Princeton University Press, 1961), p. 364.

<sup>16</sup>Ulmer and Nielson, op. cit.

<sup>17</sup>This statement emerges from assuming that the managerial factor is not an erratically changing cause of failure. Naturally, however, the managerial supply is not homogeneous; hence, there might be certain disadvantages involved in this approach. These disadvantages, nonetheless, are minimized by using business entry data. There are always a number of failures due to obvious lack of managerial and other properties necessary to compete; absence of these qualities cause almost immediate withdrawal. Everything being the same, the number of these casualties would stay the same unless the number of entries fluctuates appreciably, in which case casualties will follow suit. Thus, by including the entry data in our analyses as an external factor, the shortcoming of analyzing changes in failure number caused by a lack of managerial ability is minimized.

the firms' control force them out.<sup>18</sup> If let us say, the economy were in equilibrium with no immediate tendency to change, it could be assumed that a certain minimum number of failures would take place, but probably there would be no drastic change in this number from one year to the next. In the event of disequilibrium, there would still be a certain number of failures, but changes from one year to the next would vary at times rather drastically. These changes are basically external or environmental and beyond the reach of individual firms.

The impacts of economic changes differ from one economy to another, which ultimately lead to differences in the overall failure patterns, not only in terms of rate but also with respect to composition.<sup>19</sup> It is then clear that not the absolute number of failures per se but the relative failure rate and its variations provide the sound basis for study. We must see the changes in failure rate in time so that certain associations can be made with other significant changes in the economy.

These facts justified the use of the second method: analyses of aggregate failure statistics within their

<sup>18</sup>Wesley Mitchell, Business Cycles, Part II (Berkeley: University of California Press, 1913), p. 438.

<sup>19</sup>Throughout the present study the pattern of failures refers to changes in the failure rate as well as to age, size, and the composition of failure statistics. Patterns of failures and the failure picture are used in the study interchangeably.



respective economic sectors, not however at a given point in time, but as a continuum or at least in a number of points in time. This method basically was employed throughout the present study. The analyses of the failure patterns were made in terms of their composition, size groups, age, and cyclical characteristics. Also total failure rates were analyzed as a continuum in time and divergencies between this pattern and other major changes in the economy are brought forth.

### Some Major Causes of Failure

There are a great many factors that play pertinent roles in the formation of the business failure patterns. Among these, there are a few that many consider especially important. This section presents a survey of the meanings and workings of some of these factors.

#### New Entries

New entries have a twofold effect on the failure rate; first they increase competition, thus forcing out some competitors, and also among the new entrants are some incompetents who soon fail. It is claimed by many that most of the failures occur among the marginal parasitic firms who manage to survive as long as they are not challenged by pressure created by economic forces or by modern methods introduced by competitors.<sup>20</sup> These marginal parasitic firms may be new as well as old. Newcomers in many cases

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<sup>20</sup>T.N.E.C., Monograph No. 17, loc. cit., p. 122.

introduce new and more efficient techniques or products; and also they bid up resources and hence increase costs, making it more and more difficult for weaker firms to continue existence. On the other hand, mortality among new establishments is much greater, relatively speaking, than among those establishments that have succeeded in fighting the destructive diseases of youth.<sup>21</sup> The second impact of new entries on failures, i.e., exit of incompetent new firms, seems to be more significant. Failure, in this case, is caused by disillusionment concerning market opportunities or lack of knowledge for their exploitation.<sup>22</sup>

In explaining the interrelationship between failures and entries, many have asserted that mortality is a function of entry.<sup>23</sup> It is of course implied here that an increasing number of entries beget an increasing number of failures. Kaplan wrote: "birth rates determine mortality . . . the rate of discontinuances is not generally far from the birth rate of new enterprises, whether the year is a good one or a

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<sup>21</sup>T.N.E.C., Monograph No. 17, ibid., p. 81. K. S. Lomax stated that ". . . it is fairly well established that with most types of business the early years are the most difficult. It is then the mortality is highest. The longer a business survives, generally, other things being equal, the smaller becomes the probability of failure." K. S. Lomax, "Another Example of the Analysis of Failure Data," The Journal of the American Statistical Association, December, 1954, pp. 847-50.

<sup>22</sup>T.N.E.C., Monograph No. 17, ibid., pp. 81-84.

<sup>23</sup>Ibid., p. 20.

bad one."<sup>24</sup> In practice, entry "relates to the ease or difficulty with which a firm becomes a member of a group of competing firms by producing a close substitute for products they are offering."<sup>25</sup> In this practical sense it is now generally believed that entry into some sectors of the economy has become "prohibitively difficult" because of large capital requirements, patents, secret skills and processes, monopoly over raw materials, and cartel restrictions.<sup>26</sup>

In certain sectors of the economy, on the other hand, it is rather easy—in fact too easy—to enter. The

<sup>24</sup>Kaplan, Small Business, op. cit., p. 58.

<sup>25</sup>U. S. Congress, Joint Economic Committee Hearings, The Effects of Monopolistic and Quasi-monopolistic Practices (Washington: U. S. Government Printing Office, 1959), p. 1,983.

<sup>26</sup>Ibid., p. 1,978. There is a rich body of literature on this specific aspect. See for example: Joe S. Bain, "Economies of Scale Concentration and the Condition of Entry," in R. B. Heflebower and G. W. Stocking, Readings in Industrial Organization and Public Policy (Homewood: Richard D. Irwin, Inc., 1958), pp. 46-68, where he claimed that heavy concentration and economies of large plants create strong barriers to entry. Vatter stated: "risk involved in the original investment, prospect of losses due to going prices, increasing technical complexities of production, existing product differentiation through sales promotion, differential advantage of the existing leaders by virtue of their plant and product diversification are all factors hindering entry," Harold G. Vatter, Small Enterprise and Oligopoly (Oregon: Oregon State College, 1955), pp. 74-76. Galbraith wrote: ". . . in an established industry, where the scale of production is considerable, there is no such thing as freedom of entry," J. K. Galbraith, American Capitalism (Boston: Houghton Mifflin Company, 1956), p. 35. See also Wroe Alderson, Marketing Behavior and Executive Action (Homewood: Richard D. Irwin, Inc., 1957), especially p. 110.

entries into these sectors offset the prevailing forces which tend to reduce the number of existing firms.<sup>27</sup> An indication of this is the ratio of the numbers of establishments to population, which has been quite stable for a number of years.<sup>28</sup>

According to Scitovsky:

To establish a new firm always involves the risk of failure; and the cost of bearing this risk may be regarded as a cost of entry. The greater the initial investment in the firm, the greater is the cost; and it is to minimize this cost that businessmen prefer to

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<sup>27</sup>The following statement by Galbraith explains the working of these forces oriented towards reducing the number of establishments: "Weaklings may still fail and disappear, especially in more difficult times. Good times make it easy to finance consolidations and tempting for the strong company to expand and the weak to sell out" (Galbraith, op. cit., p. 35). See also Phillips who listed the forces reducing the number of small firms as: the economy of large-scale organization, pressures of monopoly, market imperfections, capital structure and financial needs of small firms, Joseph D. Phillips, Little Business in the American Economy (Urbana: The University of Illinois Press, 1958), pp. 66-83.

<sup>28</sup>The number of businesses per 1,000 population has been quite steady, as the following figures show:

| <u>Year</u> | <u>Estimated<br/>Population<br/>(000)</u> | <u>Number of<br/>Businesses<br/>(000)</u> | <u>Number of<br/>Businesses per<br/>1,000 Population</u> |
|-------------|-------------------------------------------|-------------------------------------------|----------------------------------------------------------|
| 1953        | 159,636                                   | 4,180                                     | 26.2                                                     |
| 1955        | 165,270                                   | 4,287                                     | 25.9                                                     |
| 1957        | 171,198                                   | 4,471                                     | 26.1                                                     |
| 1959        | 177,103                                   | 4,583                                     | 25.8                                                     |

SOURCE: U. S. Congress, Status of Small Business in Retail Trade, Staff Report to the Select Committee on Small Business (Washington: U. S. Government Printing Office, 1960), p. 5, and Statistical Abstract of the United States, 1960, op. cit., p. 484.

start a new firm on a small scale and expand it gradually.<sup>29</sup>

Some types of retailing and many service businesses, particularly, require almost no capital; from this standpoint their cost of bearing risk is negligible. In addition, many of these trade groups need very little technical know-how. Therefore, the entrepreneurial risk is not high and entry or exit is easy. Small owner-managers in these fields simply try their chances since there is not much to lose. Thus, students contend that a main determinant of death rate among retailers and service establishments is the birth rate.<sup>30</sup>

#### Business Conditions

In dealing with business conditions, two groups of movements in the economy may be distinguished: cyclical and noncyclical. While the former deals mainly with economic changes of relatively short duration, the latter refers generally to structural changes.

There is a significant interrelationship between the business failure picture and the cyclical oscillations of the economy. Therefore, to know the state of business is pertinent in a study of failures. However, contentions about the interrelationship of business cycles and failures

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<sup>29</sup>Tibor Scitovsky, Welfare and Competition (Chicago: Richard D. Irwin, Inc., 1951), p. 333.

<sup>30</sup>Status of Small Business in Retail Trade, op. cit., p. 7.

differ appreciably. At one extreme is the assertion that ". . . it is one of the truisms of the economic world that business failures suddenly tragically expand during a depression, like helium gas in a stratosphere balloon in the warmth of morning sun."<sup>31</sup> This is, of course, in full agreement with the classical theory of the survival of the fittest. When demand declines and business conditions worsen, only the fit would remain. At the other side of the spectrum, a reversed relationship is stated: "failures usually increase steeply when business tides are running high."<sup>32</sup> This, in one sense, is a logical continuation of the hypothesis that business failures is a function of entries. When there is a decline in business, new proprietors tend to postpone entry and closures tend to decline also. As soon as optimism among the potential entrants is restored, a large group of insolvent delinquents and closures appears.<sup>33</sup> Another line of reasoning for the same fact was advanced by Mund:

In a period of business expansion, profits tend to rise with rising prices. Increased borrowings occur, and the

<sup>31</sup>Roy A. Foulke, Behind the Scenes of Business, revised ed. (New York: Dun and Bradstreet, Inc., 1952), pp. 97-98. This opinion is also shared by Shirley Hoffman, who found similarity between the failures and the cycles although the two never overlap. Shirley Hoffman, "Business Failures and Business Cycles," The Conference Board Business Record, February, 1961, pp. 38-41.

<sup>32</sup>"Shaking Out the Weaklings," Business Week, December 21, 1957, p. 38.

<sup>33</sup>T.N.E.C., Monograph No. 17, op. cit., p. 4.

balance of outstanding debt rises rapidly. The case of making profits tends to promote excesses in the use of credit and in speculative investment. Finally, the rate of earnings declines with rising costs, the security for outstanding credits is weakened, business failures and bankruptcies increase, prices fall, and widespread liquidation ensues.<sup>34</sup>

Looking into the noncyclical aspects of business conditions, one must consider the wide variations among different sectors. In a recession, for instance, certain segments of the economy, despite the overall slump, may be prospering. Also, there are certain changes in the total economy that are not brought about by cyclical oscillations. These may be either of a secular or nonsecular nature. While, for instance, continuous dispersion of a previously centralized industry is a secular change, period to period changes in the federal government expenditures can be considered as a nonsecular noncyclical change. Both changes are important because they have a direct influence on the economic prosperity which in turn reflects on the failure picture.

### The Economic Structure

As the endowment of natural resources and the temperament of inhabitants vary, economies of different localities vary also. There are basically ten patterns of economic structure that can be witnessed in the process of area development. An economy may be: predominantly

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<sup>34</sup>Vernon A. Mund, Government and Business (New York: Harper & Brothers, 1955), p. 63.

manufacturing, manufacturing with little wholesaling and retailing, predominantly retailing, significantly diversified, mainly wholesaling, relatively high on transportation employment, mainly mining, university town, resort or retirement town, and lastly agricultural.<sup>35</sup> The national economy also can be identified by its stage of development within the framework of the above listing. If two economies are not alike in terms of various characteristics their particular failure patterns also are likely to be dissimilar. Among these characteristics are: major product of the economy, varying degrees of concentration in different economic sectors, diverging importances of economic sectors in income generation, total value of products in the economy, price sensitivity of demand, etc.

A single industry economy, which may be predominantly manufacturing, might enjoy a larger rate of growth in boom times than an economy of a greater diversification. The opposite will also be true when the economic conditions are reversed. In a recession, unless it is enjoying a highly income inelastic demand, the least diversified economy is likely to be hardest hit. Thus, while a greater diversification may safeguard an economy from the adverse effects of economic slumps, it also may hinder growth in good times.

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<sup>35</sup>Here no sequential order is implied. For a brief description of these patterns see D. C. Miller and W. H. Form, Industry, Labor and Community (New York: Harper & Brothers, 1960).



In business slumps or when the level of business activity is low, the firms in a single industry economy will be hurt immediately, and among them the ones with less resistance to business hazards will be eliminated. Next on the line are their vendors who will be hurt also. Lastly, the adverse effects of recession will be felt by the rest of the economy as a result of the harm done to the major income generating sector. Thus, weaklings in other sectors, namely retailing and services, will follow suit.<sup>36</sup> In considering the economic structure and its impact on the failure picture, special attention must be paid to economic concentration because of its unique influence on the overall failure pattern.

### Economic Concentration

The concept 'economic concentration' has been used in many different senses. It basically refers to having "a small number of firms account for a large proportion of an industry's output,"<sup>37</sup> employment, net capital assets, value added, total research, etc. It, in other words, involves measuring inequality in the distribution of economic power.

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<sup>36</sup>This sequential order might not necessarily hold true in all situations; however, no matter what the sequential order is, these events are more readily detectable in a single industry economy.

<sup>37</sup>Gideon Rosenbluth, "Measures of Concentration," in Business Concentration and Price Policy, A Report of the National Bureau of Economic Research, New York (Princeton: Princeton University Press, 1955), p. 57.

It also means existence or increase of monopoly power.<sup>38</sup> From this latter point of view concentration can affect the business failure pattern in two different ways. It first of all is a hindrance for new entries, and if the proposition that failure is a function of entries is accepted then it follows that failure in highly concentrated industries will be relatively low. If a few firms handle a large majority, if not all, of their total volume in the industry, i.e., if it is oligopolistic in nature with high concentration and diversification, new entries may become mainly commodity extensions of large firms. They enter a new field by expanding their operations.<sup>39</sup>

In highly concentrated oligopolistic markets failure is not only curbed by the lack of numerous entries but also because of the size and the nature of the firms involved. Large firms in many cases are extensively diversified and because diversification safeguards against failure, a high

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<sup>38</sup>M. A. Adelman, "The Measurement of Industrial Concentration," in R. Heflebower and G. W. Stocking, op. cit., pp. 3-4.

<sup>39</sup>Harold G. Vatter, op. cit., p. 77. See also H. H. Howard, "Effectiveness of Entry by Already Established Firms," Quarterly Journal of Economics, Winter, 1957, pp. 132-50, where he classified specific factors that are necessary for entry as: information about opportunities for profitable entry, access to productive resources, access to markets, and ability to overcome immobilization and other frictions that slow the rate of adjustment; also he stated that these factors are more readily within the scope of large enterprises.

mortality rate does not exist in these industries. Failure becomes only the unsuccessful introduction of some new products or the discontinuance of some old ones and not collapse of the whole firm.<sup>40</sup>

The above two situations are true for highly concentrated industries where the process of concentration is more or less completed and oligopolistic characteristics already established, such as the automobile and steel industries. If, on the other hand, the process of concentration is actively going on then the large firms get larger and axiomatically some others get smaller. The marginal firms that cannot get any smaller will naturally be forced out.<sup>41</sup>

The total possible amount of expansion of an economy is not unlimited at any one time, and when the absolute growth of a few firms becomes greater than the absolute growth of the economy as a whole there must be a decline and eventual elimination of some other firms.<sup>42</sup>

<sup>40</sup>The Effects of Monopolistic and Quasi-monopolistic Practices, U. S. Congress: Hearings, op. cit., p. 2,146.

<sup>41</sup>In fact, while discussing the reduction in the number of flour mills and the growth of certain others, Vatter said: "Inability of the small firm to retain its market in the face of the requirement of modern technology with its concomitant large fixed plant, the superior procurement and marketing facilities of the more powerful competitor . . . are the causes of the shrinkage in the number of plants . . . Flour milling appears to provide a classic illustration for those who argue that mature capitalism involves the numerical demise of small enterprise" (Vatter, op. cit., pp. 61, 65).

<sup>42</sup>Edith T. Penrose, The Theory of the Growth of the Firm (Oxford: Basil Blackwell, 1959), p. 248.

In times of economic slump, this process may become more visible. As a few large firms grow faster than the economy itself, more and more participants in the same economy become marginal and when the economic activity slackens these may fail easily.

While concentration comes about by the growth of certain firms in industries where there are external and internal economies leading to a decreasing cost curve, another method of growth is through mergers and acquisitions. Generally speaking, the underlying factors of merger movements are desires to eliminate vigorous competition, to achieve market control or monopoly profits, to make the most of expected favorable business conditions in early cyclical expansions, or technical revolution leading to economies of large scale operations.<sup>43</sup>

### Basic Hypotheses

The basic hypothesis of this project was that the variation in the failure rate is mainly a function of business conditions which reflect differently on different economic structures. The difference, then, between the state and national business failures pattern shown in Figure 1 was caused by the structural dissimilarities between the two economies on which business conditions reflected

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<sup>43</sup>Ralph L. Nelson, Merger Movements in American Industry 1895-1956 (Princeton: Princeton University Press, 1959).

differently. Other emerging hypotheses from this were as follows:

1. The characteristics of the business population is one of the major determinants of the basic failure pattern. There will be a general resemblance between the industrial composition of the total business population and that of the business failures.
2. Income and basic economic structure are also major contributors. Thus, Michigan's dependency on durable goods industries makes its economy and income more erratic than the national. As a corollary, Michigan's failure rate also is more erratic.
3. With regard to Michigan, the prevailing extreme importance of the durable goods industries in the state makes its economy too dependent on the national business conditions since these industries are engaged in the production of goods that are mainly exported from the state. Thus, changes in the national demand for Michigan's products would amplify fluctuations in the state's income as well as the total business failures.

### The Data

A number of statistical series compiled by D. & B. were utilized for this study:

Total listed concerns: These data represent enterprises listed in each July issue of the D. & B. Reference Book. The scope of these listings are limited to manufacturers, wholesalers, retailers, building contractors and certain types of services including public utilities. Branches are listed separately when they act as individual business units, although chain retail stores are not listed individually. Obviously, this series does not cover all businesses in the country, for it excludes financial enterprises, insurance and real estate companies, railroads, terminals, amusements, and professions. It furthermore does not include many small one-man services.

New enterprises: This series includes the numbers of the names added to the six Reference Books published during each year. As soon as the first credit report is written on a concern, it is included in the listing. This series includes also successions which are newly listed firms because of a change in their legal form or ownership.

Business failures: These are industrial and commercial enterprises which ceased operations following assignments, voluntary or involuntary bankruptcy, attachment, execution, and other similar legal procedures. Also included are voluntary withdrawals from business that caused

loss to creditors, enterprises involved in court action such as receivership, reorganization or arrangement which may or may not end in discontinuance, and lastly, businesses making a voluntary compromise with creditors out of court.<sup>44</sup>

A business failure then, as defined by D. & B., entails a loss to creditors. D. & B. data are composed of cases belonging to any one of three situations. First, enterprises which ceased operation as a result of legal action. Second, businesses involved in court action which does not result in a cessation of activity. Third, voluntary compromises with creditors, that may or may not result in cessation of activities.

Although business failure statistics were the most important for our purposes, the others also were used on various occasions.

#### Failures vs. Discontinuances

We have already mentioned that failure statistics are relatively limited in scope for they represent only about 4 percent of total discontinuances, of which half are assumed to be failures even though there is no loss entailed to creditors. It was then important to establish the

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<sup>44</sup>Statistical Abstract of the United States, 1959, U. S. Department of Commerce, op. cit., p. 501. Vital Statistics of Industry and Commerce, D. & B., Inc., July, 1943, pp. 3-4; Betty C. Churchill, "Recent Business Population Movements," Survey of Current Business, January, 1954, p. 24.

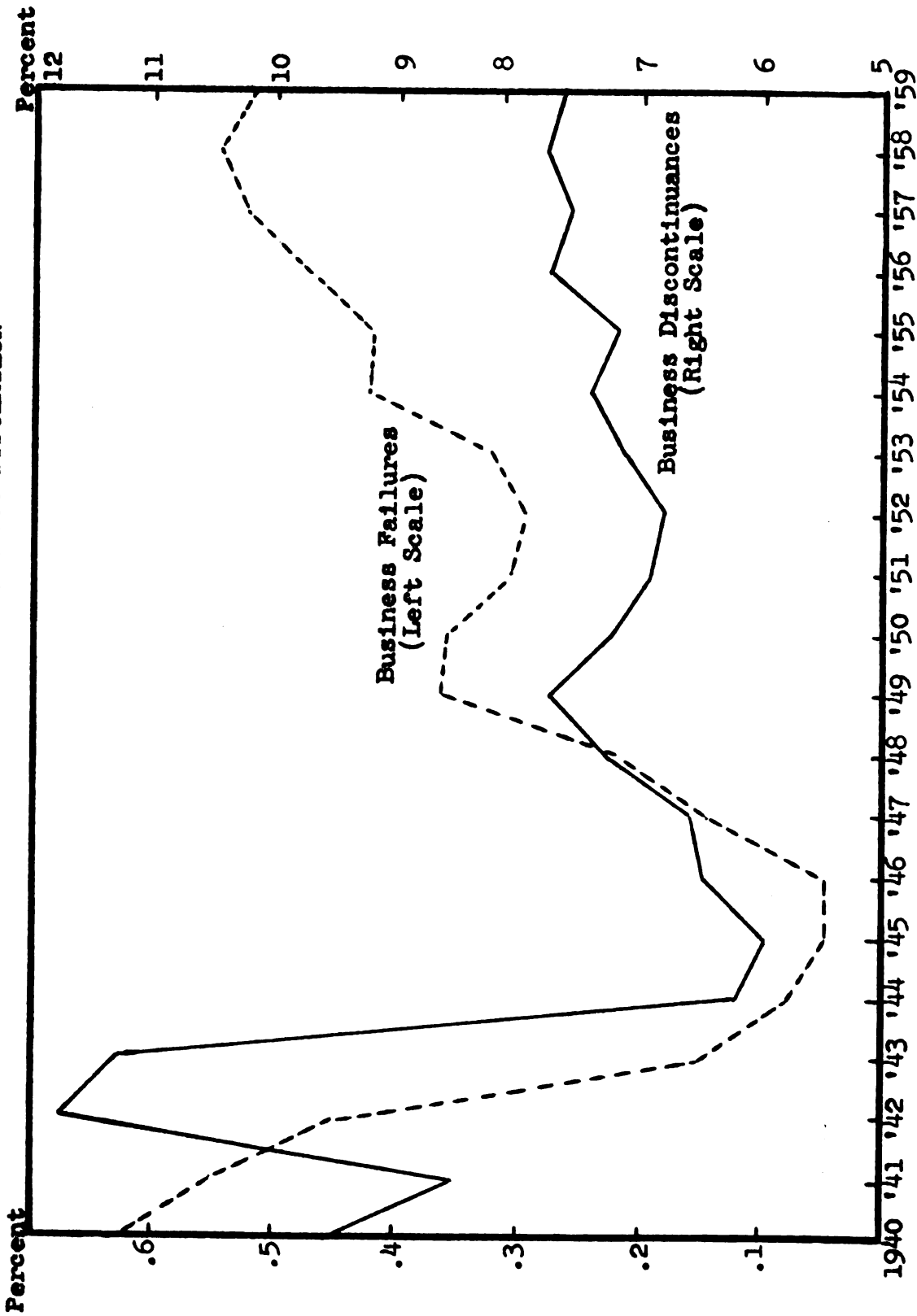
similarity or dissimilarity between these two series so that when discussing certain patterns in failure pictures it would become possible to have a rough notion about how far these might be from the patterns occurring in the discontinuance statistics.

Despite the differences in the scope of the two groups of data, there is a substantial resemblance between them. The overall similarity between failure data and the Department of Commerce discontinuance series can be observed in Figure 3. These two series are quite alike, with the exception of the war years during which store owners shut down their businesses either because they were drafted or because material and manpower were inadequate. While the number of closures ran high during the war years, the failure rate was very low as business conditions were satisfactory for those who managed to stay open. The discontinuance pattern, however, is not as oscillatory as the failure pattern. The more stable nature of discontinuance figures may partly be attributed to the stable nature of the other nonfailure factors involved in discontinuances. For instance, there is no reason to believe that the number of closures due to the death of owner-managers fluctuates markedly from year to year. Another factor that makes the discontinuance picture relatively smoother is the fact that the timing of discontinuances may not coincide with the timing of failures. While the failure record keeps pace



Figure 3

# BUSINESS FAILURES AND BUSINESS DISCONTINUANCES IN THE U. S. AS A PERCENT OF TOTAL BUSINESS POPULATION



SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S.; and business discontinuance figures computed from the U. S. Department of Commerce, Office of Business Economics, Business Statistics, 1961 Edition (Washington: U. S. Government Printing Office, 1961), p. 8.

with the oscillatory movements of the economy fairly well,<sup>45</sup> discontinuances may noticeably depart. In the case of failure, the firm is actually forced out because of insolvency created by one of a host of reasons. However, the fact that a firm is not functioning satisfactorily does not necessitate withdrawal as long as solvency is maintained. Especially when the outside prospects for a better job is slim the owner-manager would remain in his field, even if he were to pay himself only a subsistence salary. Moreover, availability of unpaid family labor and the absence of rents, in a household business, make it attractive to continue the present work until alternative employment opportunities become brighter.<sup>46</sup> The fact that the proprietor may pay himself much less than the going rate may suffice to keep the concern alive.<sup>47</sup> This picture, however,

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<sup>45</sup>The National Bureau of Economic Research studies dealt with business failures time series as an indicator. In these studies, failure series are considered to be leading the cycles. See, for instance, Arthur F. Burns and Westley C. Mitchell, Measuring Business Cycles (New York: National Bureau of Economic Research, Inc., 1947). Also Geoffrey H. Moore, Measuring Recessions, Occasional Paper 61 (New York: National Bureau of Economic Research, Inc., 1958). Shirley S. Hoffman stated, "cyclical changes in the number of business failures bear important resemblances to past fluctuations, but are never precisely the same." "Business Failures and Business Cycles," The Conference Board Business Record, February, 1961, pp. 38-41.

<sup>46</sup>Phillips, op. cit., p. 64.

<sup>47</sup>The average income of active proprietors of unincorporated nonagricultural businesses computed by Phillips substantiates this point. These incomes for selected years

may be completely reversed in good times. Those marginal businesses that managed to survive may decide to close if outside prospects seem brighter.<sup>48</sup> Because, however, of these stabilizing factors the total discontinuance picture

were:

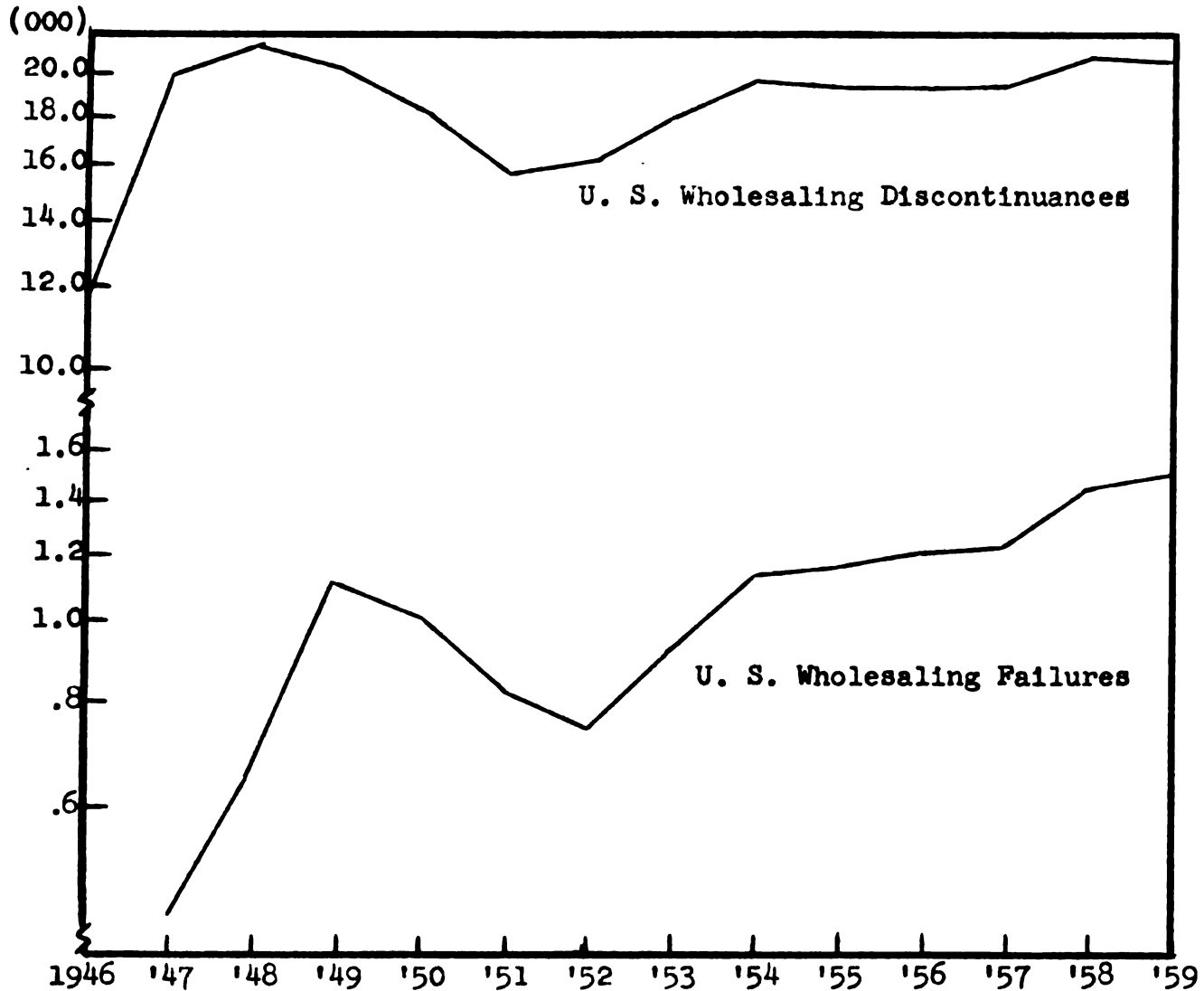
| <u>Year</u> | <u>Income</u> |
|-------------|---------------|
| 1947        | \$3,414       |
| 1949        | 3,123         |
| 1951        | 3,702         |
| 1952        | 3,683         |

SOURCE: Phillips, op. cit., p. 51. By paying very low salaries and by putting in long hours, some entrepreneurs manage to survive despite the undesirable economic conditions.

<sup>48</sup>During the two years from December, 1941, to December, 1943, nearly a million enterprises (mainly in distribution lines) closed shop. Only about half a million new firms were started during the same period, so there was a net drop of half a million enterprises in the business population. Kaplan, Small Business, op. cit., p. 45. While some of these were forced to do so because of the draft, control of material supplies or explicit mandate, others shut down their businesses and moved into more lucrative employment existing in industry. Melville J. Ulmer, "The Postwar Business Population," Survey of Current Business, January, 1947, p. 10. In boom years, closures of this kind can be witnessed very often as greater opportunities attract marginal store owners whose businesses do not yield enough to cover their reservation price. These people usually make much less than their counterparts working in industry. One major exception to this, of course, is the case where the individual proprietor is not in business on his own free will but due to a continuous lack of opportunity to move elsewhere. As Mabel Newcomer wrote: "The larger part of the little businesses in Poughkeepsie afford a very meager living, and most of the proprietors who are willing to operate such marginal concerns indefinitely are likely to be those of mediocre ability or those handicapped by some form of discrimination who have difficulty in finding well-paid employment." Mabel Newcomer, "The Little Businessman: A Study of Business Proprietors in Poughkeepsie, New York," Business History Review, Winter, 1961, p. 511.

looks somewhat smoother than that of failures. Nevertheless, there exists a substantial resemblance between these two series of statistics as portrayed by charts 4, 5, and 6 where comparisons of failures to discontinuances are shown separately for the wholesaling, retailing, and manufacturing sectors. A similar attempt to illustrate the similarity between data relating to services was not made because of basic discrepancies in the definition, composition, and scope of the two sets of figures.

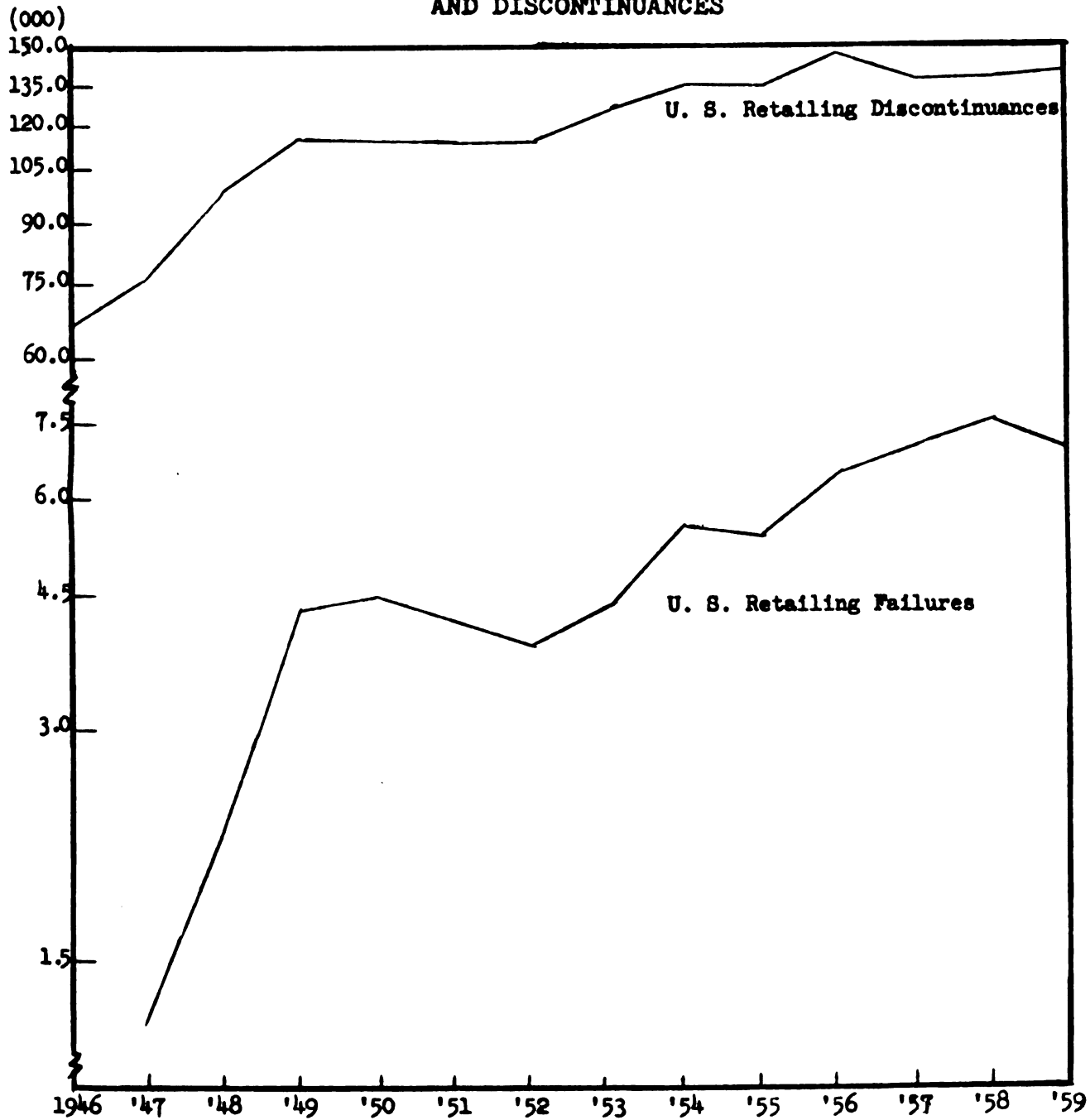
Figure 4

U. S. WHOLESALING FAILURES  
AND DISCONTINUANCES

SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S., op. cit., and Business Statistics, op. cit., p. 8.

Figure 5

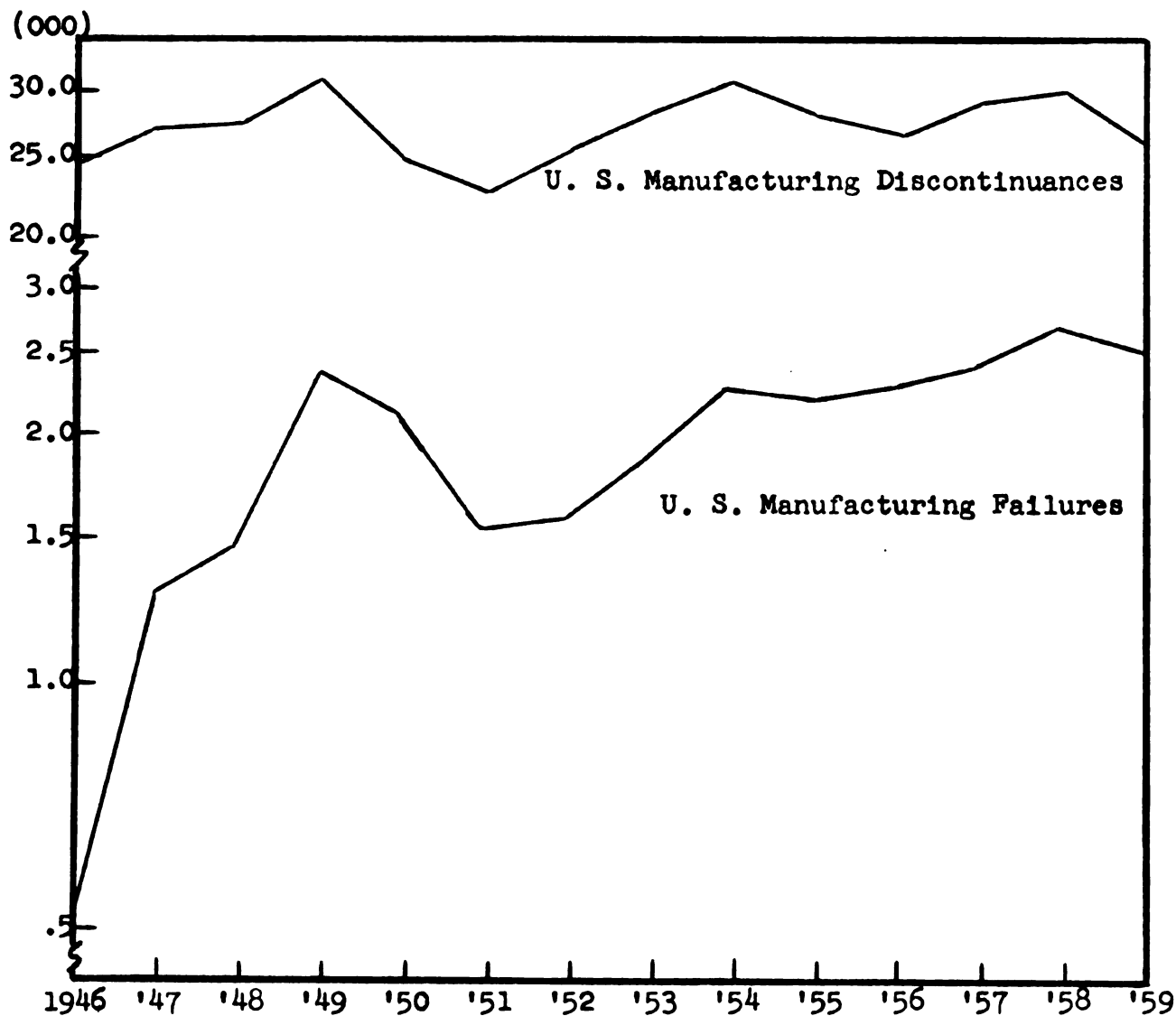
# U. S. RETAILING FAILURES AND DISCONTINUANCES



SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S., op. cit., and Business Statistics, op. cit., p. 8.

Figure 6

U. S. MANUFACTURING FAILURES  
AND DISCONTINUANCES



SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S., op. cit., and Business Statistics, op. cit., p. 8.

## CHAPTER II

### THE COMPOSITION AND CHARACTERISTICS OF BUSINESS FAILURES IN MICHIGAN AND THE UNITED STATES

In the preceding chapter, it was established that there is a significant difference between the pattern of failures in the state and the nation as a whole. Not only do differences exist in the aggregates but also in the composition. Some appreciation of the underlying causes of differences may be obtained from an examination of the disparities in the composition of casualties in different economic sectors.

Significant points next to be brought into focus for better understanding of the overall picture were: the kinds of businesses more likely to fail, their relative share of the total mortality picture, the changes in this relative share, the rate of failure of significant economic sectors, the size distribution of establishments and their age at failure, and the cyclical ramifications of the failure pattern.

The present chapter undertakes the task of investigating the failure picture in Michigan and the United States within the framework of the above problem areas.



Manufacturing, wholesaling, construction, retailing, and services sectors were considered individually. Four selected years were chosen for study: 1953, 1954, 1958, and 1959. Of these four, 1953 and 1959 were prosperous years for both Michigan and the nation; whereas, the other two were recession years. Referring, once again, to Chart 2 in Chapter One, it can be seen that 1953 was relatively the most favorable year in Michigan, as the rate of failure was as low as 11 casualties per 10,000 firms in existence, as opposed to 33 per 10,000 for the nation. In 1958, on the other hand, the rates of failure in both economies came the closest together since 1947.

Of course, it should be remembered that four observations in a seven year period are not enough to derive definite conclusions. Hence, all the findings and analyses made in this chapter are more suggestive than definitive.

Throughout the chapter, Dun and Bradstreet (D. & B.) failure statistics are used. The concern or the business enterprise is the basic unit in these statistics. As was noted previously, the D. & B. reports involve a highly restrictive definition of failure. Consequently, all failure figures used in this chapter are in a sense understatements of the true situation. Moreover, the use of D. & B. figures, based upon the number of firms failing, in conjunction with U. S. Census figures consisting of the number of establishments in operation, results in especially gross

understatements in the computation of failure rates. However, the resemblances found between the failure and discontinuance statistics made it likely that the trends and developments presented by the failure data are duplicated by discontinuance statistics, but upon a much larger scale.<sup>1</sup>

#### Who is Likely to Fail?

D. & B. has analyzed over 1,000,000 business failures during the past 100 years. It reports that retailers made up about 50 percent of the total casualties, and food stores, eating and drinking places together, accounted for about one-third of this total retail toll. The average casualty was small in terms of liability size, the typical one being in the \$5,000 to \$25,000 range. Usually, the failure was in its second or third year of operation and almost three-fifths were less than five years old. The average business casualty was likely to be located in a nonmetropolitan area.<sup>2</sup> These basic properties of the typical failures were as relevant for Michigan as for the nation as a whole.

Table 1 shows the number and percentage breakdown of business failures both in Michigan and the United States for the four years considered. In both economies the largest number of failures occurred in the retailing sector; manufacturing was second, followed by construction, wholesaling,

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<sup>1</sup>For definitions, description of the data and comparison of failure statistics with discontinuance data see Chapter One, especially pp. 28-33.

<sup>2</sup>Rowena Wyant, "Least Likely to Succeed," Dun's Review and Modern Industry, November, 1957, p. 31.

and services.

TABLE 1  
NUMBER AND PERCENT DISTRIBUTION OF BUSINESS FAILURES  
IN MAJOR INDUSTRIAL AND COMMERCIAL CATEGORIES,  
MICHIGAN AND THE UNITED STATES<sup>a</sup>

|                        | <u>Michigan</u> |                                      | <u>United States</u> |                                      |
|------------------------|-----------------|--------------------------------------|----------------------|--------------------------------------|
|                        | Total<br>Number | Percent<br>Distribution <sup>b</sup> | Total<br>Number      | Percent<br>Distribution <sup>b</sup> |
| Manufacturing          | 227             | 16.6                                 | 9,024                | 18.5                                 |
| Wholesale Trade        | 144             | 10.5                                 | 4,883                | 10.0                                 |
| Retail Trade           | 705             | 51.6                                 | 24,259               | 49.8                                 |
| Construction           | 205             | 15.0                                 | 6,555                | 13.5                                 |
| Commercial<br>Services | 84              | 6.2                                  | 3,984                | 8.2                                  |
| Total                  | 1,365           | 100.0                                | 48,705               | 100.0                                |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Dun and Bradstreet, Inc., special tabulations and The Failure Record Through 1959.

Despite the resemblance between the relative magnitudes of failure statistics in the five major sectors, the composition within each sector varied when Michigan was compared to the nation as a whole.

#### Manufacturing Failures

An examination of the composition of total manufacturing failures in both economies revealed certain interesting facts. Failures in the Iron, steel and products, and Machinery groups in Michigan, relatively speaking, overwhelmingly exceeded their national counterparts. The case

was reversed for the Food, Textile, and Lumber and products sectors, where during the four years studied the death percentage, as can be observed in Table 2, was higher in the national scene. The relative share of Textile mill products and apparel in the nation (24.4 percent of the total) and the share of the Machinery sector in Michigan (34.4 percent of the whole) were striking evidences of the dissimilarity existing in the makeup of total manufacturing failures in the two economies.

This difference in the compositions of manufacturing failures could be accounted for mainly by the divergencies of the industrial structures. As can be noted in Table 3, a large portion of the manufacturing population in Michigan is concentrated in durable goods industries. In fact, it will be seen in the third chapter that this sector in the state absorbs a very substantial share of the total manufacturing employment and generates a substantial amount of total personal income. The total share of the Machinery and the Iron, steel and products categories of the general industrial population was 43.5 percent in the state as opposed to 23.2 percent in the nation as a whole. Nondurable goods producers, on the other hand, constituted a larger share of the total in the national economy than in Michigan. Food and kindred products, Textile mill products and apparel, and Lumber and lumber products, which are all nondurable industries, composed 42.0 percent of all manufacturing establishments in the United States as opposed to Michigan's 25.6

TABLE 2

DISTRIBUTION OF MICHIGAN AND UNITED STATES MANUFACTURING FAILURES<sup>a</sup>

|                                       | Michigan        |                                      | United States   |                                      |
|---------------------------------------|-----------------|--------------------------------------|-----------------|--------------------------------------|
|                                       | Total<br>Number | Percent<br>Distribution <sup>b</sup> | Total<br>Number | Percent<br>Distribution <sup>b</sup> |
| Food and kindred products             | 17              | 7.5                                  | 709             | 7.9                                  |
| Textile mill products and apparel     | 2               | .9                                   | 1,928           | 24.4                                 |
| Lumber and lumber products            | 31              | 13.7                                 | 1,656           | 18.4                                 |
| Paper, printing and publishing        | 13              | 5.7                                  | 581             | 6.4                                  |
| Chemical and allied products          | 5               | 2.2                                  | 263             | 2.9                                  |
| Leather and leather products          | 2               | .9                                   | 373             | 4.1                                  |
| Stone, clay and glass products        | 7               | 3.1                                  | 209             | 2.3                                  |
| Iron, steel and products <sup>c</sup> | 33              | 14.5                                 | 494             | 5.5                                  |
| Machinery <sup>d</sup>                | 78              | 34.4                                 | 1,020           | 11.3                                 |
| Transportation equipment              | 9               | 4.0                                  | 299             | 3.3                                  |
| Miscellaneous                         | 30              | 13.2                                 | 1,492           | 16.5                                 |
| Total                                 | 227             | 100.0                                | 9,024           | 100.0                                |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959).<sup>b</sup>Detail may not add to total because of rounding.<sup>c</sup>Includes Primary and Fabricated metal products.<sup>d</sup>Includes both Nonelectrical and Electrical Machinery.<sup>e</sup>Includes Petroleum and coal products, Rubber products, Instruments and related products, Tobacco manufacturers, and Ordnances.SOURCE: Dun and Bradstreet, Inc., special tabulations and Business Trends News, January 19, 1960, p. 2.

TABLE 3

NUMBER OF MANUFACTURING ESTABLISHMENTS AND THEIR PERCENT  
DISTRIBUTION IN MICHIGAN AND THE UNITED STATES, 1958

|                                       | Michigan        |                                      | United States   |                                      |
|---------------------------------------|-----------------|--------------------------------------|-----------------|--------------------------------------|
|                                       | Total<br>Number | Percent<br>Distribution <sup>a</sup> | Total<br>Number | Percent<br>Distribution <sup>a</sup> |
| Food and kindred products             | 1,548           | 11.5                                 | 40,001          | 13.4                                 |
| Textile mill products and apparel     | 290             | 2.2                                  | 37,124          | 12.5                                 |
| Lumber and lumber products            | 1,630           | 12.1                                 | 48,084          | 16.1                                 |
| Paper, printing and publishing        | 1,539           | 11.5                                 | 40,662          | 13.6                                 |
| Chemicals and allied products         | 420             | 3.1                                  | 12,410          | 4.2                                  |
| Leather and leather products          | 38              | .3                                   | 4,421           | 1.5                                  |
| Stone, clay and glass products        | 728             | 5.4                                  | 15,226          | 5.1                                  |
| Iron, steel and products <sup>b</sup> | 2,485           | 18.5                                 | 31,083          | 10.4                                 |
| Machinery <sup>b</sup>                | 3,356           | 25.0                                 | 38,246          | 12.8                                 |
| Transportation equipment              | 568             | 4.2                                  | 6,331           | 2.1                                  |
| Miscellaneous <sup>b</sup>            | 830             | 6.2                                  | 24,488          | 8.2                                  |
| Total                                 | 13,432          | 100.0                                | 298,077         | 100.0                                |

<sup>a</sup>Detail may not add to total because of rounding.

<sup>b</sup>For explanation of contents see Table 2.

SOURCE: 1958 Census of Manufactures, Volume III, Area Statistics, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1961), pp. 6, 21-8, 21-11. Percentages computed.

percent.

A comparison between percentage distributions in Tables 2 and 3 revealed striking resemblance. This resemblance suggested that to a substantial extent the business population plays an important role in the overall formation of failure statistics. In Michigan a significant percentage of failures (49.9) took place in the Iron, steel and products, and Machinery categories which together also accounted for 43.5 percent of the total manufacturing population. In the United States failures in Food and kindred products, Textile mill products and apparel, and Lumber and lumber products categories all together accounted for 50.7 percent of the total. Forty-two percent of all manufacturing establishments existed in these categories.<sup>3</sup>

Since the relationship between failures and population was not one to one, it was important to analyze the rate of failure in different manufacturing categories. Table 4 illustrates how the rates of failure compare in different categories in the same year and in different

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<sup>3</sup>The coefficients of variation (V) (the ratio of standard deviation ( $\sigma$ ) and arithmetic mean ( $\bar{X}$ ) multiplied by 100), for failure statistics and manufacturing population in Michigan, were 30.8 percent and 23.8 percent respectively. For the nation as a whole these figures are 21.5 percent and 16.2 percent. As can be noticed there is somewhat more scatter among failures than among the manufacturing population; however, the coefficients of variations were not far apart either in Michigan or in the United States. Furthermore, the Chi Square test proved that the differences in the coefficients of variations was insignificant at the 5 percent confidence level. Thus, the basic resemblance between the failure data and business population was demonstrated more effectively.

years, and how these rates compare in Michigan and in the United States. One of the most important facts that this table brings out is that while the national failure rate changed little (from .64 percent in 1953 to .63 percent in 1959), Michigan's rate was more than tripled. This net increase in Michigan was mainly due to the more than proportionate rise of failure rates in Lumber and lumber products, Iron, steel and products, Machinery, and Miscellaneous manufacturing categories. These four categories were more important in Michigan's failure picture for they constituted 61 percent of the total manufacturing failures as indicated in Table 2.

The major portion of the failure rate growth in the national scene was attributable to Textile mill products and apparel, Lumber and lumber products and Miscellaneous manufacturing categories which comprised almost 60 percent of the total manufacturing failures. A slight increase in the rate of failures in these categories means a substantial jump in the total failure number because of their large share of the total.

A comparison between Tables 2 and 4 discloses that most failures do not occur in the industrial categories where the higher failure rates prevailed. Failures in the Leather and leather products category, for instance, accounted for about one percent of total manufacturing failures in Michigan although the failure rate in this category was over 2.5



TABLE 4

NUMBER OF MANUFACTURING FAILURES EXPRESSED AS A PERCENT OF NUMBER  
OF ESTABLISHMENTS IN MANUFACTURING IN MICHIGAN AND THE  
UNITED STATES: 1953, 1954, 1958, 1959, and 1959a

|                                   | Michigan |      |      |      | United States |      |      |      |
|-----------------------------------|----------|------|------|------|---------------|------|------|------|
|                                   | 1953     | 1954 | 1958 | 1959 | 1953          | 1954 | 1958 | 1959 |
| Food and kindred products         | —        | .54  | .13  | .40  | .45           | .42  | .47  | .43  |
| Textile mill products and apparel | .30      | —    | —    | .38  | 1.17          | 1.38 | 1.33 | 1.20 |
| Lumber and lumber products        | .18      | .29  | .92  | .55  | .54           | .65  | 1.10 | 1.14 |
| Paper, printing and publishing    | —        | .14  | .39  | .33  | .29           | .34  | .45  | .42  |
| Chemical and allied products      | —        | .53  | —    | .71  | .51           | .63  | .53  | .56  |
| Leather and leather products      | —        | 2.50 | 2.63 | —    | 1.65          | 2.13 | 2.26 | 1.66 |
| Stone, clay, and glass products   | .40      | .19  | .14  | .50  | .34           | .54  | .41  | .34  |
| Iron, steel and products          | .05      | .36  | .75  | .21  | .25           | .40  | .57  | .45  |
| Machinery                         | .28      | .43  | 1.10 | .63  | .57           | .96  | .77  | .70  |
| Transportation equipment          | .20      | —    | .53  | .92  | 1.15          | .75  | 1.26 | 1.66 |
| Miscellaneous                     | .31      | .62  | 1.57 | 1.17 | 1.15          | 1.48 | 1.72 | 1.64 |
| Total                             | .16      | .36  | .72  | .51  | .94           | .78  | .87  | .83  |

<sup>24</sup>Numbers of total manufacturing establishments for 1954 and 1958 were taken from the Census of Manufacturers. 1953 and 1959 totals are from B.O.A.S.I., County Business Patterns. Although these two series are not exactly alike, there is a high degree of comparability between the two. B.O.A.S.I. figures basically deal with manufacturing establishments with employees and pay roll, and since most of the manufacturing establishments are of this nature the two series are quite similar. The Census definition of establishment is not perfectly comparable to that of "firm" or "Enterprise" of Dun and Bradstreet, for the former counts every unit as a separate entity; whereas, Dun and Bradstreet counts branches separately only when they act as separate buying units, therefore, there is a downward bias in the rate figures. If Dun and Bradstreet had used the census definition of establishment conceivably the rates would have been greater.

SOURCE: County Business Patterns, U. S. Department of Commerce and U. S. Department of Health, Education and Welfare (Washington: U. S. Government Printing Office, 1955, 1961). 1958 Census of Manufacturers, op. cit., Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

percent. In the economy as a whole, about 4 percent of total manufacturing failures occurred in this category although the failure rate was very high during the four years considered.

Michigan's relatively more failures in durable goods manufacturing can substantially be explained, as already discussed, by its manufacturing population structure. The relatively greater number of durable goods manufacturing establishments increases the probability of having more failures in these categories. However, since the failure to population ratio is not one to one, the industrial population structure does not explain the increase in the total failure rate as revealed in Table 4.

The total failure rate in Michigan went up from .16 percent in 1953 to .51 percent in 1959. A number of developments in Michigan's economy were considered as contributing to this acceleration. Among these were: a decline in the Lumber and lumber products industry, increasing integration in the automobile industry, the dispersion of the auto industry, and a decline in the demand for durable goods.

The Lumber and lumber products industry has been losing its relative importance. This decline is reflected in the decrease of the number of establishments,<sup>4</sup> as well as the number of employees engaged in this type of work. Furthermore, the industry's direct contribution to the total

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<sup>4</sup>From 1,635 in 1953 to 1,452 in 1959, County Business Patterns, op. cit.

value added by manufactures declined during the period of 1947 to 1958.<sup>5</sup>

In recent years the auto giants in Michigan have been making efforts to integrate different phases of manufacturing under one administration, instead of subcontracting the work to smaller firms. The major reasons for this trend are maximizing profits, avoiding the unemployment expenses stemming from the nature of their labor contracts, and encouraging stability of employment within the manufacturing operations.<sup>6</sup> More than a fourfold increase in the Michigan failure rate for Iron, steel and products between 1953 and 1959 can be partially attributed to this development. Both

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<sup>5</sup>The following table illustrates these points:

NUMBER OF EMPLOYEES AND THE VALUE ADDED  
IN LUMBER AND WOOD PRODUCTS INDUSTRY  
AS A PERCENT OF MANUFACTURING TOTAL

| Years | <u>Michigan</u>                                      |                                                 | <u>United States</u>                                    |                                                    |
|-------|------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------|----------------------------------------------------|
|       | No. of Employees as a % of State Manufacturing Total | Value Added as a % of State Manufacturing Total | No. of Employees as a % of National Manufacturing Total | Value Added as a % of National Manufacturing Total |
| 1947  | 1.7                                                  | 1.3                                             | 4.4                                                     | 3.4                                                |
| 1954  | 1.4                                                  | .8                                              | 4.1                                                     | 2.7                                                |
| 1958  | 1.3                                                  | .8                                              | 3.8                                                     | 2.2                                                |

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SOURCE: Computed from Census of Manufactures, 1947, 1954, 1958, op. cit.

<sup>6</sup>John L. O'Donnell, et al., Economic and Population Base Study of the Lansing Tri-County Area (East Lansing: Bureau of Business and Economic Research, Michigan State University, 1960), p. 76. Although this study dealt with only one geographic component of the state of Michigan, the problems have been the same all over the state.

in Drop forging and the Tool and die industries, for instance, the integration in the automobile industry has been harmful, especially to undiversified small concerns, for whom the large auto firms had been major customers.<sup>7</sup>

It is very likely that the tendency of the auto industry to relocate outside Michigan also caused hardship to hundreds of small exvenders, and probably forced a few out of existence.<sup>8</sup> The declining business that the local vendors have been experiencing because of the dispersion has been an acute problem in special cases like the drop forging industry where about 80 percent of the total output is destined for the auto industry.<sup>9</sup>

During the latter part of the fifties demand for consumers' durables declined constantly. While, for instance, the growth in this sector was 5.1% per annum in the first part of the fifties, this growth slowed down to 0.5% per annum between 1955 to 1960.<sup>10</sup>

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<sup>7</sup>The above statements are based upon interviews with a few executives in the field. Also, a colleague who is presently doing a study on the small tool and die manufacturers in Michigan confirmed the convictions of this writer in an informal discussion.

<sup>8</sup>This point will be discussed in greater detail in Chapter III.

<sup>9</sup>Economic and Population Base Study of the Lansing Tri-County Area, op. cit., p. 74.

<sup>10</sup>Business in Brief, The Chase Manhattan Bank, New York (May-June, 1961), p. 4.

Akin to this overall decline, Michigan also suffered a great deal because of the decreased sizes of federal defense contracts. These sizes have been below their 1951-1953 level since 1954. Michigan's share declined partly because of the high costs occurring in Michigan manufactures. However, more important were the changes in the composition of federal contracts.<sup>11</sup> In either case small vendors were hurt directly or indirectly because of the declining business.

#### Size Distribution of Manufacturing Failures

A number of criteria may be used in determining the size of a firm: number of employees, total assets, and total sales. In collecting the failure data D. & B. has found it suitable for their purposes to use liabilities as an indicator of size.<sup>12</sup> Ordinarily, it is likely that if a larger firm fails it will probably have a larger liability size. Thus, this measure could reasonably be used for the analysis of size of failures.

Table 5 compares Michigan and United States manufacturing failures according to their respective liability size group. In the years analyzed, few manufacturing

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<sup>11</sup>See Chapter III.

<sup>12</sup>The liabilities reported are primarily current indebtedness. And for our purposes here "are defined as including all accounts and notes payable, also all obligations whether in a secured form or not, known to be held by banks, officers, affiliated companies, supplying companies, or the government." Dun and Bradstreet, Inc., personal correspondence.

TABLE 5  
LIABILITY-SIZE DISTRIBUTION OF MICHIGAN AND  
UNITED STATES MANUFACTURING FAILURES<sup>a</sup>

| Liability size group | <u>Michigan</u> |                      | <u>United States</u> |                      |
|----------------------|-----------------|----------------------|----------------------|----------------------|
|                      | Number          | Percent <sup>b</sup> | Number               | Percent <sup>b</sup> |
| Under \$5,000        | 12              | 5.2                  | 801                  | 8.6                  |
| \$5,000 - \$25,000   | 63              | 27.6                 | 3,641                | 39.2                 |
| \$25,000 - \$100,000 | 92              | 40.4                 | 3,169                | 34.1                 |
| \$100,000 and over   | 61              | 26.8                 | 1,673                | 18.0                 |
| Total <sup>c</sup>   | 228             | 100.0                | 9,284                | 100.0                |

<sup>a</sup>Includes mining failures also. Figures here represent total of four years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

<sup>c</sup>Michigan total here is 228 as opposed to 227 reported in Table 1; this is because one mining failure was omitted in that table. Here, however, it was not possible to separate mining and manufacturing failures to analyze liability size group.

SOURCE: Dun and Bradstreet, Inc., Special tabulations for Michigan; and U. S. figures as reported in the Statistical Abstract of the U. S., op. cit.

failures in Michigan were in the \$5,000 or less category; however, in the two largest groups the state had, relatively speaking, more failures. In other words, the state's manufacturing failures were, on the average, larger than their national counterparts. This difference can be attributed to the nature of Michigan's failures: from the previous analyses we know that casualties in Michigan manufacturing occurred more often among the concerns engaged in durable and semi-durable goods production which require relatively

larger capital investments. Thus, it was likely that these firms were generally larger than the average national manufacturing failure which is more often engaged in nondurable goods manufacturing requiring less capital. Of the 227 Michigan failures during the four years analyzed, 120 were in the Iron, steel and products, Machinery, and Transportation equipment categories. Of these, 75 percent were in the two largest, and 30 percent were in the largest liability size category. On the other hand almost 50 percent of the nondurable goods manufacturing failures were of the two smallest liability size categories.

#### Life Span of Manufacturing Failures

An analysis of the ages of failures is presented in Table 6. Comparison of manufacturing casualties in the two economies discloses that the failures among Michigan concerns lived longer than their national counterparts. For instance, while 43.4 percent of the Michigan failures lived five years or less, this was true of 52.0 percent nationwide. Similarly, 30.5 percent of the manufacturing casualties in the state had survived over 10 years, while the national figure was only 26.3 percent. Furthermore, in both economies manufacturing failures outlived those in other sectors.

The fact that manufacturing casualties in the state survived longer may be occasioned by a number of factors. The firms that failed, first of all, were on the average

larger than the national as is discussed above. This size differential might have contributed to the longer life span as has been conceded by many writers.<sup>13</sup>

TABLE 6

A COMPARISON OF THE AGES OF MICHIGAN AND  
UNITED STATES MANUFACTURING FAILURES<sup>a</sup>

| Age in Years              | Percent of the Total Failures |          |
|---------------------------|-------------------------------|----------|
|                           | United States                 | Michigan |
| One year or less          | 3.1                           | 2.7      |
| Two years                 | 16.8                          | 10.2     |
| Three years               | 14.2                          | 13.3     |
| Total three years or less | 34.1                          | 26.2     |
| Four years                | 10.5                          | 8.8      |
| Five years                | 7.4                           | 8.4      |
| Total five years or less  | 52.0                          | 43.4     |
| Six years                 | 6.7                           | 8.4      |
| Seven years               | 4.8                           | 6.2      |
| Eight years               | 3.9                           | 5.8      |
| Nine years                | 3.0                           | 3.1      |
| Ten years                 | 3.3                           | 2.7      |
| Total six-ten years       | 21.7                          | 26.2     |
| Over ten years            | 26.3                          | 30.5     |
| Total                     | 100.0                         | 100.0    |

<sup>a</sup>Michigan figures represent the total picture of the four years studied, whereas U. S. figures are only for 1959. It would have been possible to use only 1959 figures for Michigan also but as the total failure number in the state is not large, one year's data may present a biased picture.

SOURCE: Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

<sup>13</sup>Here the causal relationship was not very clear-cut. Many writers assert that size is a determinant of longevity. However, an argument can also be made by stating that longevity causes size differentials. This implies that as the firm for some reason manages to survive it would grow



Another possible explanation is the risk that entry involves.<sup>14</sup> The greater the risk the more thorough the investigation is likely to be prior to entry. Generally speaking, manufacturers of durable goods would need larger capital requirements in order to function and compete adequately. Since larger capital investments basically imply greater risk, starting the business ordinarily would be only upon the entrants' assurance of the presence of unexploited market potentials. This better pre-entry investigation probably reduces the risk and shortens the dangerous beginning stage that newcomers commonly go through. Also having larger sums invested in the enterprise might be an incentive to struggle more vigorously before giving up.

Furthermore, the failure rate in Michigan being lower, may be in part indicative of less competition or better prevailing conditions (although they may be worsening faster than those of the nation). In either case, the average manufacturing concern would have a better opportunity for longer survival.

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bigger. Of these two propositions, the former seems to be more plausible. In many cases, expansion would necessitate conditions that can be attained only by large firms. Since attainment of these conditions are beyond the reach of small firms they would not grow. On the other hand, small firms can survive in some special markets because of certain special advantages even though they never become large. Penrose, op. cit., pp. 99-100.

<sup>14</sup>See Chapter One, p. 20.

Lastly, in Michigan the industrial pattern is such that there is relatively more durable goods manufacturing. Entry here is somewhat limited because of the basic capital requirements. This partial hindrance to entry often keeps out some incompetents who would otherwise enter freely, but withdraw immediately, because of the lack of certain managerial skills.<sup>15</sup> The absence of these quick failures helps keep the average age higher in Michigan.

#### Wholesaling Failures in Michigan and the United States

The pattern of failures in wholesaling in Michigan, on the whole, was quite like that of the nation (Table 7). Dry goods failures in the state had a relatively lower share of the total, whereas the Food and farm products, and the Lumber, building materials and hardware categories had relatively larger shares. Table 8 contrasts the rates of failures in different wholesaling categories. Unfortunately, because of the absence of Michigan total wholesaling establishment figures for 1954, a similar table could not be produced for that year. Among the various categories it was found that Apparel and dry goods had the highest failure rate. This was partly because of the distorted picture

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<sup>15</sup>Along with the capital requirements and concentration there are a number of factors in Michigan claimed to be hindering further attraction of industries and causing an outflow of industrial concerns; in Chapter Three these will be considered.

presented by the small number of total establishments in this category. The Lumber, building materials and hardware category had a high rate in both economies; accordingly, the relative share of failures in this category was also high. As a whole, the rate of casualties in Michigan wholesaling was slightly higher than the national in 1958, but it was lower in 1959.

TABLE 7  
DISTRIBUTION OF MICHIGAN AND UNITED STATES  
WHOLESALE FAILURES<sup>a</sup>

|                                         | <u>Michigan</u>                |                                           | <u>United States</u>           |                                           |
|-----------------------------------------|--------------------------------|-------------------------------------------|--------------------------------|-------------------------------------------|
|                                         | Total<br>Number of<br>Failures | Percent<br>Distri-<br>bution <sup>b</sup> | Total<br>Number of<br>Failures | Percent<br>Distri-<br>bution <sup>b</sup> |
| Food and farm products                  | 29                             | 20.1                                      | 1,183                          | 24.2                                      |
| Apparel                                 | 5                              | 3.5                                       | 188                            | 3.9                                       |
| Dry goods                               | 2                              | 1.4                                       | 192                            | 3.9                                       |
| Lumber, building materials and hardware | 21                             | 14.6                                      | 544                            | 11.1                                      |
| Chemicals and drugs                     | 9                              | 6.2                                       | 192                            | 3.9                                       |
| Motor vehicles and auto equipment       | 11                             | 7.6                                       | 233                            | 4.8                                       |
| Miscellaneous                           | 67                             | 46.5                                      | 2,351                          | 48.1                                      |
| Total                                   | 144                            | 100.0                                     | 4,883                          | 100.0                                     |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

TABLE 8

NUMBER OF WHOLESALING FAILURES EXPRESSED AS  
A PERCENT OF NUMBER OF ESTABLISHMENTS IN  
WHOLESALING IN MICHIGAN AND THE  
UNITED STATES, 1958, 1959<sup>a</sup>

|                                            | <u>Michigan</u> |      | <u>United States</u> |      |
|--------------------------------------------|-----------------|------|----------------------|------|
|                                            | 1958            | 1959 | 1958                 | 1959 |
| Food and farm products                     | .71             | .33  | .55                  | .52  |
| Apparel, dry goods                         | 2.73            | 2.50 | .90                  | .70  |
| Lumber, building materials<br>and hardware | 1.03            | .79  | 1.52                 | .67  |
| Chemicals and drugs                        | 1.21            | 1.04 | .49                  | .48  |
| Motor vehicles and auto<br>equipment       | .36             | .60  | .29                  | .35  |
| Miscellaneous                              | .46             | .34  | .33                  | .49  |
| Total                                      | .59             | .44  | .50                  | .50  |

<sup>a</sup>The note under Table 4 applies to this table also.

SOURCE: Computed from 1958 Census of Business, Volume IV, Wholesale Trade Area Statistics, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1961), pp. 1-5, 1-10, 22-5, and County Business Patterns, 1959: Dun and Bradstreet, Inc., special tabulations and The Failure Record Through 1959.

Akin to this decline in the failure rate, the number of Michigan wholesaling failures declined in relative as well as in absolute terms as Table 9 points out. The same table reveals that variations in Michigan wholesaling failures were more erratic than their national counterparts, probably because of the small absolute number in Michigan in any one year. Because of the small numbers involved, changes in percentage figures between any two years may not be accurate indicators of underlying conditions.

TABLE 9

WHOLESALING FAILURES AS A PERCENT OF TOTAL,  
IN MICHIGAN AND THE UNITED STATES

|      | <u>Michigan</u>                   |                                              |                                                             | <u>United States</u>              |                                              |                                                             |
|------|-----------------------------------|----------------------------------------------|-------------------------------------------------------------|-----------------------------------|----------------------------------------------|-------------------------------------------------------------|
|      | Number<br>of<br>Total<br>Failures | Number<br>of<br>Whole-<br>saling<br>Failures | Whole-<br>saling<br>Failures<br>as a<br>Percent<br>of Total | Number<br>of<br>Total<br>Failures | Number<br>of<br>Whole-<br>saling<br>Failures | Whole-<br>saling<br>Failures<br>as a<br>Percent<br>of Total |
| 1953 | 114                               | 16                                           | 14.0                                                        | 8,862                             | 933                                          | 10.5                                                        |
| 1954 | 209                               | 19                                           | 9.1                                                         | 11,086                            | 1,132                                        | 10.2                                                        |
| 1958 | 547                               | 64                                           | 11.7                                                        | 14,964                            | 1,431                                        | 9.6                                                         |
| 1959 | 496                               | 45                                           | 9.1                                                         | 14,053                            | 1,387                                        | 9.9                                                         |

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

Liability Size of Wholesaling Failures

There were relatively more wholesalers who failed in Michigan, during the four years investigated, in the smallest liability group, \$5,000 or less. Similarly, there were relatively more failures in the state who belonged to the largest liability group, \$100,000 and over. Thus, in both extremes, the wholesaling casualties in Michigan outstripped their national counterparts, as seen in Table 10.

Age of Wholesaling Failures

Table 11 illustrates the age pattern of failed wholesalers in both economies. As shown here there were more United States failures that had not survived over three years and also more failures that had survived over ten years. The largest number of Michigan firms that were ten

TABLE 10

LIABILITY-SIZE DISTRIBUTION OF MICHIGAN AND  
UNITED STATES WHOLESALING FAILURES<sup>a</sup>

| Liability Size Group | <u>Michigan</u> |                      | <u>United States</u> |                      |
|----------------------|-----------------|----------------------|----------------------|----------------------|
|                      | Number          | Percent <sup>b</sup> | Number               | Percent <sup>b</sup> |
| Under \$5,000        | 16              | 11.1                 | 413                  | 8.5                  |
| \$5,000 - \$25,000   | 53              | 36.8                 | 2,054                | 42.1                 |
| \$25,000 - \$100,000 | 48              | 33.3                 | 1,785                | 36.6                 |
| \$100,000 and over   | 27              | 18.7                 | 631                  | 12.9                 |
| Total                | 144             | 100.0                | 4,883                | 100.0                |

<sup>a</sup>Figures here represent the total of four years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations for Michigan, and U. S. figures as reported in Statistical Abstract of the U. S., op. cit.

TABLE 11

AGE OF WHOLESALING FAILURES IN  
MICHIGAN AND THE UNITED STATES<sup>a</sup>

| Age in Years       | <u>Percent of the Total</u> |               |
|--------------------|-----------------------------|---------------|
|                    | Michigan                    | United States |
| One year or less   | .7                          | 3.3           |
| Two or three years | 25.0                        | 24.6          |
| Four or five years | 24.0                        | 19.4          |
| Six - ten years    | 26.4                        | 24.4          |
| Over ten years     | 22.9                        | 28.3          |
| Total              | 100.0                       | 100.0         |

<sup>a</sup>See the note under Table 6 which applies here also.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

years or older at the time of failure was in the manufacturing sector with the next largest number in wholesaling. In the national scene, however, wholesaling was ahead of even manufacturing as indicated in Table 12.

TABLE 12

PERCENT DISTRIBUTION OF BUSINESS FAILURES BY  
LIFE SPAN IN MICHIGAN AND THE UNITED STATES<sup>a</sup>

| Sector        | <u>1 Year or Less</u> |       | <u>5 Years or Less</u> |       | <u>10 Years or Less</u> |       |
|---------------|-----------------------|-------|------------------------|-------|-------------------------|-------|
|               | Mich.                 | U. S. | Mich.                  | U. S. | Mich.                   | U. S. |
| Manufacturing | 2.7                   | 3.1   | 43.4                   | 52.0  | 69.5                    | 73.7  |
| Wholesaling   | .7                    | 3.3   | 50.7                   | 47.3  | 77.1                    | 71.7  |
| Retailing     | 3.7                   | 4.3   | 55.8                   | 62.2  | 79.9                    | 82.7  |
| Construction  | 1.0                   | 2.0   | 47.0                   | 51.9  | 77.5                    | 79.8  |
| Services      | 7.3                   | 3.6   | 46.0                   | 59.0  | 81.7                    | 80.6  |
| Total         | 2.9                   | 3.6   | 51.9                   | 57.1  | 77.6                    | 79.4  |

<sup>a</sup>See the note under Table 6 which applies here also.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

The same table indicates that although there were almost no failures in the wholesale group at the age of one year or younger, a substantial number did not live more than five years. In the national scene wholesaling after the age of one had the fewest failures of all sectors.

There are a number of reasons for the general greater life span of wholesaling failures. Along with the relatively larger capital requirements in many types of wholesaling, the requirement of technical know-how also

hinders entry. Moreover, new entrants probably study the prospects carefully before entering, for some types of wholesaling are costly propositions. Thus, limited entry coupled with preinvestigation reflects not only on the age of wholesaling failures as just discussed but also on the average age of wholesaling establishments; life expectancy as illustrated in Table 13 is the highest in this sector. The table, however, is based on 1947-1954 experience; since then the tendency of the limited function wholesalers to increase in number has become more and more noticeable. As

TABLE 13

LIFE EXPECTANCY FOR BUSINESS POPULATION IN DIFFERENT  
INDUSTRY DIVISION, PERCENT OF FIRMS  
SURVIVING TO SPECIFIED AGE  
(1947-1954 experience)

| Age in<br>Years | All<br>Industries | Contract<br>Construction | Manufac-<br>turing | Wholesale<br>Trade | Retail<br>Trade | Service<br>Industries |
|-----------------|-------------------|--------------------------|--------------------|--------------------|-----------------|-----------------------|
| 0.5             | 77                | 82                       | 82                 | 85                 | 74              | 77                    |
| 1.5             | 54                | 62                       | 60                 | 67                 | 49              | 53                    |
| 2.5             | 41                | 51                       | 46                 | 56                 | 36              | 40                    |
| 3.5             | 34                | 44                       | 38                 | 48                 | 29              | 33                    |
| 4.5             | 29                | 40                       | 33                 | 43                 | 25              | 28                    |
| 5.5             | 26                | 37                       | 29                 | 40                 | 22              | 25                    |
| 6.5             | 24                | 35                       | 26                 | 37                 | 20              | 23                    |
| 7.5             | 23                | 33                       | 24                 | 35                 | 19              | 22                    |
| 8.5             | 21                | 31                       | 23                 | 34                 | 18              | 21                    |
| 9.5             | 20                | 30                       | 22                 | 32                 | 17              | 20                    |
| 10.5            | 19                | 29                       | 20                 | 31                 | 16              | 19                    |

SOURCE: Betty C. Churchill, "Age and Life Expectancy of Business Firms," Survey of Current Business (December, 1955), p. 18.



entry is often easier for many of these limited function wholesalers, incompetents may have been entering in progressive numbers which eventually may reverse the 1947-1954 experience,<sup>16</sup> and life expectancy for the average wholesaling establishment may become shorter.

### Retailing Failures

Probably the most troubled and yet most dynamic sector in our economy is retail trade. As seen in Tables 12 and 13, the shortest life span of failures (and shortest life expectancy) occurred in this group. A large body of literature is available to explain why "The average retailer exists in an atmosphere of disaster."<sup>17</sup> "The Wheel of Retailing" on one hand is in action, through which "low-status, low-margin, low-price operators in time become high-cost, high-price merchants vulnerable to newer types,"<sup>18</sup>

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<sup>16</sup>Entry is easier for limited function wholesalers because of the limited capital requirements. The number of this type of wholesalers has been growing relatively faster than that of the conventional type. This is especially true for Michigan; possibly that is why Michigan had more failures in the smallest liability-size group than the nation as a whole.

<sup>17</sup>Victor Lebow, "The Crisis in Retailing," Journal of Retailing (Spring, 1957), p. 17.

<sup>18</sup>M. P. McNair, "Significant Trends and Developments in the Postwar Period," in A. B. Smith (Ed.), Competitive Distribution in a Free, High-Level Economy and Its Implications for the University (Pittsburgh: University of Pittsburgh Press, 1958), cited in Stanley C. Hollander, "The Wheel of Retailing," Journal of Marketing (July, 1960), p. 37. Although Professor Hollander in dealing with this vulnerability concept put more emphasis on the declining

(and probably to new entries as well). The theory of "Institutional Replacement" on the other hand emphasizes the fact that new types of retail institutions are incessantly entering the field and forcing the old ones out.<sup>19</sup> Furthermore, the so-called "Cost Squeeze" in retailing stemming from changes in population, production and merchandising,<sup>20</sup> coupled with structural trends such as the increasing share of larger chains<sup>21</sup> or increasing economic concentration,<sup>22</sup>

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relative share of the old operators rather than failures, this wheel action, most probably, also forces out some of the old high-cost, high-price merchants.

<sup>19</sup>Lawrence Lockley, "Favorable Implications of Inter-Firm Competition at the Retail Level," Martin L. Bell (ed.), Marketing: A Maturing Discipline (Chicago: American Marketing Association, 1961), pp. 152-160.

<sup>20</sup>For a detailed discussion of the cost squeeze concept, see a series of articles in Lynn H. Stockman (ed.), Advancing Marketing Efficiency (Chicago: American Marketing Association, 1958), pp. 215-234.

<sup>21</sup> PERCENT OF TOTAL RETAIL SALES ACCOUNTED  
FOR BY SINGLE AND MULTIPLE  
STORE RETAILERS

|                                | Percent of Total Retail Sales |      |      |
|--------------------------------|-------------------------------|------|------|
|                                | 1948                          | 1954 | 1958 |
| Single Units Total             | 70.4                          | 69.9 | 66.3 |
| Multi-Units Total <sup>a</sup> | 29.6                          | 30.1 | 33.7 |

<sup>a</sup>Multi-Units include two or more units.

SOURCE: Status of Small Business in Retail Trade, op. cit. Table shows the declining share of single unit retail establishments, a situation which would increase pressure and force the weaker ones out.

<sup>22</sup>Victor Lebow remarked that supermarkets, for instance, which represent only 7.2 percent of all stores,

is making it harder for the little men in retailing to survive.<sup>23</sup> These small men in the field operating without employees constituted almost half of all the establishments. This fact may be accounted for by the comparatively low investment requirements and relative ease of entry attracting new competitors, who in most cases are very vulnerable.<sup>24</sup> All these factors, plus the fact that in retailing there are more establishments than any other sector, contribute toward making the failure record in this category the largest of all.

Between 1953 and 1959, Michigan retailing failures increased in absolute as well as in relative terms. This

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account for close to 60 percent of total sales volume. Lebow, op. cit.

<sup>23</sup>See Wall Street Journal, "Businesses Wanted" (March 28, 1962), p. 1. Also see Mabel Newcomer, "The Little Businessman," op. cit., p. 502. The relatively constant position of small retailers in the total retailing population, it may be said, refutes this statement. But, although the relative number of small firms have been growing proportionately to the total, there are two facts that substantiate our point of view. First, is the increasing number of multi-unit retail stores, which implies a relative security on the part of the chain members despite their small size. And secondly, the short life span of retailers which is indicative of a high replacement rate. As the small firms cease existence equally weak and vulnerable newcomers come into being. For a discussion of the constant position of small firms see Eugene C. McKean, The Persistence of Small Business (Kalamazoo: Upjohn Institute for Community Research, 1958). The second point will be discussed in greater detail in the final chapter of this study.

<sup>24</sup>Lockley, op. cit., p. 154.

increase was not only more than fourfold in size, but the relative share of retailing failures went up from 46.5 percent in 1953 to 55.4 percent in 1959, as seen in Table 14. In the meantime, United States failures in this category increased in absolute terms with no change in their relative position as revealed by their stable percent share of the total (Table 14).

TABLE 14

RETAILING FAILURES AS A PERCENT OF TOTAL  
IN MICHIGAN AND UNITED STATES

| Years | <u>Michigan</u>        |                  | <u>United States</u>   |                  |
|-------|------------------------|------------------|------------------------|------------------|
|       | No. of Retail Failures | Percent of Total | No. of Retail Failures | Percent of Total |
| 1953  | 53                     | 46.5             | 4,381                  | 49.4             |
| 1954  | 106                    | 50.7             | 5,491                  | 49.5             |
| 1958  | 271                    | 49.5             | 7,514                  | 50.2             |
| 1959  | 275                    | 55.4             | 6,873                  | 48.9             |

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

What were the categories in which failures occurred more often? As brought forth by Table 15, two particular categories—Lumber, building materials and hardware, and Eating and drinking places—have noticeable differences between the two economies. While relatively more failures occurred in Michigan during the years studied in the former category, national failures by far outstripped their Michigan counterparts in the latter. Of all retailing failures in Michigan, 10.5 percent belonged to the Lumber,

building materials and hardware category as opposed to 6.1 percent in the nation.

TABLE 15  
DISTRIBUTION OF MICHIGAN AND UNITED STATES  
RETAILING FAILURES<sup>a</sup>

|                                            | <u>Michigan</u>             |                                           | <u>United States</u>        |                                           |
|--------------------------------------------|-----------------------------|-------------------------------------------|-----------------------------|-------------------------------------------|
|                                            | Total<br>No. of<br>Failures | Percent<br>Distri-<br>bution <sup>b</sup> | Total<br>No. of<br>Failures | Percent<br>Distri-<br>bution <sup>b</sup> |
| Food and liquor                            | 130                         | 18.4                                      | 4,132                       | 17.0                                      |
| General merchandise                        | 25                          | 3.5                                       | 913                         | 3.8                                       |
| Apparel and accessories                    | 118                         | 16.7                                      | 3,556                       | 14.7                                      |
| Furniture and home<br>furnishings          | 124                         | 17.6                                      | 3,474                       | 14.3                                      |
| Lumber, building<br>materials and hardware | 74                          | 10.5                                      | 1,489                       | 6.1                                       |
| Automotive group                           | 79                          | 11.2                                      | 3,252                       | 13.4                                      |
| Eating and drinking<br>places              | 66                          | 9.4                                       | 4,548                       | 18.7                                      |
| Drug stores                                | 23                          | 3.3                                       | 571                         | 2.4                                       |
| Miscellaneous                              | 66                          | 9.4                                       | 2,324                       | 9.6                                       |
| Total                                      | 705                         | 100.0                                     | 24,259                      | 100.0                                     |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

This dissimilarity between the composition of Michigan retailing failures and United States retailing failures cannot be wholly attributed to their particular retailing population. As can be observed in Table 16, there is a remarkable resemblance between the composition of the

two retailing populations and also they show very similar changes between the two census years.

TABLE 16

PERCENT DISTRIBUTION OF RETAILING ESTABLISHMENTS  
IN MICHIGAN AND UNITED STATES, 1954, 1958<sup>a</sup>

|                                             | <u>1954</u> |       | <u>1958</u> |       |
|---------------------------------------------|-------------|-------|-------------|-------|
|                                             | Michigan    | U. S. | Michigan    | U. S. |
| Food and liquor                             | 23.3        | 25.3  | 20.7        | 22.9  |
| General merchandise                         | 3.4         | 4.6   | 3.5         | 5.1   |
| Apparel and accessories                     | 7.2         | 7.3   | 6.5         | 6.1   |
| Furniture and home<br>furnishings           | 6.2         | 5.9   | 6.4         | 6.0   |
| Lumber, building<br>materials, and hardware | 7.5         | 6.1   | 7.2         | 6.3   |
| Automotive group                            | 18.0        | 16.3  | 19.4        | 17.5  |
| Eating and drinking places                  | 20.7        | 19.5  | 21.5        | 20.1  |
| Drug stores                                 | 3.7         | 3.4   | 3.6         | 3.3   |
| Miscellaneous                               | 10.1        | 11.6  | 10.4        | 11.2  |
| Total                                       | 100.0       | 100.0 | 100.0       | 100.0 |

<sup>a</sup>Detail may not add to total because of rounding.

SOURCE: Computed from 1958 Census of Business, Volume II, Retail Trade Area Statistics, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1961), pp. 1-5, 1-6, 22-5, 22-7.

Table 17 points out that those categories which experienced a greater relative number of failures were not necessarily the ones that were suffering from the highest failure rates. The Food and liquor group, for instance in 1958, in Michigan had the largest number—13.4 percent—of all retailing failures, but had the third lowest failure rate. However, the second largest category in the state,

Furniture and home furnishings also had the highest failure rate.

TABLE 17  
NUMBER OF RETAILING FAILURES EXPRESSED AS A PERCENT  
OF THE NUMBER OF ESTABLISHMENTS IN RETAILING  
IN MICHIGAN AND THE UNITED STATES, 1954  
AND 1958<sup>a</sup>

|                                          | 1954  |       | 1958  |       |
|------------------------------------------|-------|-------|-------|-------|
|                                          | Mich. | U. S. | Mich. | U. S. |
| Food and liquor                          | .16   | .24   | .27   | .29   |
| General merchandise                      | .13   | .25   | .37   | .34   |
| Apparel and accessories                  | .26   | .67   | 1.03  | .96   |
| Furniture and home furnishings           | .52   | .93   | 1.22  | 1.01  |
| Lumber, building materials, and hardware | .37   | .31   | .46   | .47   |
| Automotive group <sup>b</sup>            | .07   | .23   | .22   | .37   |
| Eating and drinking places               | .06   | .31   | .22   | .42   |
| Drug stores                              | .17   | .29   | .44   | .29   |
| Miscellaneous                            | .12   | .27   | .36   | .35   |
| Total                                    | .16   | .33   | .39   | .44   |

<sup>a</sup>Number of total retailing establishments are taken from the Census of Business. The census definition of establishment is not perfectly comparable to that of "Firm" or "Enterprise" of the Dun and Bradstreet, for the former counts every unit as a separate entity whereas the latter does not count units of retail chains separately; therefore, there is a downward bias in the figures. If Dun and Bradstreet had used the census definition of establishment, conceivably the figures in this table would have been greater.

<sup>b</sup>Includes gasoline service stations.

SOURCE: Computed from Dun and Bradstreet, Inc., special tabulations and The Failure Record Through 1959; and 1958 Census of Business, op. cit.

In both economies, the Apparel and accessories, and the Furniture and home furnishings categories experienced

the highest failure rates; the increase, however, in these rates was by far greater in Michigan. Although relatively speaking failures in Eating and drinking places in Michigan were much fewer than their national counterparts, the rate grew faster (270 percent as opposed to only 35 percent). In spite of this growth, the failure rate in this category along with the Automotive group was the lowest in Michigan.

Table 15 illustrates that in Michigan the Lumber category relatively had substantially more failures; Table 16 points out that one reason was simply relatively more establishments in the state. Another cause for Michigan's relatively more failures may have been the poor performance of state retail sales in this category. Thirdly, Michigan building activity has been considerably behind the national since 1954.<sup>25</sup>

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<sup>25</sup>ENGINEERING CONSTRUCTION CONTRACTS AWARDED<sup>a</sup>

| Years | Michigan   | United States |
|-------|------------|---------------|
| 1953  | \$ 672,626 | \$15,170,893  |
| 1954  | 666,179    | 14,412,033    |
| 1956  | 1,132,257  | 21,711,981    |
| 1957  | 827,240    | 17,985,845    |
| 1958  | 598,017    | 19,164,634    |
| 1959  | 526,028    | 20,422,508    |

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<sup>a</sup>Figures include both public and private building, but exclude residential construction and some small awards.

SOURCE: Engineering News Record, as reported in The Statistical Abstract of the U. S., op. cit.

In Michigan not only did the value of the awarded construction contracts decline as indicated in the above table, but



Even though still lower than the national, the failure rate in retailing in Michigan (Table 17) increased more than twofold between 1954 and 1958. This increase, compared with 33 percent at the national level, is indicative of the poorer overall performance of the total retailing sector in the state.<sup>26</sup> This poorer performance can be

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also retail sales of Building Materials, lumber and hardware have been rather stagnant (if not declining) since 1956.

RETAIL SALES OF BUILDING MATERIALS,  
LUMBER AND HARDWARE IN MICHIGAN

| Years | Value in Millions of Dollars |
|-------|------------------------------|
| 1954  | 839                          |
| 1955  | 926                          |
| 1956  | 946                          |
| 1957  | 826                          |
| 1958  | 755                          |
| 1959  | 811                          |

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SOURCE: Michigan Department of Revenue, different issues of the Monthly Bulletin.

<sup>26</sup>A comparison of Michigan and United States total sales of retail stores will illustrate this point.

TOTAL RETAIL SALES AND THEIR AVERAGE GROWTH

|               | Sales of<br>Retail Stores<br>(Millions of Dollars) |         |         | Average Annual<br>Rate of Growth<br>(Percent) |           |
|---------------|----------------------------------------------------|---------|---------|-----------------------------------------------|-----------|
|               | 1948                                               | 1954    | 1958    | 1948-1958                                     | 1954-1958 |
| Michigan      | 5,854                                              | 8,168   | 8,898   | 4.2                                           | 2.2       |
| United States | 128,849                                            | 169,968 | 199,646 | 4.5                                           | 4.1       |

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SOURCE: "Retail Trade and Use of Services," Survey of Current Business, May, 1961, p. 25.

It is obvious from the above table that the retailing sector in the state had been doing quite poorly in comparison with

illustrated by the smaller share of the effective buying income spent on purchases at the retail level in Michigan. The Michigan consumer on the average spent a smaller share of his income on retail purchases than the average American consumer.<sup>27</sup>

### Liability Size

In Table 18 it is observed that casualties in Michigan retailing were significantly larger than their national counterparts during the years studied. Nine point nine percent of failures in the state belonged to the smallest liability size group as opposed to 17.3 percent nationwide. Also, while 36.8 percent of Michigan failures belonged to the \$25,000 and over liability size group, nationally the figure was only 28.4. This difference stemmed from two major factors. First, the state Furniture

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the national performance. This especially has been the case since 1954.

<sup>27</sup>Propensity to spend at the retail level in Michigan and the Nation were as follows:

#### RETAIL SALES AS A PERCENT OF EFFECTIVE BUYING INCOME

| Years | Michigan | United States |
|-------|----------|---------------|
| 1955  | 70.4     | 69.9          |
| 1956  | 67.8     | 67.8          |
| 1957  | 65.7     | 67.1          |
| 1958  | 63.2     | 65.3          |
| 1959  | 61.5     | 64.9          |

SOURCE: Computed from Sales Management, Survey of Buying Power data.

and home furnishings sector, in which failures on the average were much larger than in other categories,<sup>28</sup> had a larger share of the total. Secondly, the Eating and drinking places group, with the smallest average failure size of all categories,<sup>29</sup> had a smaller portion of total failures in the state. Relatively speaking, then, fewer failures in Eating and drinking places and numerous failures in the Furniture and home furnishing lines of retailing in Michigan caused the state's failures to have an average larger failure size.

TABLE 18

LIABILITY-SIZE DISTRIBUTION OF MICHIGAN AND  
UNITED STATES RETAILING FAILURES<sup>a</sup>

| Liability-size Group | Michigan |                      | United States |                      |
|----------------------|----------|----------------------|---------------|----------------------|
|                      | Number   | Percent <sup>b</sup> | Number        | Percent <sup>b</sup> |
| Under \$5,000        | 70       | 9.9                  | 4,192         | 17.3                 |
| \$5,000 - \$25,000   | 376      | 53.3                 | 13,170        | 54.3                 |
| \$25,000 - \$100,000 | 202      | 28.7                 | 5,777         | 23.8                 |
| \$100,000 and over   | 57       | 8.1                  | 1,130         | 4.6                  |
| Total                | 705      | 100.0                | 24,259        | 100.0                |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Dun and Bradstreet, Inc., special tabulations; United States figures as reported in the Statistical Abstract of the U. S.

<sup>28</sup>Almost 52 percent of Michigan failures in this category belonged to the \$25,000 and over liability size group.

<sup>29</sup>Sixty-seven percent of the failures occurring in this group were of less than \$25,000 liability size.

### Life Span

Michigan retailing failures generally lived longer than their national counterparts, as is brought out by Table 19. This fact was consistent with their larger average size, (Table 18). It is especially interesting to note that in those categories where the average failure size was larger, the life span was also longer. This is basically true for the Apparel and accessories, and Furniture and home furnishing categories, where more than half of the failures belonged to the \$25,000 and over liability size category and lived six years or more.

TABLE 19

#### A COMPARISON OF THE AGES OF MICHIGAN AND UNITED STATES RETAILING FAILURES<sup>a</sup>

| Age in Years       | Percent of the Total Failures |               |
|--------------------|-------------------------------|---------------|
|                    | Michigan                      | United States |
| One year or less   | 3.4                           | 4.3           |
| Two or three years | 35.1                          | 38.5          |
| Four or five years | 17.3                          | 19.4          |
| Six to ten years   | 24.1                          | 20.5          |
| Over ten years     | 20.1                          | 17.3          |
| Total              | 100.0                         | 100.0         |

<sup>a</sup>Michigan figures represent the total picture of the four years studied whereas United States figures are only for 1959. It would have been possible to use only 1959 figures for Michigan also, but as the total failure number in the state is not large, one year's data may present a biased picture.

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

## Failures in the Construction Industry

Of all five industrial and commercial sectors studied, the least is known about construction, a field in which no census is taken. Relatively speaking, more failures in this sector took place in Michigan than the nation as a whole (Table 1). Fifteen percent of all failures in the state belonged to this sector as opposed to 13.5 percent in the nation. This may be accounted for partly by Michigan's having relatively more establishments in this industry.<sup>30</sup> Between 1953 and 1959 the national failure rate in this sector almost doubled and Michigan had more than a three fold increase (Table 20). This relatively faster increase in Michigan's failure rate can be explained

TABLE 20

RATE OF CONSTRUCTION FAILURES IN  
MICHIGAN AND UNITED STATES

|                                         | <u>Michigan</u> |        | <u>United States</u> |         |
|-----------------------------------------|-----------------|--------|----------------------|---------|
|                                         | 1953            | 1959   | 1953                 | 1959    |
| Number of establishments                | 10,839          | 11,689 | 262,198              | 300,423 |
| Number of failures                      | 17              | 73     | 1,024                | 2,064   |
| Failures as a percent of establishments | .16             | .62    | .39                  | .69     |

SOURCE: County Business Patterns 1953 and 1959, op. cit., and Dun and Bradstreet, Inc., The Failure Record Through 1959, and special tabulations.

<sup>30</sup>According to E.O.A.S.I. data appearing in County Business Patterns, 10.1 percent of all reporting firms in Michigan were engaged in the construction business in 1956; whereas, 9.4 percent was the figure for the nation as a whole.

by the fact that the construction activity in the state has been relatively slow for at least the past four years.<sup>31</sup>

Indications are that Michigan failures in this sector were larger than those of the nation. Not only did 6.3 percent of state casualties belong to the \$5,000 or less liability size group, as opposed to the nation's 11.1 percent, but also 18.1 percent of failures here belonged to the two largest sizes, compared to only 11.3 percent in the nation (Table 21).

TABLE 21

LIABILITY-SIZE DISTRIBUTION OF MICHIGAN AND  
UNITED STATES CONSTRUCTION FAILURES<sup>a</sup>

| Liability Size Group    | Michigan <sup>b</sup> | United States <sup>b</sup> |
|-------------------------|-----------------------|----------------------------|
| \$5,000 or less         | 6.3                   | 11.1                       |
| \$5,000 - \$25,000      | 41.5                  | 42.9                       |
| \$25,000 - \$100,000    | 34.1                  | 34.6                       |
| \$100,000 - \$1,000,000 | 16.6                  | 11.0                       |
| \$1,000,000 and over    | 1.5                   | .3                         |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

Many state casualties in this category lived longer than their national counterparts, as indicated in Table 12, which was consistent with their larger size. Throughout the

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<sup>31</sup>See footnote 25 above.

analyses it has been true that in those categories where relatively many large failures are present, average life span also has been longer.

### Commercial Services

Of the two types of business firms, i.e., those selling goods and those selling services, the latter has been experiencing a steady growth during the past decade, both in Michigan and the United States. It is usually stated that as an economy becomes wealthier service industries gain more importance.<sup>32</sup> It is not why the service industries are growing but the fact that they are growing which is important for our purposes. In the American economy as a whole, consumers devoted 34.9 percent of their expenditures to services in 1948, 36.3 percent in 1954, 38.0 percent in 1958, and 39.3 percent in the first quarter of 1960.<sup>33</sup>

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<sup>32</sup>This statement is consistent with the "Clark-Fisher hypothesis." Although this hypothesis is widely recognized and cited, there are many who disagree. For a brief description of the hypothesis and some of the discussions see Stanley C. Hollander (ed.) Explorations in Retailing (East Lansing: Bureau of Business and Economic Research, Michigan State University, 1959), pp. 52-62.

<sup>33</sup>Roger L. Bowlby and A. Coskun Samli, "Selected Services in Michigan," The Michigan Economic Record, July-August, 1960, p. 3.

Although it is conceded that a rising proportion of money is spent on services as income rises, it is also argued that two other factors might cause a similar reaction: (1) Certain demographic changes, and (2) the slowed growth of consumer income. The demographic fact that

There is a huge variety of service producing industries. Of this wide selection the Bureau of the Census uses a more or less arbitrary division of the standard industrial classification under the title of Selected Services, which includes only a part of the service industries. D. & B. uses this selected services classification excluding the Amusement sector and including Passenger and freight transportation, and Miscellaneous public services. This classification is called commercial services by D. & B.

In this section, in the analysis of the failure rate of different groups, we were concerned with the part of selected services that D. & B. uses. Also, the concept of commercial services was used in the analyses of life span and size distribution.

Table 22 shows the substantial resemblance between the general structure of selected services in Michigan and the nation as a whole. Not only are the breakdowns of total selected service establishments quite alike, but also the

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population is getting both younger and older has a very strong impact on the demand for services. These people, because of the nature of their age, need certain services more than average individuals. Similarly as the growth of the family income slows, a relatively larger proportion is spent on services. Consumers postpone purchases which they might have made if income had grown faster. Hence, they might not buy a new car, but will rather pay the rent and the doctor's bill. See, for instance, U. S. Congress, Joint Economic Committee, Staff Report on Employment, Growth and Price Levels, 86th Cong., 1st Sess. (Washington: U. S. Government Printing Office, 1959), pp. 79-83.



TABLE 22

DISTRIBUTION OF SELECTED SERVICE ESTABLISHMENTS  
IN MICHIGAN AND UNITED STATES, 1958<sup>a</sup>

| Kind of Business                         | Michigan |                                       | United States |                                       |
|------------------------------------------|----------|---------------------------------------|---------------|---------------------------------------|
|                                          | Number   | Percent<br>Distributions <sup>c</sup> | Number        | Percent<br>Distributions <sup>c</sup> |
| Funeral service, crematories             | 615      | 2.4                                   | 20,767        | 2.4                                   |
| Laundries, laundry services,<br>dyeing   | 2,579    | 7.5                                   | 67,920        | 7.7                                   |
| Pressing, alterations, garment           | 1,360    | 3.9                                   | 39,284        | 4.5                                   |
| Other personal services <sup>b</sup>     | 11,111   | 22.2                                  | 283,536       | 32.1                                  |
| Business and repair services             | 14,929   | 43.2                                  | 383,922       | 43.6                                  |
| Hotels, motels, tourist<br>courts, camps | 3,750    | 10.9                                  | 85,580        | 9.7                                   |
| Total                                    | 34,544   | 100.0                                 | 881,009       | 100.0                                 |

<sup>a</sup>Does not include Amusement, recreation services, and Motion pictures categories. Selected service categories in this table were rearranged to make them comparable to D. & B. data.

<sup>b</sup>Includes mainly Beauty shops, Barber shops, Photo studios, Shoe repair, shoeshine and miscellaneous personal services categories.

<sup>c</sup>Detail may not add to total because of rounding.

SOURCE: 1958 Census of Business, Volume VI, Selected Services Area Statistics, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1961), p. 22-5. United States data are preliminary.

changes that took place from one census to another were somewhat parallel, e.g., a significant increase in Business and repair services enterprises, and modest gains in the relative share of the Hotel and motels category.

Portrayed in Table 23 is the rate of failure for selected services and its change between the two census years in both Michigan and the nation. The striking fact in the table is the extremely low failure rate. The number of failures per thousand establishments in this category was about five times lower than in retailing, which had the second lowest rate. In Michigan this failure rate was only .05 percent in 1958. Although this figure had increased since 1954, the number of failures in this sector was so small that one or two incidental failures could make a significant difference in the percent rate.

The unusually low rate of failure either in the nation or in the state may be explained by a number of factors. First and probably most important is the tremendous demand for services, which provides substantial security to even the most vulnerable participant in the market. Whether it is a sign of increasing prosperity or not, the demand for services in the United States during the past decade grew about 4.1 percent a year in constant dollars, as opposed to 2.7 percent per year growth of commodities.<sup>34</sup> The prospects in Michigan are even greater, for

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<sup>34</sup>Joint Economic Committee, Staff Reports on Employment, Growth and Price Levels, op. cit., p. 79.

TABLE 23

NUMBER OF FAILURES IN SELECTED SERVICES  
EXPRESSED AS A PERCENT OF THE NUMBER OF  
ESTABLISHMENTS IN SELECTED SERVICES IN  
MICHIGAN AND THE UNITED STATES<sup>a</sup>

|                                              | Michigan |      | United States |      |
|----------------------------------------------|----------|------|---------------|------|
|                                              | 1954     | 1958 | 1954          | 1958 |
| Funeral services, crematories                | .14      | —    | .03           | .03  |
| Laundries, laundry services,<br>dyeing       | .05      | .19  | .18           | .18  |
| Pressing alterations,<br>garment             | —        | .07  | .09           | .10  |
| Other personal services <sup>b</sup>         | —        | .02  | .03           | .03  |
| Business and repair services                 | .02      | .07  | .10           | .11  |
| Hotels, motels, tourist<br>courts, and camps | —        | .05  | .06           | .09  |
| Total                                        | .02      | .05  | .08           | .08  |

<sup>a</sup>Failures as a percent of total establishments. Number of total service establishments are taken from the Census of Business. The census definition of establishment is not strictly comparable to that of "Firm" or "Enterprise" of Dun and Bradstreet for the former counts every unit as a separate entity whereas the latter does not count units of retail chains separately. Therefore, there is a downward bias in the figures. If Dun and Bradstreet had used census definition of establishment conceivably the figures in this table would have been greater.

<sup>b</sup>Includes mainly Beauty shops, Barber shops, Photo studios, Shoe repair, shoeshine, and Miscellaneous personal services categories.

SOURCE: Computed from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959; and 1958 Census of Business, Volume VI, op. cit.

service industries here have been receiving a smaller share of the consumer's income.<sup>35</sup>

Another reason for a low failure rate in this sector is the prevailing ease of entry and exit. Entry into the service industry ordinarily requires a minimum of capital and technical know-how. Brown and Cassady, in describing the barber trade, for instance, said ". . . in the absence of artificial restriction, entry into the trade is fairly easy (the practice of barbering requiring only a limited amount of skill and training and the investment necessary to open a barber shop being small)."<sup>36</sup> If the business is not a success the owner-manager probably will not lose more than his time and original, conceivably small investment. Under

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35 TOTAL RECEIPTS OF SELECTED SERVICE  
INDUSTRIES AS A PERCENT OF  
TOTAL PERSONAL INCOME

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| Years | Michigan | United States |
|-------|----------|---------------|
| 1948  | 5.6      | 6.4           |
| 1954  | 7.2      | 8.2           |
| 1958  | 8.1      | 9.1           |

---

SOURCE: Computed from Census of Business, Volume VI, op. cit.

As can be seen from the above table, although selected services have been growing faster, their total share of personal income in Michigan is behind the national level. This, coupled with the fact that income in Michigan is relatively higher than the nation, establishes that services in the state have greater potentials.

<sup>36</sup>William F. Brown and Ralph Cassady, Jr., "Guild Pricing in the Service Industries," Quarterly Journal of Economics, February, 1947, p. 326. Also cited in Phillips, op. cit., p. 33.

these circumstances his business will not be the type of failure that causes a loss to creditors, and hence will be excluded from D. & B. statistics. The fact that these types of failures incur no loss to creditors is true for two reasons. First, seldom do these little men have the opportunity to borrow for the initial investment; and secondly, they rarely can obtain credit without collateral and a well established business. Thus, even though there may be a high turnover rate in this field (in fact this is the actual case as indicated in Table 18), failures in the strict D. & B. sense are rare.

Yet a further reason lies in the nature of D. & B. statistics. Many one-man service businesses are not included in these data. Since a significant portion of all service establishments have no paid employees,<sup>37</sup> it is likely that if these little men go bankrupt they will be listed under personal bankruptcies and will never enter failure data.

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37      PERCENT SHARE OF SELECTED SERVICE  
ESTABLISHMENTS WITH NO PAID  
EMPLOYEES IN MICHIGAN  
AND THE UNITED STATES

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|                                                         | <u>Michigan</u> |        | <u>United States</u> |         |
|---------------------------------------------------------|-----------------|--------|----------------------|---------|
|                                                         | 1954            | 1958   | 1954                 | 1958    |
| Number of Establishments                                | 29,699          | 38,521 | 785,589              | 975,250 |
| Number of Establishments<br>with no Employees           | 14,572          | 20,863 | 410,440              | 532,666 |
| Percent Share of No-employee<br>Establishments in Total | 49.1            | 54.2   | 52.2                 | 54.6    |

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SOURCE: Basic data from Census of Business, Volume VI, op. cit.

Unfortunately, there is no readily available information about this part of the failure picture.

The selected services failure rate in the United States remained the same between 1954 and 1958 while it grew in Michigan; as in other sectors already considered, except wholesaling, Michigan's rate here also was lower despite its faster growth (Table 23). The Laundries and laundry services category had the highest rate in both economies. On the other hand, other personal service categories, which include Beauty Shops, Barber Shops and other related services, enjoyed the lowest rate both in Michigan and the nation.

The two categories which are included in the commercial services by D. & B., but excluded from selected services by the Bureau of the Census, both in Michigan and the United States, proved to be the groups suffering the largest relative mortality. The four years average shows that failures in the Passenger car and freight transportation category were 33.4 percent of the Michigan total and 23.8 percent of the national total. The Miscellaneous public services group had relatively few failures in both economies. The size of failures in these two categories were relatively larger than the other service groups, and they had survived longer.

#### Liability Size Distribution and Life Span

An analysis of the liability size distribution of the commercial services sector revealed that Michigan

failures on the whole were of larger size than on the national level (Table 24). As a whole, service establishments in Michigan had the smallest average employee size of all the major components of the economy. Similarly, this sector in the state had more failures belonging to the smallest liability size category.

TABLE 24

LIABILITY SIZE DISTRIBUTION OF COMMERCIAL SERVICES  
FAILURES IN MICHIGAN AND THE UNITED STATES<sup>a</sup>

| Liability Size Group | <u>Michigan</u> |                      | <u>United States</u> |                      |
|----------------------|-----------------|----------------------|----------------------|----------------------|
|                      | Number          | Percent <sup>b</sup> | Number               | Percent <sup>b</sup> |
| Under \$5,000        | 14              | 16.7                 | 759                  | 19.1                 |
| \$5,000 - \$25,000   | 39              | 46.4                 | 1,956                | 49.1                 |
| \$25,000 - \$100,000 | 28              | 33.3                 | 979                  | 24.6                 |
| \$100,000 and over   | 3               | 3.6                  | 290                  | 7.3                  |
| Total                | 84              | 100.0                | 3,984                | 100.0                |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959), and they include failures in Passenger and freight transportation and Miscellaneous public service categories.

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

Despite their slightly larger size, Michigan failures had shorter life spans than their national counterparts (Table 12). The fact that this industry has even greater prospects in Michigan than in the nation suggests a possible weakness or incapacity among the Michigan operators. Despite the prevailing potential demand, these firms were so

inefficient that they could not survive.

### Cyclical Patterns of Business Failures

It has been noted by many observers that Michigan has a greater cyclical sensitivity than the nation as a whole. An analysis of personal income in the three postwar recessions shows this sensitivity as presented in Table 25.

TABLE 25  
THREE POSTWAR RECESSIONS: MICHIGAN  
AND THE UNITED STATES

|     |             | <u>Percent Change in Personal Income</u> |                      |
|-----|-------------|------------------------------------------|----------------------|
|     |             | <u>Michigan</u>                          | <u>United States</u> |
| I   | 1948 - 1949 | - 0.6                                    | -0.9                 |
| II  | 1949 - 1950 | +13.5                                    | +9.7                 |
| III | 1948 - 1950 | +12.8                                    | +8.7                 |
| I   | 1953 - 1954 | - 2.7                                    | +0.8                 |
| II  | 1954 - 1955 | +11.7                                    | +7.4                 |
| III | 1953 - 1955 | + 8.7                                    | +8.3                 |
| I   | 1957 - 1958 | - 2.0                                    | +2.5                 |
| II  | 1958 - 1959 | + 5.5                                    | +6.5                 |
| III | 1957 - 1959 | + 3.4                                    | +9.2                 |

SOURCE: David I. Verway, "Personal Income," The Michigan Economic Record, September, 1960, p. 2.

The Table also indicates that since 1949 Michigan's recessions have become progressively deeper with corresponding weaker recoveries.<sup>38</sup> Although it is known that the 1958 recession was more severe and the 1959 recovery in the state

<sup>38</sup>David I. Verway, "Personal Income," Michigan Economic Record, September, 1960, p. 1.



was not as effective as could be hoped, it still is not known whether this is due to temporary causes or is symptomatic of a long run grim tendency for Michigan.<sup>39</sup>

The erratic nature of Michigan's economy can be accounted for mainly by its basically one industry economy,<sup>40</sup> and also by the cycle sensitivity of certain manufacturing categories.

Strong impacts of business cycles can be detected on Michigan's economy not solely as a result of the high concentration in durable good industries, but specifically on account of the very important role of the auto industry. Auto sales as well as production are very erratic and evidently coincide with cycles. Many sectors of Michigan's manufacturing supply mainly the needs of this industry. Large auto producers buy from thousands of small vendors. Hence, the impact of the health of the auto industry on the viability of these little vendors is very obvious; they can go out of business rather easily when automobile sales or production slackens.

#### Cyclical Patterns in Manufacturing Failures

The manufacturing sector, it has been contended, is quite sensitive to cyclical oscillations in the economy. A measure of this sensitivity was obtained by deriving a

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<sup>39</sup>David I. Verway, op. cit., p. 2.

<sup>40</sup>See Chapter Three.

relationship "between the changes in number of firms in operation in each industrial segment, and corresponding changes in the grand total number of firms of all industries during the years 1929-41."<sup>41</sup> Table 26 portrays this sensitivity. If the sensitivity of the business population to the level of business activity is high it may mean that either the industry's demand is very volatile or the ease of moving in and out of the industry is exceptionally great.

The greater sensitivity of the business population in manufacturing as compared with retail trade may, in fact, be explained primarily in terms of two factors: (1) On the whole, demand fluctuates more widely in manufacturing industries. The sales of the average firm in manufacturing are much less diversified than the sales of the average firm in retail trade. Moreover, for the production of many industrial commodities such as machinery, other business equipment, or the materials used for construction, demand in a depression year may undergo an extreme contraction. (2) The very presence in the manufacturing industries of a number of firms of widely diverse size operating in the same market increases the average volatility of the business population in these segments, for in good years many thousands of small manufacturers are required to supplement the capacity output of the large ones, while in poor years, when demand can no longer support the operations of all, the small producer frequently is unable to weather the storm.

Hence, in retail trade, where neither of these two factors impinges so heavily, there is a considerably higher degree of stability in the business population—a relative stability which is not belied by the fact that almost all closures in retail segments are publicly distinguished with the well known 'Going out of Business.'<sup>42</sup>

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<sup>41</sup>Melville J. Ulmer, "Industrial Patterns of the Business Population," Survey of Current Business, May, 1948, p. 7.

<sup>42</sup>Melville J. Ulmer, op. cit., pp. 11-12.

TABLE 26  
INDEXES OF SENSITIVITY<sup>a</sup>

| Industry                            | Percent Change in Group Associated with 10 Percent Change in Total Business Population |
|-------------------------------------|----------------------------------------------------------------------------------------|
| Major industry groups:              |                                                                                        |
| Manufacturing                       | 31                                                                                     |
| Contract construction               | 19                                                                                     |
| Wholesale trade                     | 10                                                                                     |
| Retail trade                        | 8                                                                                      |
| Finance, insurance, and real estate | 8                                                                                      |
| Service industries                  | 4                                                                                      |
| Manufacturing industries:           |                                                                                        |
| Lumber and lumber products          | 57                                                                                     |
| Stone, clay, and glass products     | 45                                                                                     |
| Metals and metal products           | 28                                                                                     |
| Printing and publishing             | 26                                                                                     |
| Food and kindred products           | 25                                                                                     |
| Textile and textile products        | 24                                                                                     |
| Leather and leather products        | 24                                                                                     |
| Chemicals and allied products       | 21                                                                                     |
| Paper and allied products           | 13                                                                                     |

<sup>a</sup>Based on the linear least squares regression of the logarithms of the number of firms in operation in each group and the total business population and time for the years 1929-41. In the case of wholesale trade, service industries, food and kindred products, textiles and textile products, and chemicals and allied products, the year 1941 was omitted from the relationship.

SOURCE: Melville J. Ulmer, "Industrial Patterns of the Business Population," Survey of Current Business, May, 1948, p. 11.

Unfortunately, there are no available data on the sensitivity index of durable goods industries as such, but it has been repeatedly stated that they are more sensitive

to cycles,<sup>43</sup> than nondurables mainly because of the higher volatility of their demand. Consequently, the cyclical fluctuations of Michigan manufacturing failures reflecting this sensitivity should be more noticeable than those of the national failures.

If we considered the increase in the total business failure figures between 1953 and 1959 as the normal increase, the 1954 and 1958 figures appear to be quite above this trend line. Both in Michigan and the nation as a whole casualties climbed substantially between 1953 and 1954, as shown in the Appendix to Chapter Two and also in Figure 1 in the first chapter. Also, the figures declined noticeably between 1958 and 1959. Therefore in both recession years, 1954 and 1958, increase in the failure rates was more than proportionate. In view of this fact, it was important to analyze the percent distribution of total failures. If in recession years the relative share of certain sectors were higher than those of prosperous years, then it can be claimed that these industries are relatively more cycle sensitive. Table 27 portrays the breakdown of failure statistics both in Michigan and the United States. The most obvious pattern appears among Michigan's Manufacturing failures. In both recession years the relative share of this sector increased even faster than the total number of

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<sup>43</sup>See for instance: John P. Henderson and A. Coskun Samli, "Nondurable Goods Industries," The Michigan Economic Record, June, 1959, p. 3.

TABLE 27

PERCENT DISTRIBUTION OF BUSINESS FAILURES IN MICHIGAN  
AND THE UNITED STATES FOR SELECTED YEARS<sup>a</sup>

|                     | <u>1953</u> |       | <u>1954</u> |       | <u>1958</u> |       | <u>1959</u> |       |
|---------------------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|
|                     | Mich.       | U. S. | Mich.       | U. S. | Mich.       | U. S. | Mich.       | U. S. |
| Manufacturing       | 16.7        | 21.0  | 22.0        | 20.6  | 17.7        | 17.9  | 13.3        | 17.5  |
| Wholesale trade     | 14.0        | 10.5  | 9.1         | 10.2  | 11.7        | 19.6  | 9.1         | 9.9   |
| Retail trade        | 46.5        | 43.4  | 50.7        | 49.5  | 49.5        | 50.2  | 55.4        | 48.9  |
| Construction        | 14.9        | 11.6  | 12.4        | 11.8  | 16.3        | 14.4  | 14.7        | 14.7  |
| Commercial services | 7.9         | 7.5   | 5.7         | 7.9   | 4.8         | 7.9   | 7.5         | 9.0   |
| Total               | 100.0       | 100.0 | 100.0       | 100.0 | 100.0       | 100.0 | 100.0       | 100.0 |

<sup>a</sup>Detail may not add to total because of rounding.

SOURCE: Computed from Dun and Bradstreet, Inc., special tabulation, and The Failure Record Through 1959.

failures. Manufacturing failures in the nation as a whole do not conform to the cycles in the same manner. An analysis of failures in particular manufacturing categories, however, showed the same conformity. These selected categories are also those which are most important in Michigan, i.e., Iron, steel and products, Machinery, and Transportation equipment. The relative share of total failures in these industries was larger in the recession years as indicated in Table 28.

TABLE 28

FAILURES IN SELECTED INDUSTRIAL CATEGORIES  
AS A PERCENT OF TOTAL FAILURES IN  
MICHIGAN AND THE UNITED STATES<sup>a</sup>

| Years | Michigan<br>Percent | United States<br>Percent |
|-------|---------------------|--------------------------|
| 1953  | 8.8                 | 3.3                      |
| 1954  | 10.0                | 4.2                      |
| 1958  | 10.8                | 3.7                      |
| 1959  | 6.0                 | 2.6                      |

<sup>a</sup>Includes Iron, steel and products, Machinery, and Transportation equipment sectors.

SOURCE: Computed from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

Of the four categories in which most failures occurred in Michigan, i.e., Lumber and lumber products; Iron, steel and products; Transportation equipment; Miscellaneous, the second group showed the most sensitivity in terms of the above analysis. The failure rate in this category was higher in both recession years than the prosperous,

as can be observed in Table 4. In the other three categories failure rates for 1958 were very high; however, 1959 rates were not lower than those of 1954. While high 1958 rates might indicate the negative impacts of the recession, having higher rates in 1959 than 1954 might indicate the lack of satisfactory recovery in the state economy.

In the United States as a whole the category in which the largest share of manufacturing failures occurred, i.e., Textile mill products and apparel, only a slight cycle sensitivity was observed (Table 4). In both recession years failure rates were relatively higher than the two prosperous years. The second largest group is Lumber and lumber products which experienced the highest failure rate, indicating an upward trend and lack of cycle sensitivity. The machinery category also seemed to be relatively cycle sensitive and lastly the Miscellaneous category had the same trend as the Lumber group.

#### Cyclical Patterns in Other Sectors

As was noted in Table 26, wholesale trade is not very sensitive to cycles. Table 27 demonstrated that there was no relative increase in the relative share of wholesaling failures in recession years which also indicates the relative lack of sensitivity in this sector.<sup>44</sup> However, wholesaling

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<sup>44</sup>It should be remembered that we have examined only two cycles, and we made no lead or lag analysis. With such a short time analyzed and only to a limited extent, it is not possible to pass any conclusive judgement. If it were

failure rates both in Michigan and the United States decreased in 1959 in many categories indicating the wholesaling sector is not completely insensitive.

It is conceivable that because of Michigan's cyclical sensitivity as a whole, the wholesaling sector also is more sensitive than its national counterpart. This is due to the existence of those wholesalers whose viability is dependent upon customers located in Michigan; they can be harmed readily when business slackens. In other sectors as can be observed from Table 27, there is little to discuss in terms of cyclical patterns.

### Conclusions

This chapter has presented a discussion of similarities and dissimilarities of failure pictures in Michigan and the United States. Analyses were based on D. & B. failure statistics. Three major points of emphasis were covered: (1) the number and kind of failures in different major industrial and commercial sectors; (2) liability size distribution of failures in the same categories; (3) the age of failed businesses. Within the scope of these three problem areas an attempt was made to compare Michigan patterns with those of the nation. Also incorporated into the analyses were the cyclical aspects of failures which

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possible to analyze in detail different lines in wholesaling for a number of years, it could probably have been possible to observe some cyclical sensitivity especially in durable goods wholesaling.



proved especially important in manufacturing.

From the analyses attention may be called to the following points:

1. The composition of failure statistics had a substantial resemblance to the structure of the commercial and industrial population. The manufacturing sector, in particular, displayed this tendency. In Michigan, for instance, an important portion of the manufacturing population was concentrated in durable goods production, and, as expected, an important portion of state manufacturing failures was found among these. In other major economic sectors also, an overall resemblance was noticed between the business population and the composition of business deaths.
2. Although failures increased in both economies in all sectors, the rate of increase was faster in Michigan. Manufacturing in both economies experienced the highest rate of failure, and services the lowest. Despite the faster growth of the failure rates in Michigan, they were nonetheless lower than their national counterparts in all but one category. It was brought out that there are certain tendencies in the Michigan economy that have adverse effects on

the sectors where especially high rates of failure prevailed. In the manufacturing sector, for instance, there was: a decline in the Lumber and lumber products industry, and increasing integration in the Automobile industry, a continuing dispersion of the Automobile industry, and a decline in the demand for durable goods. In the retailing sector, the high failure rate in the Apparel and accessories, and Furniture and home furnishings categories coupled with their relatively sizeable number of failures led to a continuous growth of failures in Michigan. Total retail sales in the state has been growing at a slower pace than their national counterparts. The increase in the failure rate in Construction over that of the United States can be traced back to the overall performances of the industry in both economies. Michigan's construction business has been contracting for the past three years or so.

There was no spectacular difference between the composition of Michigan failures in 1953 (the best post-war period year) and 1958 (the worst year since 1947). The composition of 1953 failures in the state showed considerable difference from that of 1959. The Retail trade

had experienced a considerable increase in its share of the total failures. The composition of failures in the national scene had hardly changed between these years. The Michigan pattern, therefore, proved to be more erratic than that of the nation (Table 27).

3. The analyses of liability size distribution revealed that manufacturing failures had a relatively larger size in both economies. At the other extreme is the services sector which in Michigan proved to have failures with the smallest liability size. In the nation on the other hand, failures with the smallest size occurred in retailing. As a whole, the average liability size of business casualties in Michigan exceeded its national counterpart (Table 29).

4. In all sectors where liability size, on the average, was greater, Michigan failures lived longer before the closure of the business. In wholesaling and services relatively speaking, there were more failures that were older than ten years in the nation than in Michigan. In other sectors, Michigan failures seemed to have lived longer.

Consistent with their larger overall liability size, businesses that failed in Michigan also

TABLE 29

LIABILITY SIZE DISTRIBUTION OF TOTAL MICHIGAN  
AND UNITED STATES BUSINESS FAILURES<sup>a</sup>

| Liability Size Group | <u>Michigan</u> |                      | <u>United States</u> |                      |
|----------------------|-----------------|----------------------|----------------------|----------------------|
|                      | Number          | Percent <sup>b</sup> | Number               | Percent <sup>b</sup> |
| Under \$5,000        | 125             | 9.2                  | 6,892                | 14.1                 |
| \$5,000 - \$25,000   | 616             | 45.1                 | 23,636               | 48.3                 |
| \$25,000 - \$100,000 | 440             | 32.2                 | 13,979               | 28.5                 |
| \$100,000 and over   | 185             | 13.5                 | 4,458                | 9.1                  |
| Total                | 1,366           | 100.0                | 48,965               | 100.0                |

<sup>a</sup>Includes totals of four selected years (1953, 1954, 1958, and 1959).

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Basic data from Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

lived longer than their national counterparts as indicated in Table 30. As opposed to 57.1 percent of all failures that lived no longer than five years in the national scene, only 51.9 percent of the total did so in Michigan. Furthermore, more than 24 percent of the total survived six to ten years in the state, and 22.4 percent over ten years; in the national scene these figures were 22.3 and 20.6 percent respectively (Table 30).

5. As observed in Tables 6, 11, and 30, there were very few deaths before completion of the first

TABLE 30

A COMPARISON OF THE AGES OF MICHIGAN  
AND UNITED STATES BUSINESS FAILURES<sup>a</sup>

| Age in Years              | Percent of the Total Failures |                            |
|---------------------------|-------------------------------|----------------------------|
|                           | Michigan <sup>b</sup>         | United States <sup>b</sup> |
| One year or less          | 2.9                           | 3.6                        |
| Two years                 | 14.8                          | 18.8                       |
| Three years               | 15.6                          | 15.3                       |
| Total three years or less | 33.3                          | 37.0                       |
| Four years                | 10.5                          | 11.5                       |
| Five years                | 8.1                           | 8.6                        |
| Total five years or less  | 51.9                          | 57.1                       |
| Six years                 | 6.9                           | 6.9                        |
| Seven years               | 6.8                           | 5.2                        |
| Eight years               | 5.1                           | 4.2                        |
| Nine years                | 3.6                           | 3.0                        |
| Ten years                 | 3.3                           | 3.0                        |
| Total six - ten years     | 25.7                          | 22.3                       |
| Over ten years            | 22.4                          | 20.6                       |
| Total                     | 100.0                         | 100.0                      |

<sup>a</sup>Michigan figures represent the total picture of the four years studied whereas United States figures are only for 1959. It would have been possible to use only 1959 figures for Michigan also, but as the total failure number in the state is not large, one year's data may present a distorted picture.

<sup>b</sup>Detail may not add to total because of rounding.

SOURCE: Dun and Bradstreet, Inc., special tabulations, and The Failure Record Through 1959.

year of existence;<sup>45</sup> however, almost 40 percent

<sup>45</sup>As was discussed in the services sector above, this fact stemmed mainly from the definition of failure used by D. & B. Although a large number of new entrants ceased existence before the completion of their first year, it was less likely that these incurred losses to their creditors; therefore, they are not considered business failures by D. & B.

of failures occurred among those three years of age or younger.

6. Manufacturing, especially the durable goods industries, showed a high sensitivity to business cycles. In Michigan during the recession years the number of manufacturing failures increased relatively as well as absolutely. The same thing happened in the national scene among manufacturers of durable goods. The other sectors did not reveal any noticeable cyclical pattern.

Appendix to Chapter II  
NUMBER OF BUSINESS FAILURES IN MICHIGAN

| Division of Industry and Trade           | Years |      |      |      |
|------------------------------------------|-------|------|------|------|
|                                          | 1953  | 1954 | 1958 | 1959 |
| <b>Manufacturing</b>                     |       |      |      |      |
| Food and Kindred Products                | -     | 9    | 2    | 6    |
| Textile Mill Products and Apparel        | 1     | -    | -    | 1    |
| Lumber and Lumber Products               | 3     | 5    | 15   | 8    |
| Paper, Printing, and Publishing          | -     | 2    | 6    | 5    |
| Chemicals and Allied Products            | -     | 2    | -    | 3    |
| Leather and Leather Products             | -     | 1    | 1    | -    |
| Stone, Clay, and Glass Products          | 2     | 1    | 1    | 3    |
| Iron, Steel and Products                 | 1     | 8    | 19   | 5    |
| Machinery                                | 8     | 13   | 37   | 20   |
| Transportation Equipment                 | 1     | -    | 3    | 5    |
| Miscellaneous                            | 3     | 5    | 13   | 9    |
| Total Manufacturing                      | 19    | 46   | 97   | 65   |
| <b>Wholesale Trade</b>                   |       |      |      |      |
| Food and Farm Products                   | 5     | 4    | 14   | 6    |
| Apparel                                  | 1     | -    | 2    | 2    |
| Dry Goods                                | -     | -    | 1    | 1    |
| Lumber, Building Materials, and Hardware | 4     | 2    | 10   | 5    |
| Chemicals and Drugs                      | -     | 1    | 4    | 4    |
| Motor Vehicles and Auto Equipment        | -     | 1    | 4    | 6    |
| Miscellaneous                            | 6     | 11   | 29   | 21   |
| Total Wholesale Trade                    | 16    | 19   | 64   | 45   |
| <b>Retail Trade</b>                      |       |      |      |      |
| Food and Liquor                          | 15    | 24   | 39   | 52   |
| General Merchandise                      | 2     | 3    | 9    | 11   |
| Appliance Accessories                    | 6     | 12   | 46   | 54   |
| Furniture and Home Furnishings           | 5     | 21   | 54   | 44   |
| Lumber, Building Materials, and Hardware | 4     | 18   | 25   | 27   |
| Automotive Group                         | 10    | 8    | 29   | 32   |
| Eating and Drinking Places               | 3     | 8    | 32   | 23   |
| Drug Stores                              | 3     | 4    | 11   | 5    |
| Miscellaneous                            | 5     | 8    | 26   | 27   |
| Total Retail Trade                       | 53    | 106  | 271  | 275  |
| <b>Construction</b>                      |       |      |      |      |
| General Building Contractors             | 8     | 8    | 34   | 23   |
| Building Sub-Contractors                 | 9     | 18   | 55   | 44   |
| Other Contractors                        | -     | -    | -    | 6    |
| Total Construction                       | 17    | 26   | 89   | 73   |

Appendix to Chapter II—Continued

| Division of Industry and Trade       | <u>Years</u> |      |      |      |
|--------------------------------------|--------------|------|------|------|
|                                      | 1953         | 1954 | 1958 | 1959 |
| Commercial Service                   |              |      |      |      |
| Passenger and Freight Transportation | 3            | 7    | 5    | 5    |
| Miscellaneous Public Services        | 1            | -    | 2    | 3    |
| Hotels                               | -            | -    | 1    | -    |
| Cleaning, Dyeing, and Repairing      | 1            | 1    | 5    | 9    |
| Laundries                            | -            | -    | 1    | 3    |
| Undertakers                          | 1            | 1    | -    | -    |
| Other Personal Services              | -            | -    | 2    | 4    |
| Business and Repair Services         | 3            | 3    | 10   | 13   |
| Total Commercial Service             | 9            | 12   | 26   | 37   |
| Total Michigan                       | 114          | 209  | 547  | 495  |

SOURCE: Dun and Bradstreet, Inc., and special tabulations.



### CHAPTER III

#### DIFFERENCES IN INDUSTRIAL PATTERNS AND THEIR IMPACT ON INCOME GENERATION

In the preceding chapter it was concluded that there are certain differences between the nature and composition of Michigan and U. S. failure patterns. It was established that in 1958 manufacturing failures and in 1959 retailing failures were exceedingly high in Michigan. In both years the total failure rate was almost as high as its national counterpart. In 1953, however, the postwar year in which the state had its lowest failure rate, the number of casualties in these two above-mentioned categories were relatively smaller. This fact suggests that the erratic nature of manufacturing failures, which mainly caused the high overall failure rate in 1958, coupled with the more than proportionate increase in the retailing death toll, are in the main responsible for raising Michigan's failure rate. In the same chapter, certain basic differences in the composition of failures (especially in manufacturing) and also in the size distribution and life span in major economic sectors were brought into focus.

The objective of the present chapter is to examine and compare the characteristics and components of the

Michigan and national economies. In the course of this examination the employment pictures, industrial characteristics and income generation in particular industrial sectors will be considered. These discussions will facilitate the analyses of the succeeding chapter, in which an attempt will be made to explain why the economies' failure patterns differ.

### The Composition of Employment

Analyses showed that the most important single characteristic of Michigan's employment picture was the very large share of manufacturing employment in durable goods industries. As can be observed in Table 1, durable goods industries in 1959 provided more than 33 percent of all state employment as opposed to 17.9 percent in the nation. In the same year almost four out of every ten persons employed in durable goods industries (or 13 percent of the total) in Michigan were engaged in the production of motor vehicles and equipment as compared to 1.4 percent in the national scene (Table 2). This represents what is probably the most distinctive difference between the two overall employment patterns.

Another important difference was in the scope of nonmanufacturing nonfarm employment. Although its rate of growth was greater, this portion of total employment in the state was behind its national counterpart. Approximately 69

TABLE 1

## THE DISTRIBUTION OF MICHIGAN'S TOTAL NONFARM EMPLOYMENT

|                                             | 1950 <sup>a</sup> |         | 1959         |         | Percent Increase or Decrease |
|---------------------------------------------|-------------------|---------|--------------|---------|------------------------------|
|                                             | Number (000)      | Percent | Number (000) | Percent |                              |
| Total nonfarm employment                    | 2,160             | 100.0   | 2,263        | 100.0   | + 5.0                        |
| Manufacturing                               | 1,070             | 49.5    | 950          | 41.9    | -11.2                        |
| Durable goods industries                    | 896               | 41.5    | 755          | 33.3    | -15.7                        |
| Lumber and wood products                    | 19                | .9      | 12           | .5      | -36.8                        |
| Furniture                                   | 24                | 1.1     | 21           | .9      | -12.5                        |
| Metal industries                            | 190               | 8.8     | 184          | 8.1     | - 3.2                        |
| Primary metal products                      | 77                | 3.6     | 82           | 3.6     | + 6.5                        |
| Fabricated metal products                   | 113               | 5.2     | 102          | 4.5     | - 9.7                        |
| Machinery (nonelectrical)                   | 120               | 5.6     | 135          | 6.0     | +12.5                        |
| Electrical machinery                        | 30                | 1.4     | 47           | 2.1     | +56.7                        |
| Transportation equipment                    | 474               | 21.9    | 306          | 13.5    | -35.4                        |
| Motor vehicles and equipment                | 468               | 21.7    | 292          | 12.9    | -37.6                        |
| Other transportation equipment              | 6                 | .3      | 14           | .6      | +133.3                       |
| Other durable goods manufacturing           | 39                | 1.8     | 51           | 2.2     | +30.8                        |
| Nondurable goods industries                 | 174               | 8.1     | 195          | 8.6     | +12.1                        |
| Food and kindred products                   | 52                | 2.4     | 60           | 2.6     | +15.4                        |
| Textile mill products and apparel           | 14                | .6      | 15           | .7      | + 7.1                        |
| Paper and allied products                   | 29                | 1.3     | 28           | 1.2     | - 3.4                        |
| Printing, publishing, and allied industries | 24                | 1.1     | 28           | 1.2     | +16.7                        |
| Chemicals, petroleum, and coal products     | 36                | 1.7     | 43           | 1.9     | +19.4                        |
| Other nondurable goods manufacturing        | 19                | .9      | 21           | .9      | +10.5                        |

TABLE 1--Continued

|                                              | <u>1950a</u> |         | <u>1959</u>  |         | Percent Increase or Decrease |
|----------------------------------------------|--------------|---------|--------------|---------|------------------------------|
|                                              | Number (000) | Percent | Number (000) | Percent |                              |
| Nonmanufacturing industries <sup>b</sup>     | 1,090        | 50.5    | 1,319        | 58.2    | +21.0                        |
| Construction                                 | 88           | 4.1     | 98           | 4.3     | +11.4                        |
| Transportation, communication, and utilities | 137          | 6.3     | 138          | 6.1     | + .7                         |
| Wholesale and retail trade                   | 395          | 18.3    | 438          | 19.3    | +10.9                        |
| Finance, real estate, and insurance          | 54           | 2.5     | 75           | 3.3     | +38.9                        |
| Service and miscellaneous nonmanufacturing   | 177          | 8.2     | 232          | 10.2    | +31.1                        |
| Mining                                       | 17           | .8      | 14           | .6      | -17.6                        |
| Government                                   | 222          | 10.3    | 323          | 14.2    | +45.5                        |

<sup>a</sup>Because of the changes in definitions, 1950 figures are not strictly comparable to those of 1959.

<sup>b</sup>Due to incomparability in the M.E.S.C., these figures are taken from the B.L.S. statistics.

SOURCE: Basic data from Michigan Employment Security Commission, various issues of Michigan's Labor Market, and U. S. Department of Labor, Employment and Earnings, May, 1960, pp. 99-101.

TABLE 2

## THE DISTRIBUTION OF UNITED STATES' TOTAL NONFARM EMPLOYMENT

|                                             | <u>1950</u>  |         | <u>1959</u>  |         | Percent Increase or Decrease |
|---------------------------------------------|--------------|---------|--------------|---------|------------------------------|
|                                             | Number (000) | Percent | Number (000) | Percent |                              |
| Total nonfarm employment                    | 44,738       | 100.0   | 51,975       | 100.0   | +16.2                        |
| Manufacturing                               | 14,967       | 33.5    | 16,168       | 31.1    | + 8.0                        |
| Durable goods industries                    | 8,085        | 18.1    | 9,290        | 17.9    | +14.9                        |
| Lumber and wood products                    | 805          | 1.8     | 658          | 1.3     | -18.3                        |
| Furniture                                   | 369          | .8      | 384          | .7      | + 4.1                        |
| Metal industries                            | 2,173        | 4.9     | 2,207        | 4.2     | + 1.6                        |
| Primary metal products                      | 1,200        | 2.7     | 1,138        | 2.2     | - 5.2                        |
| Fabricated metal products                   | 973          | 2.2     | 1,069        | 2.1     | + 9.9                        |
| Machinery (nonelectrical)                   | 1,354        | 3.0     | 1,612        | 3.1     | +19.1                        |
| Electrical machinery                        | 877          | 2.0     | 1,242        | 2.4     | +41.6                        |
| Transportation equipment                    | 1,264        | 2.8     | 1,671        | 3.2     | +32.2                        |
| Motor vehicles and equipment                | 825          | 1.8     | 732          | 1.4     | -11.3                        |
| Other transportation equipment              | 439          | 1.0     | 939          | 1.8     | +113.9                       |
| Other durable goods manufacturing           | 1,243        | 2.8     | 1,516        | 2.9     | +22.0                        |
| Nondurable goods industries                 | 6,882        | 15.4    | 6,878        | 13.2    | - .1                         |
| Food and kindred products                   | 1,523        | 3.4     | 1,470        | 2.8     | - 3.5                        |
| Textile mill products and apparel           | 2,476        | 5.5     | 2,177        | 4.2     | -12.1                        |
| Paper and allied products                   | 485          | 1.1     | 560          | 1.1     | +15.5                        |
| Printing, publishing, and allied industries | 738          | 1.6     | 868          | 1.7     | +17.6                        |
| Chemicals, petroleum, and coal products     | 920          | 2.1     | 1,081        | 2.1     | +17.6                        |
| Other nondurable goods manufacturing        | 740          | 1.7     | 722          | 1.4     | - 2.4                        |

TABLE 2--Continued

|                                              | <u>1950</u>  |         | <u>1952</u>  |         | Percent Increase or Decrease |
|----------------------------------------------|--------------|---------|--------------|---------|------------------------------|
|                                              | Number (000) | Percent | Number (000) | Percent |                              |
| Nonmanufacturing industries                  | 29,771       | 66.5    | 35,807       | 68.9    | +20.3                        |
| Construction                                 | 2,333        | 5.2     | 2,767        | 5.3     | +18.6                        |
| Transportation, communication, and utilities | 3,977        | 8.9     | 3,902        | 7.5     | - 1.9                        |
| Wholesale and retail trade                   | 9,645        | 21.5    | 11,385       | 21.9    | +18.0                        |
| Finance, real estate, and insurance          | 1,824        | 4.1     | 2,425        | 4.7     | +32.9                        |
| Service and miscellaneous nonmanufacturing   | 5,077        | 11.3    | 6,525        | 12.6    | +28.5                        |
| Mining                                       | 889          | 2.0     | 676          | 1.3     | -24.0                        |
| Government                                   | 6,026        | 13.5    | 8,127        | 15.6    | +34.9                        |

SOURCE: Basic data from U. S. Department of Labor, Employment and Earnings, op. cit., and the Statistical Abstract of the United States, 1960, op. cit., pp. 209-211.

percent of all employed in the nation were engaged in some kind of nonmanufacturing occupation as contrasted to only 58.2 percent in Michigan (Tables 1 and 2).

During the fifties certain significant changes took place in the employment picture of both economies. While Michigan's employment in durable goods declined in absolute terms, the opposite was true nationally. Between 1950 and 1959, as opposed to a 15.7 percent decrease in Michigan's durable goods employment, a 14.9 percent increase was experienced in the national economy (Tables 1 and 2). In both economies this sector's relative share of total employment dropped. This decline in Michigan, however, was not large enough to change the state's dependency upon the durable goods industries.

In one state industry, motor vehicles and equipment, employment declined appreciably both absolutely and relatively. Here a 37.6 percent decline between 1950 and 1959 was experienced, while at the national level, the industry's loss was only 11.3 percent. In Michigan this industry in 1950 provided jobs to 20 percent of all employed; in 1959, however, its share of total employment was down to 13 percent (Table 1).

During the fifties the most dramatic increase in employment among all Michigan durable goods industries occurred in the transportation equipment industry, which, excluding motor vehicles and equipment, rose a spectacular

133.3 percent. Electrical machinery employment also grew significantly both in the state and nation.

Nondurable goods industries gained in scope, expanding their employment by 12 percent in Michigan, while practically no change took place at the national level (Table 2). The growth of employment in nonmanufacturing industries was almost the same in both economies with Michigan having a slight edge. Among nonmanufacturing industries, while the Government, and Finance, real estate and insurance sectors grew relatively faster in the state, the growth in Wholesale and retail trade and construction industries lagged behind the nation.

By and large, then, the overall employment pictures of the two economies, throughout the fifties, had the tendency to become more alike; nondurable and nonmanufacturing employment grew faster in Michigan, and employment in durable goods industries declined here in contrast to the changes in the national picture. Nonetheless, all the data indicate that manufacturing, especially durable goods industries, and among these the motor vehicle and equipment group, is still of the utmost importance in Michigan's employment picture.

#### Income and Value Added

The importance of manufacturing in Michigan's economy becomes most obvious when the percent of personal income



generated in manufacturing is taken into consideration. Tables 3 and 4 present data on industrial sources of civilian income for participation in production. As expected when the two economies were examined, the most dramatic difference between the distribution of civilian income generated by participation in production was seen in the manufacturing sector. While in Michigan this sector's share of income generated was as high as 45.5 percent of the total for 1959, it was only 30.2 percent in the nation (Table 4). Manufacturing in Michigan is the most important economic activity, and the state can justifiably be called a factory state. There are only six states in the nation that employ more people in manufacturing, and in terms of income generated by this sector, Michigan is the number one state.<sup>1</sup> The wholesale and retail trade was second in magnitude, making similar contributions to the income generated in both economies.

#### Changes in Income

An analysis of the changes that took place in the generation of income, with the exception of the manufacturing sector, revealed no significant dissimilarity between Michigan and the nation during the fifties. The growth of the proportion of manufacturing in the total income generated in Michigan was 47.7 percent between 1950 and 1959.

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<sup>1</sup>Roger L. Bowlby, "Manufacturing in Michigan," The Michigan Economic Record, September, 1960, p. 7.

TABLE 3

**INDUSTRIAL SOURCES OF CIVILIAN INCOME RECEIVED BY PERSONS FOR PARTICIPATION IN  
PRODUCTION IN MICHIGAN AND THE UNITED STATES<sup>a</sup>**  
(Millions of Dollars)

|                                        | <u>Michigan</u> |        | Percent<br>Increase<br>or<br>Decrease | <u>United States</u> |         | Percent<br>Increase<br>or<br>Decrease | <u>Michigan<br/>as Percent<br/>of U. S.</u> |      |
|----------------------------------------|-----------------|--------|---------------------------------------|----------------------|---------|---------------------------------------|---------------------------------------------|------|
|                                        | 1950            | 1959   |                                       | 1950                 | 1959    |                                       | 1950                                        | 1959 |
| Total                                  | 9,151           | 14,422 | + 57.6                                | 180,945              | 303,798 | + 67.9                                | 5.1                                         | 4.7  |
| Farms                                  | 332             | 332    | 0                                     | 16,020               | 14,722  | - 8.1                                 | 2.1                                         | 2.3  |
| Mining                                 | 63              | 88     | + 39.7                                | 3,567                | 4,402   | + 23.4                                | 1.8                                         | 2.0  |
| Contract construction                  | 450             | 778    | + 72.9                                | 10,736               | 20,197  | + 88.1                                | 4.2                                         | 3.9  |
| Manufacturing                          | 4,444           | 6,562  | + 47.7                                | 52,870               | 91,795  | + 73.6                                | 8.4                                         | 7.1  |
| Wholesale and retail<br>trade          | 1,642           | 2,459  | + 49.8                                | 37,926               | 59,634  | + 57.2                                | 4.3                                         | 4.1  |
| Finance, insurance,<br>and real estate | 224             | 470    | +109.8                                | 7,031                | 15,204  | +116.2                                | 3.2                                         | 3.1  |
| Transportation                         | 335             | 479    | + 43.0                                | 10,618               | 15,452  | + 45.5                                | 3.2                                         | 3.1  |
| Communications and<br>public utilities | 215             | 394    | + 83.3                                | 4,549                | 8,502   | + 86.9                                | 4.7                                         | 4.6  |
| Services                               | 783             | 1,462  | + 86.7                                | 20,062               | 37,771  | + 88.3                                | 3.9                                         | 3.9  |
| Government                             | 651             | 1,378  | +111.7                                | 16,999               | 35,108  | +106.5                                | 3.8                                         | 3.9  |
| Other                                  | 12              | 20     | + 66.7                                | 567                  | 1,011   | + 78.3                                | 2.1                                         | 2.0  |

<sup>a</sup>Consists of wage and salary disbursements, other labor income, and proprietors' income. Does not include earnings of military personnel.

SOURCE: Basic data from Personal Income by States Since 1929, U. S. Department of Commerce, Office of Business Economics (Washington: Government Printing Office, 1956), p. 212; and Survey of Current Business, August, 1960, p. 23.

TABLE 4

**PERCENT DISTRIBUTION OF CIVILIAN INCOME RECEIVED  
BY PERSONS FOR PARTICIPATION IN PRODUCTION**

|                                            | <u>Michigan</u> |       | <u>United States</u> |       |
|--------------------------------------------|-----------------|-------|----------------------|-------|
|                                            | 1950            | 1959  | 1950                 | 1959  |
| <b>Total</b>                               | 100.0           | 100.0 | 100.0                | 100.0 |
| <b>Farms</b>                               | 3.6             | 2.3   | 8.9                  | 4.8   |
| <b>Mining</b>                              | .7              | .6    | 2.0                  | 1.4   |
| <b>Contract construction</b>               | 4.9             | 5.3   | 5.9                  | 6.6   |
| <b>Manufacturing</b>                       | 48.6            | 45.5  | 29.2                 | 30.2  |
| <b>Wholesale and retail trade</b>          | 17.9            | 17.1  | 21.0                 | 19.6  |
| <b>Finance, insurance, and real estate</b> | 2.4             | 3.3   | 3.9                  | 5.0   |
| <b>Transportation</b>                      | 3.7             | 3.3   | 5.9                  | 5.1   |
| <b>Communications and public utilities</b> | 2.3             | 2.7   | 2.5                  | 2.8   |
| <b>Services</b>                            | 8.6             | 10.1  | 11.1                 | 12.4  |
| <b>Government</b>                          | 7.1             | 9.6   | 9.3                  | 11.6  |
| <b>Other</b>                               | .1              | .1    | .3                   | .3    |

**SOURCE:** Computed from the statistics in Table 3.

This figure indicated that the industry lagged behind in the total growth of average income received by persons for their participation in production, which was 57.6 percent during the same period (Table 3). In the nation, on the other hand, growth in income generation in this sector kept ahead of the average with a growth of 73.6 percent as opposed to 67.9.

This led to a notable decline in Michigan's share of income generated by manufacturing in the nation as a whole.

Michigan in 1950 had contributed 8.4 percent to the total whereas this share dropped to 7.1 percent in 1959. On the basis of percent share of the income received, a slight

decline (from 48.6 percent in 1950 to 45.5 in 1959) in the contribution of state manufacturing to the total income was experienced, though this did not lessen the sector's great importance. At the same time there was a negligible increase nationally (Table 4).

It should be noted that the growth of income in the national scene exceeded Michigan's, a fact which can be accounted for by adverse economic conditions in the state since 1955. As will be seen in another section, total personal and per capita income in Michigan grew faster than that of the nation until 1955. Since then the picture has reversed itself and the growth rate of income in the state has fallen behind that of the nation. As a result, while Michigan had received 5.1 percent of the total personal income in 1950, its share went down to 4.7 in 1959 (Table 3).

Two particular categories, Government and Finance, and Insurance and Real Estate, experienced the largest growth in terms of total income creation. These sectors, both in the state and the national scene, showed a spectacular growth rate of over 100 percent, as seen in Table 3. In the other economic sectors on both levels almost the same changes took place with similar categories gaining or losing ground in the generation of income.

#### Value Added by Manufacturing

Value added is a very useful tool in assessing the role of different manufacturing sectors in the overall

income creation. This figure is arrived at by "subtracting the cost of raw materials, parts and components, supplies, fuels, purchased electric energy and contract work from the value of the shipments of manufacturing establishments."<sup>2</sup> Thus, value added measures the contribution of different manufacturing sectors to gross product. It is composed of two principal components—wages and profits.

The most recent value added figures for Michigan revealed that in 1958 over 70 percent of the total value added was generated in durable goods industries (Table 5). The total share of these industries in the nation, on the other hand, did not exceed 50 percent of the total (Table 5). As expected, in 1958, the transportation equipment industry in Michigan contributed the largest value added by a single industry, 34.5 percent of the total. Almost 90 percent of this 34.5 was created by the auto industry. The scope of the transportation equipment industry in the national scene was far less, being 10.5 percent of the total, as seen in Table 5. Only 45 percent of this was generated by the auto industry. Nonelectrical machinery producing industries placed second in terms of value added in the state, providing 15.5 percent of the total. In the nation this industry was third in 1959, next to the food and kindred products which contributed 11.8 percent of total

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<sup>2</sup>Ibid., p. 7.

TABLE 5

PERCENT DISTRIBUTION OF VALUE ADDED BY MANUFACTURING  
IN MICHIGAN AND THE UNITED STATES<sup>a</sup>

|                                  | <u>Michigan</u> |       | <u>United States</u> |       |
|----------------------------------|-----------------|-------|----------------------|-------|
|                                  | 1950            | 1958  | 1950                 | 1958  |
| Food and kindred products        | 4.8             | 7.5   | 11.3                 | 11.8  |
| Apparel and related products     | -               | .9    | 4.7                  | 4.2   |
| Lumber and wood products         | 1.3             | .8    | 3.5                  | 2.2   |
| Furniture and fixtures           | 2.0             | 2.0   | 1.9                  | 1.7   |
| Pulp, paper, and products        | 2.9             | 3.1   | 3.8                  | 4.0   |
| Printing and publishing          | 2.4             | 3.1   | 5.5                  | 5.6   |
| Chemicals and products           | 5.4             | 7.2   | 8.1                  | 8.9   |
| Rubber products                  | 1.3             | 1.4   | 1.8                  | 1.6   |
| Leather and leather products     | -               | .3    | 1.7                  | 1.3   |
| Stone, clay, and glass products  | 1.6             | 2.3   | 3.5                  | 3.9   |
| Primary metal products           | 8.3             | 7.8   | 8.9                  | 8.0   |
| Fabricated metal products        | 10.4            | 7.8   | 6.9                  | 6.5   |
| Machinery, except electrical     | 12.7            | 15.5  | 9.8                  | 10.4  |
| Electrical machinery             | 1.4             | 2.2   | 5.4                  | 6.6   |
| Transportation equipment         | 42.1            | 34.5  | 9.5                  | 10.5  |
| Instruments and related products | .4              | .9    | 1.5                  | 2.0   |
| Total                            | 100.0           | 100.0 | 100.0                | 100.0 |

<sup>a</sup>Details do not add to total not because of rounding only but also because of the omission of some minor manufacturing categories.

SOURCE: Computed from Annual Survey of Manufactures 1950, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1952), pp. 17, 58; and the 1958 Census of Manufactures, Vol. III, op. cit., pp. 6, 21-8, 21-11.

value added, and the transportation equipment industry, which had a share of 10.5.

A substantial decline in the share of value added by the transportation equipment industry between 1950 and 1958

can be seen in Table 5. In 1950, this industry generated 42.1 percent of total value added in the state whereas it was 34.5 percent in 1958. This decrease was not mainly due to the growth of other industrial sectors, but rather to an actual decline in the contribution of this industry to the gross product. Of course it should be kept in mind that 1958 was a recession year and was especially bleak for the auto industry. However, even by 1957 the relative share of the industry had already started declining, which is indicated by the 39.7 percent of total value added it generated as opposed to 42.1 in 1950.

In the national scene the transportation equipment category had gained slightly, despite the recession, in total value added by 1958, mainly because of the soaring demand for transportation equipment other than automobiles. Along with this category almost all of the durable goods industries contributed an enlarged share to the total value added, at the expense of some of the nondurable goods industries.

On the whole, between 1950 and 1958, value added by all the nondurable goods in the state increased slightly whereas in the nation the opposite trend took place and the relative share of nondurable goods industries went down.

An analysis of Michigan's share in the total value added in the nation reveals that there was a slight tendency to decline (Table 6), for while in 1950 Michigan had

TABLE 6

VALUE ADDED BY MANUFACTURE IN MICHIGAN AND THE UNITED STATES<sup>a</sup>

|                                  | Michigan<br>(Millions of \$) |         | United States<br>(Billions of \$) |       | Michigan as<br>Percent of<br>United States |      |
|----------------------------------|------------------------------|---------|-----------------------------------|-------|--------------------------------------------|------|
|                                  | 1950                         | 1958    | 1950                              | 1958  | 1950                                       | 1958 |
| Food and kindred products        | 352.2                        | 629.6   | 10.1                              | 17.2  | 3.5                                        | 3.7  |
| Lumber and wood products         | 94.5                         | 63.0    | 3.5                               | 3.1   | 2.7                                        | 2.0  |
| Furniture and fixtures           | 149.4                        | 163.8   | 1.8                               | 2.5   | 8.3                                        | 6.6  |
| Pulp, paper, and products        | 213.4                        | 259.3   | 4.2                               | 5.9   | 5.1                                        | 4.4  |
| Printing and publishing          | 174.3                        | 256.8   | 5.3                               | 7.8   | 3.3                                        | 3.3  |
| Chemicals and products           | 398.9                        | 602.7   | 8.2                               | 12.6  | 4.9                                        | 4.8  |
| Rubber products                  | 95.5                         | 115.2   | 1.7                               | 2.3   | 5.5                                        | 4.9  |
| Stone, clay, and glass products  | 119.4                        | 193.8   | 3.6                               | 5.5   | 3.4                                        | 3.5  |
| Primary metal products           | 611.1                        | 654.9   | 9.8                               | 11.3  | 6.3                                        | 5.8  |
| Fabricated metal products        | 767.7                        | 653.2   | 7.1                               | 9.2   | 10.8                                       | 7.1  |
| Machinery, except electrical     | 939.3                        | 1,298.2 | 11.2                              | 14.2  | 8.4                                        | 9.1  |
| Electrical machinery             | 103.2                        | 182.1   | 5.8                               | 9.4   | 1.8                                        | 1.9  |
| Transportation equipment         | 3,110.0                      | 2,883.2 | 9.8                               | 16.4  | 31.8                                       | 17.6 |
| Instruments and related products | 29.4                         | 73.7    | 1.6                               | 2.9   | 1.8                                        | 2.5  |
| Total                            | 7,392.3                      | 8,350.8 | 109.2                             | 142.1 | 6.8                                        | 5.9  |

<sup>a</sup>Details do not add to total not because of rounding only but also because of the omission of some minor manufacturing categories.

SOURCE: 1958 figures from Bowlby, "Manufacturing in Michigan," op. cit.; and Annual Survey of Manufactures, op. cit.



generated 6.8 percent of total national value added, this figure for 1958 was no more than 5.9. The most striking change occurred in the transportation equipment industry. While Michigan had been creating 31.8 percent of the total value added in this particular area, by 1958 it had dropped down to 17.6 percent. Despite the overall decrease in Michigan's share, some industries in the state prospered more than their national counterparts. These industries were: the electrical and nonelectrical machinery; stone, clay and glass products; and food and kindred products; the relative total share of each increased slightly between 1950 and 1958 (Table 6).

### The Auto Industry

One out of every seven Michigan workers is employed by the auto industry. Not only does this industry absorb about 13 percent of all employed workers, but also it generates about 25 percent of total value added by manufactures in the state. The definition of the automobile industry utilized here is the one that corresponds to the standard industrial classification (S.I.C.) category 'Motor vehicles and equipment.' According to the S.I.C. it includes "firms making passenger cars, trucks, buses, and trailers and firms making parts for such vehicles (except some major parts, such as tires, batteries, glass and ignition systems, which are classified elsewhere)."<sup>3</sup>

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<sup>3</sup>Roger L. Bowlby, "Michigan's Position in the Automobile Industry," The Michigan Economic Record, March, 1961, p. 3.

Although still by far the most important in the state, the relative importance of the auto industry declined as indicated in Table 7. This fact coupled with the decline

TABLE 7  
TRENDS IN THE AUTO INDUSTRY<sup>a</sup>

| Year | Michigan Auto<br>Employment as<br>Percent of<br>U. S. | Value Added<br>Michigan as<br>Percent of<br>U. S. | Auto Employment as<br>Percent of All<br><u>Factory Employment</u> |          |
|------|-------------------------------------------------------|---------------------------------------------------|-------------------------------------------------------------------|----------|
|      |                                                       |                                                   | U. S.                                                             | Michigan |
| 1947 | 54.4                                                  | 50.3                                              | 5.0                                                               | 39.6     |
| 1954 | 50.7                                                  | 47.0                                              | 4.7                                                               | 36.5     |
| 1958 | 40.0                                                  | 38.6                                              | 4.1                                                               | 31.4     |

<sup>a</sup>Employment figures quoted here are taken from the Census of Manufactures. Estimates by the Bureau of Labor Statistics and the Michigan Employment Security Commission differ from these, mainly because they are averages over time while the census figures are observations at a point in time.

SOURCE: Bowlby, "Michigan's Position in the Automobile Industry," op. cit.

at the national level relative to the rest of the manufacturing segment, presents a serious problem for Michigan's economy. The table indicates that since 1947 the number of people employed in this industry declined from 5.0 percent to 4.1 percent of the total in the nation, and Michigan's percentage of this declining figure dropped from 39.6 in 1947 to 31.4 in 1958. While the cyclical volatility of the demand for automobiles is a fact,<sup>4</sup> the three postwar

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<sup>4</sup>See for example Geoffrey H. Moore (ed.), Business Cycle Indicators, Volume I (Princeton: National Bureau of Economic Research, 1961), p. 174.

recessions did not have the same impact as indicated by the following statement:

If the recession nationally has not been much more severe than those experienced earlier in the postwar period it is apparent that Michigan and the automobile industry would have been affected quite differently. Between 1948 and 1949 total industrial production slipped six per cent, but auto assemblies increased by 30 per cent as bottlenecks were broke and deferred war-time demand was satisfied. At that time the trend in the motor industry acted as a powerful offset to the deterioration in general business. Between 1953 and 1954, total industrial production declined seven per cent and car assemblies dropped by somewhat more about ten per cent. In the present situation (July 1958) the comparison is much less favorable. Whereas total industrial production was eleven per cent lower in the first five months of 1958 than in the same period of 1957, auto assemblies were off 34 per cent.<sup>5</sup>

Thus, in 1958 Michigan was hit much harder than the national economy, and harder than any other industrial state. "The slump in car sales was the main villain."<sup>6</sup> By mid-1959 Michigan experienced the biggest recovery in the nation,<sup>7</sup> as seen in the large jump in personal income. From the above remarks it is clear that the auto industry is becoming more cycle-sensitive. This situation can be at least partly explained by the return of the market to normal. Once the unsatisfied excess demand immediately after the war disappeared, automobiles started playing the

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<sup>5</sup>Russel A. Swaney, "Scans Michigan's Business Conditions," Michigan Manufacturer and Financial Record, July, 1958, p. 6.

<sup>6</sup>"Michigan Makes a Fast Pickup as Auto Sales Spurt," Business Week, August 29, 1959, p. 104.

<sup>7</sup>Ibid.

role of any other consumer hard goods, i.e., in the case of change in income it is one of the very first to be affected. Michigan's dependence on this industry therefore enhances the cyclical volatility of the state's economy. Besides this enhancement, there were certain noncyclical developments taking place in this industry which had adverse effects on the Michigan economy.

The first of these was the lack of an adequate rate of growth in the auto industry. As our analyses thus far indicated, the auto industry is on the decline. This fact can be inferred from the lessening share of this industry in total value added in the nation as a whole. Furthermore, national employment in the industry is contracting and Michigan's employment is shrinking even faster.

This lack of growth in the auto industry was mainly due to a relatively stagnant or declining aggregate demand for automobiles. According to Stolper, the ratio of one car for every three Americans may be just about as many cars as people want to buy. Future demand, then, probably would depend mainly on replacement, additional family formation and the growth of two-car families. He further said that even if the average scrappage age is reduced by one-third, if no change took place in technology, the export level stayed the same and Michigan maintained its 1955 share of the total production in the industry, then the state employment in this industry could still fall to 75 percent

of the 1955 level. This would occur mainly because expected annual production would be about 6 million compared to the 7.7 million of 1955. He concluded by saying ". . . it is clear that even under the best of circumstances the industry is not likely to provide as much employment as it has in the past."<sup>8</sup>

The second setback that Michigan's economy experienced stemmed from the dispersion of the automobile industry. As the auto industry relocated outside of Michigan, hundreds of small firms who used to be vendors to this industry were damaged and many forced out of existence. Michigan's share of total United States auto employment was declining as was its share of the total value added by this industry. The illustration of this dispersion was further seen in that state employment in this sector has been declining in absolute terms at a greater pace than the national, which cannot be accounted for solely by increased automation. Table 8 illustrates this: between 1950-1959 while the nation's auto employment declined by about 100,000, Michigan's employment shrank to almost half by losing approximately 170,000 workers, presenting a net gain for the rest of the nation.

Moreover, Table 7 indicates that Michigan's shares of the national employment and value added have been

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<sup>8</sup>Wolfgang F. Stolper, "Economic Development, Taxation, and Industrial Location in Michigan," Michigan Tax Study, Staff Papers (Lansing: 1958), p. 74.

TABLE 8

**WAGE AND SALARY WORKERS EMPLOYED IN THE MANUFACTURE  
OF MOTOR VEHICLES AND EQUIPMENT AND VALUE ADDED  
IN TRANSPORTATION EQUIPMENT INDUSTRIES,  
MICHIGAN AND UNITED STATES**

| Year              | <u>In Thousands</u> |                  | Michigan<br>as a<br>Percent of<br>United States | Value Added in<br>Transportation<br>Equipment Indus-<br>try, Michigan as<br>a Percent of<br>United States <sup>b</sup> |
|-------------------|---------------------|------------------|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
|                   | Michigan            | United<br>States |                                                 |                                                                                                                        |
| 1950              | 468.0               | 825.2            | 56.7                                            | 36.4                                                                                                                   |
| 1951              | 473.0               | 844.5            | 56.0                                            | 30.8                                                                                                                   |
| 1952              | 435.0               | 790.2            | 55.0                                            | 27.2                                                                                                                   |
| 1953              | 503.0               | 928.9            | 54.2                                            | 25.6                                                                                                                   |
| 1954              | 417.0               | 775.6            | 53.8                                            | 23.5                                                                                                                   |
| 1955              | 467.0               | 903.8            | 51.7                                            | 27.1                                                                                                                   |
| 1956              | 404.0               | 809.9            | 49.9                                            | 23.3                                                                                                                   |
| 1957              | 395.0               | 786.3            | 50.2                                            | 22.5                                                                                                                   |
| 1958 <sup>a</sup> | 278.1               | 630.8            | 44.1                                            | 19.5                                                                                                                   |
| 1959              | 291.9               | 731.6            | 39.9                                            | n.a.                                                                                                                   |

<sup>a</sup>Michigan and U. S. figures prior to 1958 are not strictly comparable because of minor differences in the techniques of data collection.

<sup>b</sup>Here the obvious decline in Michigan's share is not strictly attributable to the dispersion of the auto industry. Because of the changing importance of some of the subgroups in this industry, Michigan's declined share is dramatized unjustifiably. For instance, the aircrafts and parts industry has been gaining importance more than proportionately and is already concentrated outside of Michigan. As the importance of this subgroup increases, Michigan's share in the total value added by the transportation equipment industry will decline accordingly. This decline is not to be accounted for by the dispersion of the auto industry.

SOURCE: Michigan Statistical Abstract (3rd ed.; East Lansing: Bureau of Business and Economic Research, Michigan State University, 1960), p. 124; the data for column four are from different editions of the Annual Survey of Manufactures, op. cit., and from the Census of Manufacturer, op. cit.

shrinking and hence, other areas outside of Michigan have been enjoying a net gain in their shares of this industry. Between 1957 and 1959 Michigan's overall share of national automobile production also declined. In 1957, 34.3 percent of the total output of the industry in the nation was produced in Michigan, whereas in 1959 this share went down to 28.3 percent.<sup>9</sup> As the markets expand or technology changes, economies of scale become exhausted and profit motives persuade industries to expand closer to consumers.<sup>10</sup> This inherent tendency in location factors to decentralize quite probably was playing its part in Michigan also.

Along with the above factors there was also the cost differential in different locations. Freight charges, labor costs, taxes, and raw material prices all vary from one locality to another, impinging upon location decisions. Many ex-Michigan firms which relocated elsewhere, or those which intend to relocate outside of the state, complained about one or more of the above, or similar factors.<sup>11</sup> The

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<sup>9</sup>Although this share in 1960 was a little larger than in 1959, it still lagged behind that of 1957. U. S. Department of Commerce, Business and Defense Service Administration, Automotive and Transportation Division, Automobile Industry Outlook for 1961 and Review of 1960, 1961 (Washington: U. S. Government Printing Office, 1961), p. 4.

<sup>10</sup>Stolper, op. cit., p. 78.

<sup>11</sup>For an interesting discussion of the impact of these factors on possible relocation or expansion decisions outside of Michigan, see: Eva Mueller, Arnold Wilken and Margaret Wood, Location Decisions and Industrial Mobility in Michigan, 1961 (Ann Arbor: Institute for Social Research, The University of Michigan, 1961), especially pp. 52-64.

possibility is that adverse effects similar to those which forced these firms out may also become a decisive factor in the relocation or dispersion of the auto industry. With compact cars gaining an increasing share of total sales in the industry, Michigan's economy may suffer even further because most of these compacts are produced outside of the state. Dispersion may take place in one of three forms: either the local plants are closed and new ones are opened elsewhere, or local plants are kept while all new ones are built in other areas, or while the local plants are kept the same ones located elsewhere may be expanded. The dispersion in the auto industry more often seems to take either one of the latter two forms.

#### The Impact of Defense Contracts

Defense contracts played a vital role in our economy. As Senator Hart stated: ". . . because the magnitude of the defense budget and the rate at which large sums are spent affect not only the armament industries, but nearly every other industry in the country."<sup>12</sup> Between fiscal 1953 and fiscal 1960 the defense procurement outlays declined by one-sixth, from \$17 billion to \$14 billion, as Table 9 indicates. Also during this period an important

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<sup>12</sup>Special release from the office of Senator Phillip A. Hart entitled "Remarks of Senator Hart on the Floor of the Senate on Introduction of Resolution Authorizing Study of the Economic Impact of National Defense."



TABLE 9  
DEPARTMENT OF DEFENSE EXPENDITURES  
FOR FISCAL YEARS 1953 and 1959<sup>a</sup>

|                                              | 1953        |       | 1959        |       |
|----------------------------------------------|-------------|-------|-------------|-------|
|                                              | Millions of | %     | Millions of | %     |
|                                              | \$          |       | \$          |       |
| Total procurements                           | 17,197      | 100.0 | 14,409      | 100.0 |
| Aircraft                                     | 8,189       | 47.3  | 7,730       | 53.6  |
| Missiles                                     | 245         | 1.4   | 3,337       | 23.2  |
| Ships                                        | 920         | 5.3   | 1,491       | 10.3  |
| Ordnance, vehicles, and<br>related equipment | 4,686       | 27.1  | 399         | 2.8   |
| Electronics and communi-<br>cations          | 937         | 5.4   | 720         | 5.0   |
| Other equipment                              | 2,320       | 13.4  | 730         | 5.1   |

<sup>a</sup>Detail may not add to total because of rounding.

SOURCE: Economic Report of the President and the Economic Situation and Outlook, January, 1961 (Washington: U. S. Government Printing Office, 1961), p.

reallotment of these expenditures took place as seen in the table. While outlays on aircraft, missiles, and ships were 54.0 percent of the total in 1953, their proportion by fiscal 1959 rose to 87.1 percent. On the other hand, the relative share of the ordnance, vehicles and related equipment category, which is the most important from Michigan's point of view, shrank from 27.1 percent of the total in 1953, to 2.8 in 1960; its dollar volume contracted more than ten times. The state's benefits from defense procurements were at their peak when tanks and ordnances were very important items in these procurements.<sup>13</sup>

<sup>13</sup>William Haber, "The Outlook for the Michigan Economy," Michigan Business Review, May, 1959, p. 14.

Along with the adverse effects of this change, it is also claimed that Michigan manufacturers have been losing their bidding power relative to those of the rest of the nation. Although without substantiation, this point is counted as one of the factors causing the contraction in Michigan's overall share of defense contracts.

The end result of the above-mentioned factors was a downfall in Michigan's share of defense procurements from about 5 percent of the national total in fiscal 1953 to approximately 2.5 percent in fiscal 1960 (Figure 1). Michigan's stake in these contracts is undisputable. The loss in the relative position of the state in defense contracts caused not only a direct deterioration in the portion of income generated by these contracts, but also adverse effects on the state's economy occurred through a smaller defense employment. As Brimmer put it: "The changing pattern of defense demand is engraved in the trend of defense employment in the state."<sup>14</sup> Table 10 illustrates this point. As opposed to a 70 thousand increase between 1951 and 1952, the number of Michigan workers, since December, 1952, engaged in defense production declined continually until the end of 1958.

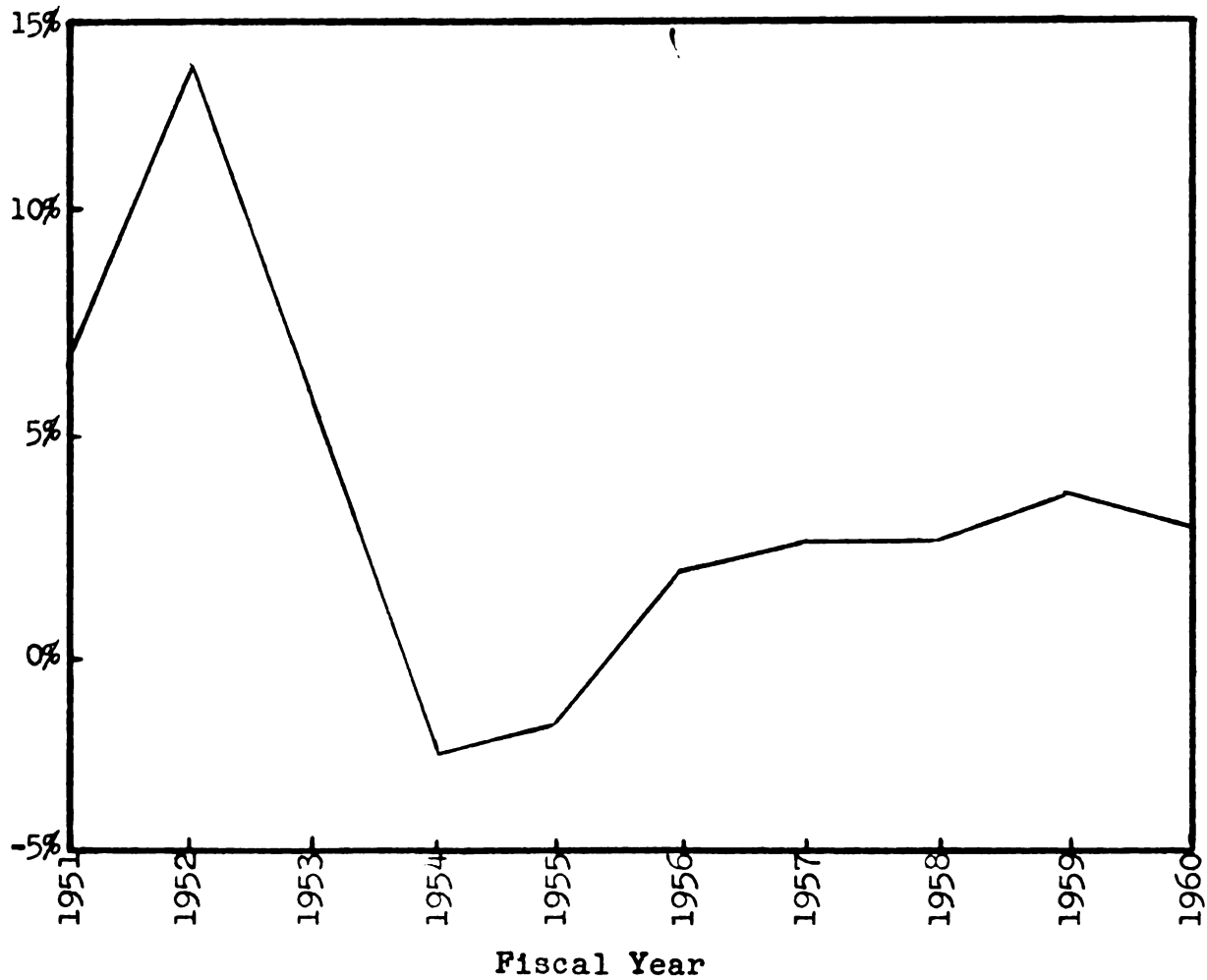
#### Impacts on Income

Thus far our analyses reaffirmed the dependency of

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<sup>14</sup>Andrew F. Brimmer, "Durable Goods in Michigan," The Michigan Economic Record, July-August, 1959, p. 6.

Figure 1

MICHIGAN'S PERCENT SHARE OF  
MILITARY PROCUREMENTS

SOURCE: Data derived from "Net Value of Military Procurement Actions," Office of Secretary of Defense, as appeared in the special release from the office of Senator Phillip A. Hart, op. cit.

TABLE 10

DEFENSE EMPLOYMENT IN MICHIGAN, 1951-1958  
(In Thousands)

| Date          | Defense Employment | Annual Change |
|---------------|--------------------|---------------|
| December 1951 | 145                |               |
| December 1952 | 215                | +70           |
| December 1953 | 157                | -58           |
| December 1954 | 88                 | -25           |
| December 1955 | 63                 | -25           |
| December 1956 | 59                 | - 4           |
| December 1957 | 49                 | -10           |
| December 1958 | 46                 | - 3           |

SOURCE: Brimmer, "Durable Goods in Michigan."

Michigan's economy on the durable goods industries. This situation creates a number of problems for the state's economy. First the durable goods industries are characterized by wide variations in production levels during boom and recession periods which reflect on prosperity. Thus, the more dependent an economy is on the durable goods industries, the more erratic is its nature. From the unemployment point of view this means that when in recession, the state economy would have a larger unemployment and in recovery years this figure would be lower than in economies that are less dependent on durable goods. As shown by Table 10, in the recession years of 1949, 1954, and 1958, Michigan's unemployment problem was considerably more acute than the nation as a whole.

Another problem that emerges from excessive dependency on the durable goods industries is the chronic

unemployment in the state. Table 11 indicates that in recovery years since 1953 the state's unemployment picture has not looked very encouraging.

TABLE 11  
UNEMPLOYMENT AS PERCENT OF THE TOTAL LABOR FORCE  
IN MICHIGAN AND THE UNITED STATES

|      | Michigan | United States |
|------|----------|---------------|
| 1949 | 7.3      | 5.9           |
| 1950 | 4.1      | 5.3           |
| 1951 | 4.0      | 3.3           |
| 1952 | 4.1      | 3.1           |
| 1953 | 2.6      | 2.9           |
| 1954 | 7.1      | 5.6           |
| 1955 | 3.7      | 4.4           |
| 1956 | 6.4      | 4.2           |
| 1957 | 6.8      | 4.3           |
| 1958 | 13.6     | 6.8           |
| 1959 | 8.9      | 5.5           |

SOURCE: Various issues of Employment and Earnings, op. cit.; and various issues of Michigan's Labor Market, op. cit.

After the 1954 recession the rate of unemployment in the state did not come near that of 1953, and after 1955 it started lagging behind the national rate also (Table 11). This situation was basically due to three distinct developments; first, the manufacturing employment in the nation was growing less rapidly than total employment, as indicated in Table 2, and Michigan has a heavy reliance on manufacturing. Second, automobile employment was growing even less rapidly than manufacturing. And lastly, Michigan's share of the

auto industry was also declining.<sup>15</sup>

All these factors put together formed a certain pattern in the state's income picture which was quite distinctive from its national counterpart. Per capita personal income in the state has always been above that of the nation for the period analyzed. In examining Figure 2, for discussion purposes two major periods can be distinguished. The first period is that up until 1953. With one noticeable recession as an exception, income in the state rose faster than nationally. The second period is that between 1954 and 1959, during which the Michigan income picture looked rather bleak. Even outside of the two recessions in 1954 and 1958, the state's income did not rise as sharply as its national counterpart. In 1959 despite the recovery which was not nearly as good as the one which took place in 1949, Michigan and the national per capita personal income were the closest together of all the 13 years considered. A similar picture can be seen when total personal income figures are analyzed.<sup>16</sup>

### Concentration of Industrial Power

Before closing the analyses of the industrial structure in both economies, it is appropriate to discuss

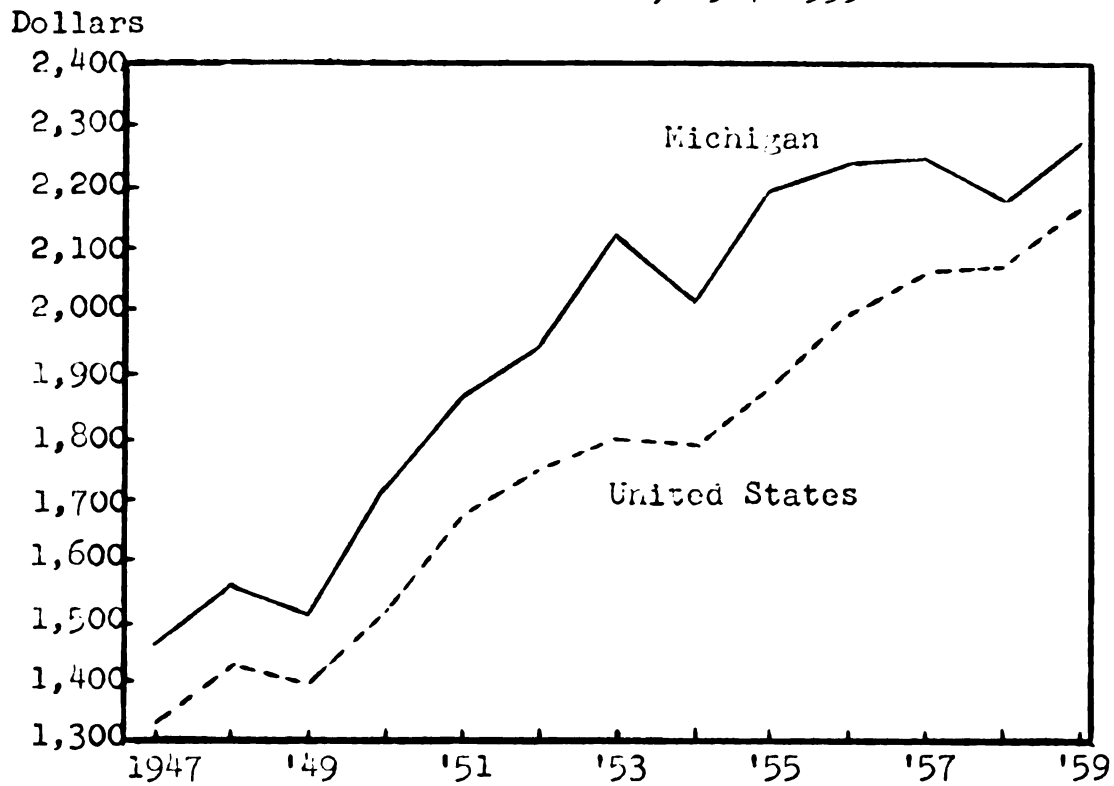
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<sup>15</sup>Bowlby, "Michigan's Position in the Automobile Industry," op. cit.

<sup>16</sup>In Chapter Four when we use total personal income figures this point will be demonstrated. Also see The

Figure 2

PER CAPITA PERSONAL INCOME IN MICHIGAN  
AND THE UNITED STATES, 1947-1959



SOURCE: The Michigan Economic Record, September,  
1960.

briefly the industrial concentration. The analysis of concentration in itself is a very controversial subject, and it would hardly be justifiable to handle this involved topic within the framework of a few paragraphs. However, in this section an attempt will be made to show that with the exception of manufacturing it is likely that concentration in Michigan's economic sectors had little impact on the disparity that exists between the state's failure pattern and its national counterpart.

As was mentioned in the first chapter, one way of measuring the concentration of economic power is simply the investigation of size, which, like concentration of income or wealth among individuals or households, is fundamentally a measure of inequality of distribution. The usual practice in measuring inequality is to arrange the units in order of increasing size, and to express inequality in terms of percentages: thus, the highest x percent of all the units hold y percent of, say, the total income of all the units.<sup>17</sup>

Speculations as to how concentration might affect the total fatality picture in business have already been presented in the first chapter. Here we shall briefly look at the size distribution of firms in different sectors and

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Michigan Economic Record, September, 1959, in which total personal income figures are plotted in terms of index numbers, which substantiate the above statements.

<sup>17</sup>Adelman, op. cit., p. 4.



their share of the sector's total sales or employment. In these analyses census data were employed. The statistics compiled in the above manner, when plotted, are called Lorenz curves; the straighter these curves, the more homogeneous is the size distribution of industrial concentration whereas the more u-shaped they are, the poorer is the size distribution, hence, the higher is the concentration.

Lorenz curves, although very simple and usable, have a number of shortcomings. First, they do not distinguish between the presence of many firms having similar sizes and that of a few firms of equally well-distributed magnitudes. Another and probably more serious shortcoming is that this method of analysis presents what Adelman calls "a spurious concentration" during recessions, while an equally spurious decrease in concentration is displayed in revivals. This fact stems from the declining size of the business population in recessions and its soaring number in boom years.<sup>18</sup> This latter shortcoming was somewhat mitigated since both the 1954 and 1958 censuses were taken in recession years, and only data from these censuses were utilized here. Furthermore, the intention here is to point out that the differences between the concentration patterns of the two economies are based on the data available for the nearest census year. Therefore, the data show the same bias at the

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<sup>18</sup>Ibid., pp. 4, 5.

state as well as the national levels; hence, no harm is done to their comparability. Among a number of alternatives, employee size distribution for manufacturing firms and receipt size distribution for wholesaling, retailing and service sectors were utilized as indicators of size.

Tables 12, 13, 14, and 15 point out that the only economic sector where a distinct difference between Michigan and national concentration exists is the manufacturing sector. Although data for 1958 are not yet available, it is unlikely that there is a spectacular change. From Table 12 it is readily noticeable that in Michigan fewer large businesses employed a larger bulk of the total employment than their national counterparts. Also, more smaller firms in the state employed a relatively smaller percent of total manufacturing employment. This difference in the concentration picture could very well have contributed to the dissimilarity between the patterns of failures in the two economies. In recessions Michigan manufacturing composed of relatively more small firms, may experience a higher death toll among these little men. This is another factor that could contribute to the greater conformity of Michigan manufacturing failures to recessions; this was previously illustrated by pointing out the failure rate in the durable goods industries increased more than proportionately in 1954 and 1958.

TABLE 12  
CONCENTRATION OF THE ECONOMIC POWER IN MANUFACTURING, 1954

| Employee Size            | <u>Michigan</u>                      |                                  | <u>United States</u>                 |                                  |
|--------------------------|--------------------------------------|----------------------------------|--------------------------------------|----------------------------------|
|                          | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Employment | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Employment |
| 1 - employees            | 37.6                                 | 1.3                              | 37.3                                 | 1.6                              |
| 5 - 9 employees          | 54.7                                 | 2.8                              | 53.8                                 | 3.8                              |
| 10 - 19 employees        | 68.5                                 | 5.3                              | 68.4                                 | 7.6                              |
| 20 - 49 employees        | 82.5                                 | 10.9                             | 83.3                                 | 16.3                             |
| 50 - 99 employees        | 90.1                                 | 17.7                             | 90.7                                 | 25.7                             |
| 100 - 249 employees      | 95.5                                 | 28.4                             | 96.2                                 | 41.2                             |
| 250 - 499 employees      | 97.7                                 | 38.4                             | 98.3                                 | 54.7                             |
| 500 - 999 employees      | 98.8                                 | 48.3                             | 99.3                                 | 67.2                             |
| 1,000 - 2,499 employees  | 99.5                                 | 62.1                             | 99.8                                 | 81.4                             |
| 2,500 employees and over | 100.0                                | 100.0                            | 100.0                                | 100.0                            |

SOURCE: Computed from the 1954 Census of Manufactures, Volume I, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1957), pp. 203-1, 203-103.

TABLE 13  
CONCENTRATION OF THE ECONOMIC POWER IN WHOLESALING, 1954

| Employee Size     | Michigan                             |                                  | United States                        |                                  |
|-------------------|--------------------------------------|----------------------------------|--------------------------------------|----------------------------------|
|                   | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Employment | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Employment |
| 1 employee        | 22.3                                 | 1.5                              | 22.8                                 | 1.6                              |
| 2 employees       | 35.2                                 | 4.0                              | 35.8                                 | 4.2                              |
| 3 employees       | 45.4                                 | 6.9                              | 46.0                                 | 7.2                              |
| 4 or 5 employees  | 59.6                                 | 13.0                             | 59.8                                 | 13.3                             |
| 6 or 7 employees  | 69.3                                 | 19.1                             | 69.0                                 | 19.2                             |
| 8 or 9 employees  | 75.4                                 | 24.0                             | 74.7                                 | 24.0                             |
| 10 - 19 employees | 88.7                                 | 41.2                             | 88.2                                 | 41.9                             |
| 20 - 49 employees | 97.1                                 | 65.2                             | 96.8                                 | 67.1                             |
| 50 - 99 employees | 99.1                                 | 77.9                             | 99.0                                 | 81.5                             |
| 100 or more       | 100.0                                | 100.0                            | 100.0                                | 100.0                            |

SOURCE: Computed from the 1954 Census of Business, Volume III, Wholesale Trade Summary Statistics, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1957), pp. 2-90, 2-70.

TABLE 14  
CONCENTRATION OF THE ECONOMIC POWER IN SELECTED SERVICES, 1958

| Establishment<br>Receipt Size | Michigan                             |                                | United States                        |                                |
|-------------------------------|--------------------------------------|--------------------------------|--------------------------------------|--------------------------------|
|                               | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Receipts | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Receipts |
| Annual receipts of:           |                                      |                                |                                      |                                |
| \$300,000 or more             | 1.2                                  | 48.5                           | 1.3                                  | 43.1                           |
| \$100,000 to \$299,000        | 4.6                                  | 64.0                           | 4.9                                  | 60.3                           |
| \$50,000 to \$99,000          | 10.2                                 | 74.5                           | 10.4                                 | 71.6                           |
| \$20,000 to \$49,000          | 25.2                                 | 87.0                           | 25.8                                 | 85.5                           |
| \$10,000 to \$19,000          | 42.6                                 | 93.4                           | 44.3                                 | 93.0                           |
| Less than \$10,000            | 100.0                                | 100.0                          | 100.0                                | 100.0                          |

SOURCE: Computed from the 1958 Census of Business, Selected Services, Receipt Size, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1961), pp. 2-2, 2-98.

TABLE 15  
CONCENTRATION OF THE ECONOMIC POWER IN RETAILING, 1958

| Sales Size             | <u>Michigan</u>                      |                             | <u>United States</u>                 |                             |
|------------------------|--------------------------------------|-----------------------------|--------------------------------------|-----------------------------|
|                        | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Sales | Cumulative<br>% of<br>Establishments | Cumulative<br>% of<br>Sales |
| With annual sales:     |                                      |                             |                                      |                             |
| \$1,000,000 or more    | 1.9                                  | 34.8                        | 1.5                                  | 31.1                        |
| \$500,000 to \$999,000 | 4.1                                  | 46.6                        | 3.7                                  | 44.2                        |
| \$300,000 to \$499,000 | 7.4                                  | 56.4                        | 6.7                                  | 54.2                        |
| \$100,000 to \$299,000 | 24.8                                 | 78.8                        | 22.8                                 | 77.3                        |
| \$50,000 to \$99,000   | 45.7                                 | 90.3                        | 42.0                                 | 89.1                        |
| \$30,000 to \$49,000   | 64.2                                 | 96.0                        | 59.5                                 | 95.0                        |
| Less than \$30,000     | 100.0                                | 100.0                       | 100.0                                | 100.0                       |

SOURCE: Computed from the 1958 Census of Business, Retail Trade, Sales Size, U. S. Department of Commerce, Bureau of the Census (Washington: U. S. Government Printing Office, 1961), pp. 2-2, 2-90.

The concentration pictures in other sectors not only demonstrated a high similarity in both of the economies but also showed a similar slight increase. These comparable magnitudes and changes in the concentration pattern suggested no impact, from this point of view, on the differing failure patterns of the two economies.

### Conclusions

Throughout the entire analysis in this chapter we have established the following:

1. Durable goods industries, and particularly the motor vehicles and equipment sectors, lost their relative importance, to a limited extent, between 1950 and 1959. However, these industries, especially the one mentioned, are still of the greatest importance to the prosperity of the state's economy, because of their share of the total employment and their share of the total income generated in the state.
2. In the national scene the durable goods industries, relatively speaking, were only half as important as their Michigan counterparts. Thus, Michigan's relative as well as absolute dependence on durable goods manufacturing is obvious.
3. The data indicated that durable goods industries neither in Michigan nor in the nation showed the

growth experienced by the rest of the economy.

4. In Michigan especially, the long term tendencies indicated that, mainly due to the declining share of defense contracts and due to the contraction in the size of defense contracts, durable goods industries were facing a shrinking demand.
5. Furthermore, the decentralization occurring in the automobile industry reflected adversely on the state's economy to a large degree.
6. Michigan is relatively more dependent on durable goods industries, and since these industries display a more cyclically erratic nature than the rest of the economy, personal income in Michigan showed sharper ups and downs than its national counterpart.
7. Because of the adverse effects of these long term developments as set forth above in item 4, personal income in Michigan seems to have become relatively more stagnant than in the nation as a whole.
8. Concentration of the economic power in different sectors displayed no significant difference between the state and the national economies, with the exception of the manufacturing sector. The concentration in this sector was more



detectable, and it is likely that this difference contributed to the state's business failure pattern which departs noticeably from that of the nation.

## CHAPTER IV

### BUSINESS FAILURES AND THE ECONOMY

In the previous chapter we contended that the capacity of the Michigan economy to generate income is heavily dependent on the durable goods industries. Because of the particular properties of these industries the state's income is more erratic than that of the nation. The present chapter aims to establish certain interrelationships between income, the nature of the economy and the failure pattern. In so doing it seeks to explain the disparity between the state and national business failure patterns.

#### Magnitude of the Economy and Business Failures

It is a fact that there is a very strong tendency in those states where income payments to individuals are relatively high to also have a relatively larger business population; i.e., there is a proportionality between the size of the economy and the number of firms. In Vermont, for instance, in 1959 total personal income was 694 million dollars with a business population of 6,784 as opposed to, for example, New York's 45,103 million dollars personal income and 263,292 business population. This proportionality between income and business population is very close to

being perfect, for it represents a correlation coefficient of almost 1.00 and has been tested for a number of years and found to be stable.<sup>1</sup> It is axiomatic that a large population, in absolute terms, would have a large death toll. This axiom applies readily to the business failures picture, for the states with a large number of firms also were found to have a large number of failures; by the same token small states with a small business population had a small number of failures.<sup>2</sup>

An equally detectable interrelationship was found between income and the number of failures. In 1959 the state of New York for instance had the highest income of all the states (42,157 million dollars); the highest number of failures also occurred in this state. On the other hand, Vermont had the lowest income—645 million dollars—with the lowest number of failures.<sup>3</sup> Thus, the greater the total income in the economy, the greater is the business population, and equally great is the death toll among the firms. It must be remembered that these relationships do not necessarily indicate causation. What is stated here is simply

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<sup>1</sup>Betty C. Churchill, "State Distribution of Business Concerns," Survey of Current Business, November, 1954, p. 16.

<sup>2</sup>A correlation analysis between the number of failures and the number of firms yielded a high correlation coefficient of .8626, which substantiates our statement.

<sup>3</sup>The correlation coefficient between these two series (income and the number of failures) was found to be .9307 for 1959 and .9140 for 1958.

that when there is high income there is a large business population and therefore there is also a large number of failures.

Two questions then came to mind: what significant impact does a change in income have on failures? and is there any relationship between the change in the number of failures and new entries into the business world?

Although failures and income were positively correlated in terms of magnitudes, changes in income and number of failures were inversely related. When income rose the number of failures shrunk and vice versa. This covariation was substantiated by the data presented in Tables 1 and 2. In most of the years analyzed, both in Michigan and the nation, the above relationship held. In correlating the change in income in Michigan to the change in the number of failures a correlation coefficient of  $-.6051$  was obtained. A similar analysis yielded a correlation coefficient of  $-.8165$  for the nation as a whole.<sup>4</sup>

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<sup>4</sup>Applying correlation analysis to time series has certain shortcomings. The trend factor may be cited as the number one problem: if the two series happen to have the same kind of trend a high correlation coefficient may be derived despite the inexistence of interrelationship. A number of similar problems prevail because of the existence of certain trends in the time series. Another important difficulty in using correlation analysis on time series is the lack of logical basis for estimating the reliability of the coefficient of correlation. The problem emerges from the absence of randomness in the observation. In time series each observation is related to the preceding one instead of being random. For further detail on these shortcomings see, for example: F. E. Croxton and D. J. Cowden,

TABLE 1

**NET INCREASE OR DECREASE IN MICHIGAN'S PERSONAL  
INCOME AND IN FAILURES, 1947-1959**

| Year | Number of<br>Business<br>Failures | Change in<br>the Failure<br>Number | Personal<br>Income<br>(in Millions) | Change in<br>the Personal<br>Income |
|------|-----------------------------------|------------------------------------|-------------------------------------|-------------------------------------|
| 1947 | 139                               |                                    | 8,832                               |                                     |
| 1948 | 157                               | + 18                               | 9,579                               | + 747                               |
| 1949 | 337                               | +180                               | 9,522                               | - 57                                |
| 1950 | 280                               | - 57                               | 10,803                              | +1,281                              |
| 1951 | 181                               | - 99                               | 12,103                              | +1,300                              |
| 1952 | 170                               | - 11                               | 12,902                              | + 799                               |
| 1953 | 114                               | - 56                               | 14,516                              | +1,614                              |
| 1954 | 209                               | + 95                               | 14,127                              | - 389                               |
| 1955 | 211                               | + 2                                | 15,787                              | +1,660                              |
| 1956 | 413                               | +202                               | 16,587                              | + 800                               |
| 1957 | 512                               | + 99                               | 16,923                              | + 336                               |
| 1958 | 547                               | + 35                               | 16,581                              | - 342                               |
| 1959 | 496                               | - 51                               | 17,493                              | + 912                               |

SOURCE: Failure figures are from Dun and Bradstreet, Inc., as reported in different issues of the Statistical Abstract of the United States, op. cit. Income data are from Personal Income by States Since 1929, op. cit., p. 163; and the Statistical Abstract of the U. S., 1961, p. 307. Columns two and four are computed.

This close association between the number of failures and income created two unique conditions in

Applied General Statistics (New York: Prentice-Hall, Inc., 1955), p. 577.

In our analyses the trend factor is not very important for three reasons. First, when the correlation coefficient is negative, the trend factor becomes less effective in distorting the results. Second, correlation of changes automatically eliminates an important part of the trend. And lastly, for our analyses, it is not even necessary to eliminate the trend factor for it is likely that this may actually be caused by income, and elimination of it may mean distortion of the real picture.

TABLE 2

**NET INCREASE OR DECREASE IN PERSONAL INCOME  
AND IN FAILURES OF THE U. S., 1947-1959**

| Year | Number of<br>Business<br>Failures | Change in<br>the Failure<br>Number | Personal Income<br>(in Billions) | Change in<br>the Personal<br>Income |
|------|-----------------------------------|------------------------------------|----------------------------------|-------------------------------------|
| 1947 | 3,474                             |                                    | 191.6                            |                                     |
| 1948 | 5,250                             | +1,776                             | 210.4                            | +18.8                               |
| 1949 | 9,246                             | +5,250                             | 208.3                            | - 2.1                               |
| 1950 | 9,162                             | - 84                               | 228.5                            | +20.2                               |
| 1951 | 8,058                             | -1,104                             | 256.7                            | +28.2                               |
| 1952 | 7,611                             | - 447                              | 273.1                            | +16.4                               |
| 1953 | 8,862                             | +1,251                             | 288.3                            | +15.2                               |
| 1954 | 11,086                            | +2,224                             | 289.8                            | + 1.5                               |
| 1955 | 10,969                            | - 117                              | 310.2                            | +20.4                               |
| 1956 | 12,686                            | +1,717                             | 332.9                            | +22.7                               |
| 1957 | 13,739                            | +1,053                             | 351.4                            | +18.5                               |
| 1958 | 14,964                            | +1,225                             | 360.3                            | + 8.9                               |
| 1959 | 14,053                            | - 911                              | 383.3                            | +23.0                               |

SOURCE: Failure figures are from Dun and Bradstreet, Inc., as reported in different issues of the Statistical Abstract of the United States, op. cit.; and Business Statistics 1961 Edition, U. S. Department of Commerce, Office of Business Economics (Washington: U. S. Government Printing Office, 1961), p. 5. Columns two and five are computed.

Michigan's failure pattern. As was established in the previous chapter, Michigan's income is more erratic than the national aggregate and also has been rising more slowly during the past three years. Corresponding to these two special properties, the state's failure pattern also proved to be more erratic, as seen in Figures 1 and 2 in Chapter One. Furthermore, during the past three years the state failure rate increased faster than that of the nation (Table 1, Chapter One). Also during this period the failure rate

in the state reached a high plateau which was substantially higher than the 1951-1953 level and quite close to the national rate of failure.

### The Role of New Firms

Our analyses thus far substantiated the theory put forth in the first chapter, namely, that when business conditions worsen, failures increase while the reverse also is true. Here we have stated that there is a definite correlation between the size of an economy and the number of firms; in addition there is a correlation between the number of failures and the size of the economy. We were now concerned with the interrelationship between the new entries and the number of failures. According to many, there must be a positive correlation between the number of new entries and the variations in the number of failures;<sup>5</sup> hence, when

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<sup>5</sup>Kaplan, already cited in the first chapter, contended that birth rates determine mortality (see Chapter One p. 16). Thorp a number of years ago stated that "the mortality rate is very largely a function of the birth rate." Willard L. Thorp, Hearings Before the Temporary National Economic Committee. Investigation of Economic Power Part I, Economic Prologue, 75th Cong., 2d Sess. (Washington: U. S. Government Printing Office, 1941), p. 89. The probable interrelationships between the number of new entries and the variations in the number of failures were discussed in the first chapter. Claiming a positive correlation between these two variables actually is contrary to the above finding of an inverse relationship between changes in income and changes in failures. Because there are generally more entries in prosperous years (for this point see Betty C. Churchill, "Rise in the Business Population," Survey of Current Business, May, 1959, p. 15), business failures must increase when income rises. However, we have already established that there is a negative correlation between the changes in income and the changes in business failures. Neither of these two theories, i.e., business failures is a

the number of entries goes up failures also soar. Two series of computations were made to test the relevance of this particular proposition.

The net increase in the number of failures (Table 3) was correlated to the net increase in the number of firms (Table 1), as the first test, both for Michigan and the United States. The end results of this first degree difference analysis were strikingly low correlations. At the state level the correlation coefficient did not exceed .2182 whereas in the national economy a little higher correlation coefficient of .4160 was obtained. Both cases showed that the effect of new firms on the increase or decrease of failures was not nearly as high as the effect of changes in income.

There were two shortcomings to this type of analysis. First, the yearly number of firms are given as of July each year, in the D. & B. Reference Book. These figures, therefore, did not include all the new entries that survived less than a year,<sup>6</sup> which represented an inherent bias in the figures. Also, as we have already discussed in the second

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function of entries, and business failures is a negative function of income, can be completely substantiated or refuted; however, as our analyses showed, the first one is less significant.

<sup>6</sup>Not only those newly entered who failed but also those who entered and ceased existence before the year was over were excluded from the net change in the total firms statistics.



TABLE 3

NET CHANGE IN THE NUMBER OF FIRMS IN MICHIGAN  
AND THE UNITED STATES, 1947-1959<sup>a</sup>

| Year | <u>Michigan</u>    |                         | <u>United States</u> |                         |
|------|--------------------|-------------------------|----------------------|-------------------------|
|      | Number<br>of Firms | Increase or<br>Decrease | Number<br>of Firms   | Increase or<br>Decrease |
| 1947 | 93,933             |                         | 2,404,883            |                         |
| 1948 | 97,949             | +4,016                  | 2,550,018            | +145,135                |
| 1949 | 100,243            | +2,294                  | 2,679,306            | +129,288                |
| 1950 | 104,231            | +3,988                  | 2,686,786            | +136,768                |
| 1951 | 96,967             | -7,264                  | 2,607,977            | - 78,809                |
| 1952 | 99,217             | +2,250                  | 2,637,004            | + 29,027                |
| 1953 | 100,366            | +1,149                  | 2,666,680            | + 29,676                |
| 1954 | 100,330            | - 36                    | 2,632,312            | - 34,368                |
| 1955 | 101,074            | + 744                   | 2,633,063            | + 751                   |
| 1956 | 102,130            | +1,056                  | 2,628,910            | - 4,153                 |
| 1957 | 101,330            | - 800                   | 2,652,248            | + 23,338                |
| 1958 | 103,842            | +2,512                  | 2,675,409            | + 23,161                |
| 1959 | 105,432            | +1,590                  | 2,708,168            | + 32,759                |

<sup>a</sup>These numbers do not cover all the business enterprises of the country. Certain types of businesses not included are: financial enterprises including banks, and mortgage, loan, and investment companies; insurance and real estate companies; railroads; terminals; amusements; many small one-man services; professions; and farmers. This lack of complete coverage, however, does not harm our findings, for the failure data also are composed of similar types of businesses. Thus, data presented in this table are perfectly comparable to the failure data.

SOURCE: Dun and Bradstreet, Inc., as appeared in different issues of the Statistical Abstract of the United States, op. cit.

chapter the number of failures that survived less than a year was very low, mainly because of the D. & B. definition of failure. These two shortcomings probably decrease the reliability of the above results. In fact, it is quite possible that if the same type of computations were made by

using Department of Commerce figures on business discontinuances, somewhat different results would have been obtained.<sup>7</sup>

The second test to check the degree of covariation between the new entries and the number of failures was performed by using the change in the number of names added to the D. & B. Reference Book during a year and the change in the number of failures. These figures eliminated one of the shortcomings of the previous test. They include all the names added to the Reference Book throughout the year, and thus, they encompass those firms that lasted less than a year. But these figures had a different shortcoming. They did not represent the change in the number of firms solely; they rather represented changes in the names of the firms and thus they include successions.<sup>8</sup> As a result, a substantial number of concerns which were included in these statistics represented nothing more than a change in the ownership or legal form of an existing organization.<sup>9</sup> The number of new names added in the D. & B. Reference Books yearly are shown in Table 4. Keeping the shortcomings in mind, these figures were used for similar types of correlation analyses such as were used in the first test discussed

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<sup>7</sup>To prove or disprove this statement was not within the scope of the present study.

<sup>8</sup>A change in ownership or legal form or organization was recorded as a new enterprise which is known as "succession."

<sup>9</sup>Dun and Bradstreet, Inc., Vital Statistics, op. cit.

above, i.e., first degree difference analysis.

TABLE 4

NAMES ADDED IN THE DUN AND BRADSTREET REFERENCE BOOK,  
MICHIGAN AND THE UNITED STATES<sup>a</sup>

| Year | Number<br>of New<br>Names | Michigan                                    | Number<br>of New<br>Names | United States                               |
|------|---------------------------|---------------------------------------------|---------------------------|---------------------------------------------|
|      |                           | Net Increase<br>or Decrease<br>in New Names |                           | Net Increase<br>or Decrease<br>in New Names |
| 1947 | 27,468                    |                                             | 712,000                   |                                             |
| 1948 | 25,091                    | -2,377                                      | 651,000                   | -61,000                                     |
| 1949 | 21,554                    | -3,537                                      | 561,000                   | -90,000                                     |
| 1950 | 19,443                    | -2,111                                      | 499,000                   | -62,000                                     |
| 1951 | 17,815                    | -1,628                                      | 407,000                   | -92,000                                     |
| 1952 | 16,795                    | -1,020                                      | 405,000                   | - 2,000                                     |
| 1953 | 17,321                    | + 526                                       | 403,000                   | - 2,000                                     |
| 1954 | 17,771                    | + 450                                       | 416,000                   | +13,000                                     |
| 1955 | 18,330                    | + 559                                       | 431,000                   | +15,000                                     |
| 1956 | 20,712                    | +2,382                                      | 433,000                   | + 2,000                                     |
| 1957 | 18,842                    | -1,870                                      | 427,000                   | - 5,000                                     |
| 1958 | 18,911                    | + 69                                        | 408,000                   | -19,000                                     |
| 1959 | 17,367                    | -1,544                                      | 438,000                   | +30,000                                     |

<sup>a</sup>Includes successions as new entries.

SOURCE: Dun and Bradstreet, Inc., personal correspondence.

The first correlation between the change in the number of the names added to the D. & B. Reference Book in Michigan and the net increase or decrease of business failures in the state proved to have a low correlation coefficient of .1742. Similarly, the same type of computations for the national economy showed that again a very low relationship existed between these two times series, as the correlation coefficient did not exceed .2864.



Thus far entry figures and failure statistics in our analyses were correlated for the same year. In other words the number of entries in, for instance, 1958 was compared with the number of failures for the same year. Thus, only one year's span was taken into consideration which includes only immediate (within one year) drop-outs among the new entrants and also part of the immediate failures among the old timers due to the competition generated by newcomers. In many cases, it may take more than a year for a firm to fail. By the time the firm gets started, borrows money, and goes bankrupt or causes a loss to its creditors, it may very well have been over a year. Thus, it became imperative to compare not only the entries of 1958 with the failures of 1958 but also the entries of 1958 with the failures of 1959.

So the above-mentioned correlations were computed again with a one year lag. The net increase in the number of failures correlated to the net increase in the number of firms yielded a correlation coefficient of .3071 for the nation as a whole and .0122 for Michigan.

In correlating the changes in the names added with the changes in business failure statistics with a one year lag, a correlation coefficient of .3757 for Michigan, and .2709 for the nation was obtained. Although further lead-lag analyses can be made by using two, three or more years, it becomes rather difficult to distinguish net effects of new entries from those of economic or noneconomic factors.

After a two year period it is not possible to tell whether increased competition or some other factors caused the failure.

Our analyses then so far suggest that the impact of new entries on the failure picture was not nearly as important as the changes in income. This, however, did not mean that entries do not have any effect on the formation of failure statistics. In fact statistics (Tables 18 and 34, Chapter Two) indicated that the first three years probably are the most dangerous period in any firm's life. But this fact did not necessarily imply a direct relationship between the number of entries and the number of failures or exits. In cases of soaring entries the probability of failure statistics to increase would grow, but the actual increase would depend on many other external factors, both economic and noneconomic. If the need for more firms in the economy exceeded the number of entries, then despite the soaring number of new entrants, failure statistics may be low.<sup>10</sup>

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<sup>10</sup>The following statistics substantiate this point:

**BIRTHS AND DEATHS IN BUSINESS POPULATION<sup>a</sup>**

| Year | Number of<br>New Businesses<br>(000) | Number of<br>Discontinued<br>Businesses<br>(000) | Discontinued<br>Businesses as<br>Percent of<br>New Firms |
|------|--------------------------------------|--------------------------------------------------|----------------------------------------------------------|
| 1943 | 146.0                                | 337.0                                            | 230.8                                                    |
| 1944 | 330.9                                | 174.6                                            | 52.8                                                     |
| 1945 | 422.7                                | 175.2                                            | 41.4                                                     |
| 1946 | 617.4                                | 208.7                                            | 33.8                                                     |
| 1947 | 460.8                                | 239.2                                            | 51.9                                                     |

### Business Conditions

In the first chapter, a distinction was made between the cyclical and noncyclical aspects of business conditions. Throughout the previous chapters we established that Michigan's economy is highly cycle sensitive, a fact demonstrated by the erratic nature of the state's income and employment patterns which conformed readily to the cyclical pattern of the national economy. We also established that certain noncyclical changes had been affecting the state economy adversely. These were first, the decline in the demand for durable goods, second, a reduction in the share

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#### BIRTHS AND DEATHS IN BUSINESS POPULATION<sup>a</sup>—Continued

| Year | Number of<br>New Businesses<br>(000) | Number of<br>Discontinued<br>Businesses<br>(000) | Discontinued<br>Businesses as<br>Percent of<br>New Firms |
|------|--------------------------------------|--------------------------------------------------|----------------------------------------------------------|
| 1948 | 393.3                                | 282.0                                            | 71.7                                                     |
| 1949 | 331.1                                | 306.5                                            | 92.6                                                     |
| 1950 | 348.2                                | 289.6                                            | 83.2                                                     |
| 1951 | 327.1                                | 276.2                                            | 84.4                                                     |

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<sup>a</sup>These figures have a much broader scope than those of the D. & B., for they include the total of the service industry population, as well as finance, insurance and real estate firms.

SOURCE: U. S. Department of Commerce, Office of Business Economics, Business Statistics 1959 Edition (Washington: U. S. Government Printing Office, 1959), p. 26.

As can be observed in the table above, especially throughout the period 1944-1947, the difference between the number of entries and exits was very wide which means that the large number of entries did not result in a large number of exits, probably because their services were needed by society.

of state employment in the auto industry, and third, changes in the nature and the magnitude of defense procurements.

Our analyses demonstrated that significant covariations exist between income and business failures. Since the direction of causation or even causation cannot be determined by the correlation analysis itself, we face three resultant propositions.

First, the increase in business failures caused a decline in income; thus, it is not the income that caused the changes in the failure picture, but the changes in failures caused ups and downs in income.<sup>11</sup> Second, changes in income resulted in changes in the failures, and as income goes down submarginal firms were forced out. Third, both income and failure statistics varied under the influence of some outside forces.

All of these statements have merits and to substantiate or refute the validity of any one of them is not within the scope of this study. However, the second and third propositions seem to be more plausible than the first one. It is unlikely that .52 percent of all firms with \$692,808,000 total liabilities could affect total income so adversely that it would create a further slacking in business

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<sup>11</sup>Although this first proposition may seem to be an absurdity in the light of the analysis made at the beginning of this chapter, i.e., a positive correlation between income and business failures, it actually is not if we restate the fact that this analysis did not show causation.



conditions or cause a recession. On the other hand, income definitely has a direct bearing on business failures. Small firms who are more prone to failure can easily be forced out of the market by the occurrence of a slump in income which would practically nullify their already very limited market demand. This situation could most readily prevail in the retailing or construction sectors where a decline in personal income causes postponement of certain planned expenditures. It can also be argued that income is actually a result of business conditions.<sup>12</sup> The cyclical and non-cyclical aspects of business conditions jointly reflect on total personal income, and we have established that there is a strong relationship between income and the total failure picture. From this point of view the third proposition above may be accepted as the most relevant.

This distinction between income and business conditions as a factor forming the failure pattern was convenient as a tool for further analyses. It facilitated the last step of our considerations, which was to distinguish between business conditions in the durable and nondurable goods industries and to test the covariations between these and business failures in the state and national economies.

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<sup>12</sup>For an economy such as Michigan's which is basically dependent upon interstate trade, this statement is reasonable. If demand for Michigan manufactures expands in the national economy, naturally income in the state will rise.

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One very good measure of business conditions is the Federal Reserve Board's Index of industrial production. This index provides measures of physical production based on input output analyses in different industries.<sup>13</sup> A negative correlation must exist between this index and the index of business failures because an increase in industrial production is indicative of healthy business conditions and a concomitant shrinkage in failures.

A series of correlations based on the first degree differences revealed a number of important results. Correlating the changes in the Index of industrial production of durable goods with the changes in business failures in Michigan revealed a relatively strong covariation indicated by a correlation coefficient of  $-.6069$ . This correlation coefficient was significantly greater than that obtained from correlating the changes in nondurable goods production with the changes in the Michigan business failure index, which was  $-.4996$ . Similar analysis in the national economy showed just the opposite tendencies. Here the changes in the nondurable goods production and the changes in the business failure index showed a stronger tendency to covariate as shown by a correlation coefficient of  $-.7403$ . This was greater than the correlation coefficient of  $-.6877$  which was obtained by correlating the change in durable goods

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<sup>13</sup>For a detailed analysis of this index see "Revised Industrial Production Index," Federal Reserve Bulletin, December, 1959, pp. 1451-1466.

production with the change in the national failure index. These analyses showed that Michigan's failure picture, relatively speaking, was influenced more noticeably by the conditions in the durable goods sector, whereas in the national picture the nondurable goods sector played a more pertinent role. Table 5 presents the basic data utilized for these analyses.

Although the industrial productivity index is a very important indicator of business conditions in the durable and nondurable goods sectors, it does not show the real picture at the wholesaling and retailing levels. Probably the analyses of retail and wholesale inventories provide a better understanding of business conditions. A special measure was developed here to overcome this possible shortcoming of the industrial productivity indexes. This measure was the ratio of inventories to new plus unfilled orders ( $\frac{\text{Inventories}}{\text{New orders} + \text{Unfilled orders}}$ ). A high level business activity in most cases leads to a low inventory level because of excess demand. Furthermore, the size of new orders runs high. The normal consequence of high level business activity, therefore, is a low ratio of inventories to unfilled plus new orders. Also the converse is true: when the level of business activity is not very high this ratio will go up by virtue of the sagging new and unfilled orders coupled with the heavy inventory accumulation due to lack of adequate sales.

TABLE 5  
INDEXES OF INDUSTRIAL PRODUCTION AND BUSINESS FAILURES  
1957 = 100

| Year | Index of<br>Durable<br>Goods | Increase<br>or<br>Decrease | Index of<br>Non-<br>durable<br>Goods | Increase<br>or<br>Decrease | Index of<br>Business<br>Failures<br>Michigan | Increase<br>or<br>Decrease | Index of<br>Business<br>Failures<br>U. S. | Increase<br>or<br>Decrease |
|------|------------------------------|----------------------------|--------------------------------------|----------------------------|----------------------------------------------|----------------------------|-------------------------------------------|----------------------------|
| 1947 | 62                           | + 2                        | 70                                   | + 2                        | 27.1                                         | + 3.6                      | 25.3                                      | +12.9                      |
| 1948 | 64                           | - 5                        | 72                                   | - 1                        | 30.7                                         | -35.1                      | 38.2                                      | +29.1                      |
| 1949 | 59                           | +12                        | 71                                   | + 8                        | 65.8                                         | -11.1                      | 67.3                                      | - .6                       |
| 1950 | 71                           | + 8                        | 79                                   | + 3                        | 54.7                                         | -19.3                      | 66.7                                      | - 8.0                      |
| 1951 | 80                           |                            | 82                                   |                            | 35.4                                         |                            | 58.7                                      |                            |
| 1952 | 85                           | + 5                        | 83                                   | + 1                        | 33.2                                         | - 2.2                      | 55.4                                      | - 3.3                      |
| 1953 | 96                           | + 9                        | 87                                   | + 4                        | 22.3                                         | -10.9                      | 64.5                                      | + 9.1                      |
| 1954 | 85                           | - 9                        | 87                                   | 0                          | 40.8                                         | +18.5                      | 80.7                                      | +16.2                      |
| 1955 | 98                           | +13                        | 95                                   | + 8                        | 41.2                                         | + .4                       | 79.8                                      | - .9                       |
| 1956 | 100                          | + 2                        | 99                                   | + 4                        | 80.7                                         | +39.5                      | 92.3                                      | +12.5                      |
| 1957 | 100                          | 0                          | 100                                  | + 1                        | 100.0                                        | +19.3                      | 100.0                                     | + 7.7                      |
| 1958 | 87                           | -13                        | 100                                  | 0                          | 106.8                                        | + 6.8                      | 108.9                                     | + 8.9                      |
| 1959 | 102                          | +15                        | 110                                  | +10                        | 96.9                                         | - 9.9                      | 102.3                                     | - 6.6                      |

SOURCE: Columns one and three are from Federal Reserve Bulletin, December, 1959, p. 1472; and the Statistical Abstract of the United States, 1961, op. cit., p. 778. Columns five and seven are computed from the data obtained from Dun and Bradstreet, Inc., as appeared in the various issues of the Statistical Abstract of the United States, op. cit.

Many extraneous factors may interfere with this relationship. A high rate of production, for instance, because of positive expectations, might continue even though the sales level and the inflow of orders are not very impressive. Similarly, positive expectations on the part of retailers and wholesalers may raise the ratio by a more than proportionate increase in their inventories. In cases such as these high business activity may coexist with the high ratio, at least temporarily.

The use of this ratio in our analyses was confined to the durable and nondurable goods industries. Table 6 presents the data used to compute the ratio and the ratio itself. The figures here include not only manufacturers', but wholesalers' and retailers' inventories as well. In the previous chapter we saw that Michigan has an extreme dependence on durable goods industries; on the other hand, nondurable goods play a relatively more important role in generating income in the national scene. It was, therefore, important to compute the above ratio on the basis of durable and nondurable industries.

As expected, correlation analyses revealed that the ratio based on the statistics of durable goods industries had a relatively stronger relationship with Michigan's failure record. The rate of failure in the state when correlated to the above-mentioned ratio yielded a correlation coefficient of .5341 as opposed to the correlation

TABLE 6

## THE RATIO OF INVENTORIES TO NEW PLUS UNFILLED ORDERS

| Year | Durable Goods Industries                    |                                              |                                                  | Nondurable Goods Industries                 |                                              |                                                  |
|------|---------------------------------------------|----------------------------------------------|--------------------------------------------------|---------------------------------------------|----------------------------------------------|--------------------------------------------------|
|      | Total Inventories <sup>a</sup><br>(000,000) | New Orders +<br>Unfilled Orders<br>(000,000) | Ratio of Inventories to New +<br>Unfilled Orders | Total Inventories <sup>a</sup><br>(000,000) | New Orders +<br>Unfilled Orders<br>(000,000) | Ratio of Inventories to New +<br>Unfilled Orders |
| 1946 | 18,497                                      | 35,408                                       | 52.2                                             | 24,360                                      | 12,127                                       | 200.9                                            |
| 1947 | 22,998                                      | 31,871                                       | 72.2                                             | 27,576                                      | 14,046                                       | 196.3                                            |
| 1948 | 26,137                                      | 31,631                                       | 82.6                                             | 29,256                                      | 12,666                                       | 231.0                                            |
| 1949 | 23,874                                      | 25,015                                       | 95.4                                             | 27,886                                      | 11,673                                       | 238.9                                            |
| 1950 | 29,880                                      | 46,865                                       | 63.8                                             | 33,434                                      | 15,241                                       | 219.4                                            |
| 1951 | 37,306                                      | 76,816                                       | 48.6                                             | 36,409                                      | 15,248                                       | 238.8                                            |
| 1952 | 39,212                                      | 84,864                                       | 46.2                                             | 36,187                                      | 15,062                                       | 240.3                                            |
| 1953 | 42,044                                      | 68,092                                       | 61.7                                             | 36,487                                      | 14,514                                       | 251.4                                            |
| 1954 | 39,284                                      | 54,237                                       | 72.4                                             | 36,201                                      | 15,143                                       | 239.1                                            |
| 1955 | 43,664                                      | 67,225                                       | 65.0                                             | 38,000                                      | 16,807                                       | 226.1                                            |
| 1956 | 47,960                                      | 75,457                                       | 63.6                                             | 41,235                                      | 17,076                                       | 241.5                                            |
| 1957 | 49,148                                      | 61,212                                       | 80.3                                             | 41,572                                      | 16,742                                       | 248.3                                            |
| 1958 | 44,963                                      | 56,048                                       | 80.2                                             | 40,246                                      | 16,653                                       | 241.7                                            |
| 1959 | 47,700                                      | 62,950                                       | 75.8                                             | 41,600                                      | 18,675                                       | 222.8                                            |

<sup>a</sup>Includes inventories of manufacturers, wholesalers, and retailers.

SOURCE: Computed from the basic data obtained from the U. S. Department of Commerce, Office of Business Economics, Business Statistics 1961 Edition (Washington: U. S. Government Printing Office, 1961), pp. 25, 29, 31.

coefficient of .3814 which was obtained when the ratio was based on the nondurable goods statistics. On the national level the picture appeared to be completely reversed. Here a high correlation of .8357 was found between the rate of failures and the ratio of inventories to new plus unfilled orders when this ratio is based on the nondurable goods statistics. The durable goods industries, in contrast, showed a low correlation coefficient of .3967 when the same analysis was made.

From these findings, it became easy to distinguish the effects of business conditions in the durable and non-durable goods industries on the business failure picture. When business conditions in the durable goods industries worsen the ratio would go up as would failures in the state. For the nation as a whole, the role of business conditions pertaining to the nondurable goods industries in the formation of the business failure pattern seemed to be highly important.

The relative importance of durable goods and non-durable goods business conditions in the state and nation were very much parallel to these industries' relative importance in the two economic structures.<sup>14</sup> As was

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<sup>14</sup>It must be kept in mind that in these two sets of analyses, i.e., correlations dealing with failures and industrial productivity, and correlations dealing with the ratio of inventories to new orders plus unfilled orders and failures, we have utilized the national data for analyzing Michigan failures also. This may seem to be a serious



concluded in the previous chapter, Michigan's dependence on the durable goods industries in income generation by far outstripped the national. Similarly, the national economy was more dependent on the nondurable goods industries.

Michigan's dependency on the durable goods industries play a multiple role in the formation of the overall failure picture. These industries prosper directly when they face a higher demand for their output. Furthermore, through the prosperity of these industries and their contributions to total income, the other economic sectors will also prosper. In a period of contraction, however, the whole scheme will be reversed; the durable goods industries will be adversely affected in the first place, forcing out the firms with less durability. With the contraction of income the other sectors also will be hurt immediately or within a short lapse of time. Expenditures, for instance, at the retail level or in construction will be limited to more urgent needs and hence failures in retailing and construction firms, and perhaps even in wholesaling, will soar.

### Conclusions

In the above analyses we have established that

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weakness at first sight. However, this is not the case as Michigan's economy, being very dependent upon manufacturing especially durable goods, is affected very readily by changes in the national business conditions. If Michigan were to consume a major portion of its own industrial production, then these analyses would have been subject to severe criticism.

Michigan failures are closely related to the conditions in the durable goods industries. Also, it is stated that the covariation between income and the number of failures is high and readily detectable. These two findings lead to the following conclusions:

1. The difference between the industrial characteristics of the state and national economies, which the prevailing business conditions affect differently, plays a very important role in the formation of the failure pattern. This mainly accounts for the difference between the overall picture of business failures in the state and the nation.
2. Income and its variations is one of the main factors forming the overall failure pattern. This factor is far more effective than new entries as a cause of failures. An inverse relationship exists between the number of failures and income.
3. Two basic factors reflect on the absolute magnitude as well as the fluctuations of income. These are business conditions and the industrial structure. Everything being the same good business conditions at the national level would yield more income in both the state and the national economies, and probably would keep the

business failures to a minimum. However, the changes in and the magnitude of the state income is not dependent on business conditions solely: the nature as well as the magnitude of the existing demand is of utmost importance. As was seen in Chapter Three, certain noncyclical developments in business conditions have a negative impact on the state's economy, especially on income. The structure of the state's economy, as we have seen, is such that the durable goods industries play a vital role. If the overall demand for durable goods is high then income in the state would be relatively higher than the nation. This situation can be witnessed throughout 1951 and 1953, when accumulated postwar income coupled with the needs of the Korean war created a very satisfactory demand picture for Michigan's durable goods. As a result the personal income increased, and unemployment as well as failures were kept to a minimum. During this period, the ratio of inventories to new plus unfilled orders averaged 52.2, which was relatively low compared to the average of 78.8 for the period 1957-1959. In this latter period Michigan did not enjoy a high rate of growth in income mainly because of the

contraction in demand for durable goods,  
especially Michigan's specialties.

4. Thus, business conditions or national demand for Michigan's output is one of the major causes forming the failure pattern here. However, it should be stressed that Michigan's output is strongly influenced by its industrial structure. In other words, the state's economy has certain specialties limited by its economic characteristics. If the demand for these products expand then the economy prospers.
5. Consequently, in the main, business conditions in conjunction with the industrial structure of the economy are two major determinants of the level and fluctuations of income, and/or the overall failure pattern.

## CHAPTER V

### OTHER FACTORS

In Chapter Three we dealt with the structure of the economy and business conditions as the decisive factors in the changes and magnitudes of income. Income, furthermore, has a significant relationship to the overall failure pattern. As was stated, the correlation coefficient between these two variables, i.e., income and failures, was in Michigan  $-.6051$  and in the U. S.  $-.8065$ . There are two questions which then came to mind: first, why this difference between the Michigan and national correlation coefficients, and secondly, what other factors might be functioning in the formation of the overall pattern of business failures? This latter question emerges from the fact that these correlation coefficients are not unity ( $r = 1.00$ ), which indicates the existence of some other outside independent factors interfering with the relationship between these two variables.

In the present chapter an attempt is made to discuss some important factors other than business conditions, economic structure, and income and new entries, which have already been examined. These other factors are believed to play an important role in the fate of existing firms as well as of newcomers in the economy.

Although their role is not as yet exactly known, the intention here is not to provide an exhaustive list of factors. Our contention is that the factors considered in this chapter contributed relatively to the overall failure pattern more than the large number of others that are not discussed here. The lack of information on the relationships between the factors mentioned in this chapter and business failures necessitated the discussions being kept at an extremely broad level. Special reference to the state and national situations are made whenever data were available. There were two objectives of this endeavor: to focus attention on the existence and proposed impact of these factors, and by so doing indicate the lack of knowledge and the need for further research. One last effort will be made in the latter part of this chapter to point out why, throughout the period under examination (1947-1959), the Michigan failure rate has been below that of the nation.

#### Credit Availability and Liquidity

Whether it is a cause or an effect, lack of liquidity plays the final role in the failure. Hence, to have access to further credits not only may postpone failure but in some cases may also avoid it completely. This latter is true, of course, only if the lack of liquidity is due to some temporary factors.

If lack of liquidity is a cause of failure, then having access to more funds would act as a preventive factor.

However, when lack of liquidity is only an effect rather than the cause of failure, availability of credit would not be effective in the fight for survival. In this case the duration of the cause of failure plays the major role. Assuming the failing firm finds new sources of funds, which are not depleted before the cause of failure disappears, the firm will manage to exist. If, on the other hand, these new sources are short lived, or if the cause of failure is permanent, the firm will not survive. Thus, availability of credit in the economy whether local or national, in some cases, would contribute significantly to the fight for survival.<sup>1</sup>

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<sup>1</sup>Paradoxically many small businesses, which may already lack endurance cannot get the type of credit that they need most: credit for long-run growth. Olin S. Pugh lists some of the characteristics of small business firms which affect their capacity to attract funds from outsiders as follows:

1. Reliance upon personal qualities of the manager
2. Undiversified business operation
3. Limitation to a single market and financial locality
4. Keen competition with other firms
5. Preferences of individual owners.

Olin S. Pugh, Financing 689 Small Business Firms in South Carolina, 1958-1959, Small Business Management Research Reports (Washington: Small Business Administration, 1961), p. 121. Whatever credit they can get for short terms costs them relatively more. Moreover, this credit picture may be worsened during a business slump, for creditors act more cautiously and try to eliminate bad risks as far as possible. As a result, small businesses prove to be at a disadvantage in fighting for survival. Kaplan, Small Business, op. cit., chapter 7. See also, T.N.E.C., Monograph No. 17, op. cit., chapter 13; U. S. Congress, Financing Small Business, op. cit. For an opposite point of view see: Edwin B. George,

Although there are many proposed measures of liquidity, a study of the differences in state and national credit availability would be very difficult. Indications are such that since 1956 industrial and commercial credits have declined in Michigan while remaining relatively constant in the nation as a whole.<sup>2</sup> This situation may be due to a declining liquidity or credit availability in the state as well as due to a lack of interest in borrowing. Although harmful to the economy in either case, it would be important to distinguish between these two causes and to discover the more relevant one, in order to determine the right remedy.<sup>3</sup>

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"Can Small Businesses Get the Capital They Need?," Dun's Review, October, 1952, p. 117. Here he argues that small businesses do not have much difficulty in obtaining finances since, not only have institutions that lend money to small business been increasing, but also credits in general (government or private) are becoming more plentiful. If small businesses are really having a hard time finding capital it is because of their ignorance of the possible sources.

<sup>2</sup>The following figures substantiate this point.

#### TOTAL COMMERCIAL AND INDUSTRIAL LOANS

| Years | Michigan<br>(Millions) | United States<br>(Billions) |
|-------|------------------------|-----------------------------|
| 1956  | 995.1                  | 39.0                        |
| 1957  | 956.2                  | 40.8                        |
| 1958  | 918.0                  | 40.8                        |
| 1959  | 855.9                  | 40.5                        |

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SOURCE: Different issues of the Annual Report of the Comptroller of the Currency (Washington: U. S. Printing Office).

<sup>3</sup>This, however, is not within the scope of this study.



### The Mood of Consumers

The relationship between income and consumption, i.e., "the propensity to consume," becomes significant when considering the overall pattern of failures. A decline in the willingness to purchase, everything else being the same, contracts the aggregate market demand, and the financially weak will be forced out. Thus, whatever the reason may be, a change in the buying mood of consumers will soon be reflected in business casualties.

If it were possible to calculate propensity to consume in different sectors of the economy, conceivably these propensities would correlate highly with the failure pattern in each one of these sectors. Let us, for instance, assume the two economies have similar concentration patterns in retailing, i.e., similar changes in the propensity to consume in retailing would affect both in a similar manner. It can be stated that if the marginal propensity to purchase at retail in the first economy declines at a sharper rate than in the second, the rate of failure in the retailing sector of the first economy will be greater than in the second. This situation may be presented symbolically as follows:

$$\text{if } \frac{R_{tI} - R_{t-1I}}{Y_{tI} - Y_{t-1I}} > \frac{R_{tII} - R_{t-1II}}{Y_{tII} - Y_{t-1II}} \quad \text{then} \quad \frac{\frac{F_{tI} - F_{t-1I}}{F_{tI}}}{\frac{P_{tI} - P_{t-1I}}{P_{tI}}} > \frac{\frac{F_{tII} - F_{t-1II}}{F_{tII}}}{\frac{P_{tII} - P_{t-1II}}{P_{tII}}}$$

where  $R$  = retail sales,  $t$  = recent period,  $t-1$  = previous period,  $F$  = number of failures in retailing,  $Y$  = effective buying power, and  $P$  = business population of that particular economy.

Available data indicate a decline in the proportion of income spent in retailing in the state since 1955.<sup>4</sup> A similar but lesser decline was also experienced by the national economy.

### Wholesale Prices

It is generally assumed that when business activity is high, demand exceeds supply and prices rise, and vice versa. As a result there is a negative correlation between wholesale prices and the rate of failure, since wholesale prices indicate the level of business activity.

There are, of course, shortcomings to this type of analysis. Ours is not a perfect market economy where there is no monopoly power and administered prices. The existence of imperfections often causes a loss in downward price sensitivity; although upward flexibility may be retained, prices become downward inflexible. Due to this shortcoming it becomes necessary to look at the rate of change in prices. Even if they are not lowered because of downward inflexibility, at least they will not increase significantly in times of low business activity.

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<sup>4</sup>See Footnote 27 of Chapter Two.

Another line of reasoning demonstrating an inter-relationship between prices and failure rate is brought forth by Foulke, who emphasizes the effects of the wholesale price level on the well-being of a business enterprise. He believes that a distinct inverse relationship exists between the wholesale price index and the index of business failures. The reasoning behind this, he contends, is the fact that extra profits are realized on inventories as prices go up, and contrarywise excessive losses occur when they go down. While an increase in realized profits cuts down the number of failures as prices go up, the failure number, during an opposite shift in prices, grows significantly. Some firms who already have a heavy inventory are usually forced out because of hardship created by the price decline.<sup>5</sup>

Although Foulke establishes a strong argument, his point of view does not represent the complete picture. When prices rise the failures decrease not only because non-economic profits arise but also because there is enough business for everyone. On the contrary, at times when prices fall businesses do not fail solely by losses on inventories; in such times contracting demand also causes elimination of those who cannot cover either their accounting or their economic costs.

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<sup>5</sup>Foulke, op. cit., p. 57.

In short then it is not really known how much importance must be attributed to the wholesale price index as a factor causing failure and how much weight this concept carries as an economic indicator. Our contention is that the latter idea of the wholesale price index carrying more weight as an economic indicator is more important. Thus, the wholesale price index and failure statistics show a negative correlation.

### Demographic Changes

Changes in population affect the viability of businesses (mainly retailers), in two major aspects. First, the absolute changes in population have a direct bearing on failure statistics. Some years ago a study stated that when population increase was slow the life span of business concerns was greatest.<sup>6</sup> This indicates that when population increases very fast businesses may increase even faster and some of these sooner or later fail. Also population increase enlarges demand for certain items which in turn forces costs up, and the retailer who fails to raise his price accordingly, faces a cost squeeze which might be detrimental.

The second effect of population on business failures emerges from its movements. The tendency among people to move to suburbia definitely affects the success or failure of small urban retail and service stores. Along with the

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<sup>6</sup>Ruth G. Hutchinson, Arthur R. Hutchinson, and Mabel Newcomer, "A Study in Business Mortality," American Economic Review, September, 1938, p. 511.

population movements, changing shopping habits are also important. A recent study, for instance, proposed that populations in standard metropolitan areas are becoming more and more dense. However, retail sales in nonstandard metropolitan areas were increasing more rapidly than sales in standard metropolitan areas.<sup>7</sup> This implies that some stores in standard metropolitan areas may eventually face failure because of contracting demand.

Examination of the statistics suggested that the degree of dispersion of retail sales in Michigan was slightly more noticeable than in its national counterpart. While concentration of population in the standard metropolitan areas in the state between 1954 and 1958 increased faster than in the nation, the proportion of total retail sales taking place in these areas has declined whereas there was a slight increase in the national scene.<sup>8</sup> This might actually have contributed to the relatively faster increasing

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<sup>7</sup>Eli P. Cox, "The Decline of Metropolitan Retailing," Business Topics, Spring, 1961, pp. 32-42.

<sup>8</sup>The following table illustrates this point.

PERCENTAGES OF POPULATION AND RETAIL SALES CONCENTRATED  
IN STANDARD METROPOLITAN AREAS

|              | <u>Michigan</u> |       | <u>United States<sup>a</sup></u> |       |
|--------------|-----------------|-------|----------------------------------|-------|
|              | 1954            | 1958  | 1954                             | 1958  |
| Population   | 72.19           | 72.83 | 60.19                            | 61.55 |
| Retail Sales | 76.19           | 75.16 | 67.10                            | 67.56 |

<sup>a</sup>Includes totals of SMA's of 42 states.

SOURCE: Cox, op. cit.

retailing failures in the state.

### Other Factors

Urban renewal projects should also be considered as a factor with a definitive impact on the viability of small retailers and other establishments. During the 1960's at least 150,000 businesses are going to be forced to move because of urban renewal projects in cities throughout the United States. About 75 percent of these, according to a recent study, relocate successfully whereas 25 percent of them will either disappear or fail. Approximately one-fourth of this latter portion is expected to be failures.<sup>9</sup>

A second point to be considered is that of super highway developments and their impact on business failures. These highway developments distort the present state of affairs for small stores by forcing them either to relocate or to try to attract traffic from outside. In either case some casualties occur.<sup>10</sup>

There are also other special problems occurring on different occasions which have certain distinctive effects on business failures. During the war years, for instance, problems confronting business firms such as the scarcity of materials, merchandises, and employees,<sup>11</sup> were much different

<sup>9</sup>William N. Kinnard and Zenon S. Malinowski, "How Urban Renewal Projects Affect Small Business," Management Research Summary, January, 1961.

<sup>10</sup>Ibid.

<sup>11</sup>Donald W. Paden, "Life Span of Discontinued Businesses," Survey of Current Business, December, 1945, p. 19.

from those generally prevailing in peace time. Any of these can easily beget failures.

### Other Characteristics of the Business Population

In the first chapter we stated that the characteristics of the business population is one of the major determinants of the basic failure pattern. In Chapter Two we tried to prove this by analyzing D. & B. data and comparing them with the census data in different economic sectors. In that chapter we mainly examined the composition of the business population and failures. There are two other characteristics which must be considered, the size distribution and the legal form structure of the business population. Given a different size distribution and legal form structure, similar extraneous factors would beget different outcomes in two different economies. If, for example, in the first of two economies the average firm size is smaller, then a similar drop in income may cause more failures due to size inefficiency.

### Size Distribution of Business Population

We have already mentioned in the second chapter that in those categories where the average liability size of failures was larger the longevity also tended to be longer. This is in line with the prevailing contention that the larger concern has a significant advantage over the smaller in surviving business hazards. While several studies

comment on this specific issue, there is not, unfortunately, a very precise measurement of relationship between size and longevity. In one of these studies it has been stated that 43 percent of those firms with capital exceeding \$10,000 survived more than five years as opposed to only 18 percent of those with less than \$500.<sup>12</sup>

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<sup>12</sup>T.N.E.C., Monograph No. 17, op. cit., pp. 32-33. Also see U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, How Long Do Retail and Wholesale Establishments Tend to Survive, Economic (Small Business) Series No. 54 (Washington: U. S. Government Printing Office). It is stated that "a comparison of the average annual sales of establishments showed that older firms, in general, had a higher average sales than newer ones." p. 5.

Another indicator of size, of course, is the number of employees of a firm. From this point of view also large size and longevity show a high correlation. The following table illustrates this fact effectively.

ENTRY AND DISCONTINUANCE RATES<sup>a</sup>  
AND SIZE OF FIRM, 1945-1948

| Size Class           | <u>Entry Rates</u> |      |      |      | <u>Discontinuance Rates</u> |      |      |      |
|----------------------|--------------------|------|------|------|-----------------------------|------|------|------|
|                      | 1945               | 1946 | 1947 | 1948 | 1945                        | 1946 | 1947 | 1948 |
| All industries       | 134                | 176  | 123  | 99   | 63                          | 64   | 76   | 94   |
| 0 - 3 employees      | 155                | 206  | 143  | 115  | 73                          | 76   | 88   | 111  |
| 4 - 7 employees      | 86                 | 124  | 88   | 75   | 34                          | 35   | 48   | 53   |
| 8 - 19 employees     | 55                 | 74   | 51   | 41   | 35                          | 32   | 41   | 46   |
| 20 or more employees | 33                 | 38   | 26   | 22   | 26                          | 24   | 29   | 29   |

<sup>a</sup>Number of new and discontinued firms each calendar year per 1,000 firms in operation March 31.

SOURCE: M. F. Foss and B. C. Churchill, "The Size Distribution of the Postwar Business Population," Survey of Current Business, May, 1950, p. 17. Low rates of turnover here are indicative of longevity among large firms.



Since small enterprises make up the bulk of the business population, a large part of the failures is likewise composed of small businesses.<sup>13</sup> Of course, if

. . . the opportunities for expansion in the economy increase at a faster rate than the large firms can take advantage of them and if the large firms cannot prevent the entry of small firms, there will be scope for the continued growth in size and number of favorably endowed small firms.<sup>14</sup>

Not only basic differences in the size distributions but also changes in size distributions may in time cause differences in failure patterns.<sup>15</sup> There is no evidence as such but it is probable that the decline in the average size of firms in Michigan might have caused a more than proportionate increase in the state's failures during the latter part of the fifties.

#### Legal Form Structure

Of the three major legal forms, proprietorship, partnership and corporations,<sup>16</sup> the last one is more likely

<sup>13</sup>Kaplan, Small Business, op. cit., p. 60.

<sup>14</sup>Penrose, op. cit., p. 223.

<sup>15</sup>Changes in relative size may come about from differential rates in the growth of individual firms as well as mergers. Differential rates of growth of individual firms may be due to differences in management skills and goals, different rates of growth in different markets, and technological changes. Norman R. Collins and Lee E. Preston, "The Size Structure of the Largest Industrial Firms, 1900-1958," American Economic Review, December, 1961, p. 996. If we were to take the managerial skills as well as goals as given, then differences in the growth rates in different markets and technological changes would be reasons enough to change the size distribution of the business population. See also Penrose, op. cit.

<sup>16</sup>There are a number of other forms of business organization, among which are: limited partnership, joint

to survive business vicissitudes. A few reasons may be given for this tendency. The average corporation usually is larger than the average partnership and proprietorship, and larger firms generally survive longer. Secondly, corporations are more sophisticated in solving complex business problems and usually are better equipped with technical know-how. Furthermore, corporations usually have a better chance of accumulating necessary funds and finding extra credits in cases of emergency. Another reason why corporations, relatively speaking, live longer is that many organizations become corporations after they have entered and survived a few years. Thus, survival is almost insured since these firms have already passed the most dangerous period of their lives. And lastly, unlike the case of the proprietor who dies leaving an inexperienced heir to take over and fail, corporations with their diverse and scattered ownership are commonly free of this risk.

It is very difficult to distinguish between the longevity of partnerships and that of proprietorships. One would be inclined to assume that the former, on the average,

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venture, the syndicate and the business trust. See Theodore J. Shielauff and John W. Aberle, Introduction to Business (San Francisco: Wadsworth Publishing Company, Inc., 1961), pp. 49-53. The number of these is no more than about 1.9 percent of all firms in the national economy. Betty C. Churchill, "Business Population by Legal Form of Organization," Survey of Current Business, April, 1955, p. 18. It is not only unimportant but also very speculative to comment on each one of these legal forms in terms of its longevity.

may live longer because of several decision makers who can consult with each other in facing complex business problems, and possibly because they have access to larger sums of capital.

### Positive Considerations

Thus far, our efforts have been focused mainly on explaining why the rate of failures in the state has been increasing faster than that of the nation; however, there is one very important aspect of the comparisons between the two failure pictures which requires special attention. That is the fact that since 1947 the failure rate in Michigan has been always lower than the national. Although during the past few years these two have been approaching one another, Michigan's rate is still lower.

A number of reasons may be given for Michigan's lower failure rate. Among these the first one to be considered is the size difference between the state and national firms. Previously, it was argued that everything being the same the larger firm would have a tendency to survive longer. The state firms are on the average larger than their national counterparts in terms of the number of employees (Table 1). Thus, the lower failure rate that existed in Michigan may be partially at least accounted for by the larger size of state firms.

The next factor to be considered is income. As was seen previously, per capita personal income has been and is

TABLE 1  
EMPLOYEE SIZE OF MICHIGAN AND THE  
NATIONAL ESTABLISHMENTS,<sup>a</sup> 1956

|                                     | <u>Number of Employees<br/>Per Reporting Unit</u> |               |
|-------------------------------------|---------------------------------------------------|---------------|
|                                     | Michigan                                          | United States |
| Industry and commerce total         | 16.6                                              | 13.0          |
| Contract construction               | 7.5                                               | 8.6           |
| Manufacturing                       | 91.0                                              | 58.4          |
| Public utilities                    | 27.3                                              | 25.9          |
| Wholesale trade                     | 12.1                                              | 11.6          |
| Retail trade                        | 7.7                                               | 7.3           |
| Finance, insurance, and real estate | 9.2                                               | 8.6           |
| Services                            | 5.9                                               | 5.8           |

<sup>a</sup>As opposed to the firm or the enterprise concept of D. & B., here reporting units or establishments are used as the basis for the business population count. A firm listed in D. & B. statistics may have more than one reporting unit and thus, the statistics here are not strictly comparable to those of D. & B. However, the general picture **presented** here is, in general, also applicable to D. & B. statistics.

SOURCE: Computed from County Business Patterns, First Quarter 1956, op. cit.

higher in Michigan than the nation. Again, everything being the same, this situation provides more security to establishments especially in retailing and services, because of the more favorable demand.<sup>17</sup> In addition to higher income

<sup>17</sup>This statement at first sight appears to be contrary to the statements made at the beginning of Chapter Four but actually is not. In Chapter Four we have established that there is a tendency in those economies with a large total income to have also a large number of failures in absolute terms. In other words, the larger the economy the more sizeable is the absolute death toll among businesses. But this statement does not say anything about the causation of failure, and neither does it say anything about

in the state, if we consider the fact that the number of retail and selected service establishments in the state per thousand population is lower than that of the nation, we probably have the major portion of the answer to Michigan's lower failure rate. The small number of establishments indicate relatively less competition and thus again more security. Table 2 presents factual data showing the smaller relative number of establishments per thousand population in the state. While in 1958 there were 9.63 establishments per thousand Michiganders, there were 10.26 establishments per thousand Americans.

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the relative changes in the failure rate. In Chapter Four we also stated that the greater the number of firms the greater is the tendency to have a larger absolute number of failures. However, when we look at the relative magnitude of failures, i.e., failures as a percent of all firms, and compare this with the relative magnitude of income, i.e., income per establishment, the picture reverses itself, for no correlation can be obtained. Considering the relative relationships it can be stated that in two economies of similar size and structure the one that has greater income per store and/or a greater number of consumers per store enjoys a relatively lower failure rate. This is why in analyzing the changes from one year to the next we obtained negative correlations between the changes in income and changes in failures, and also between the changes in business conditions and the changes in failures. Thus, once again it must be emphasized that although in absolute terms the magnitudes of income and business failures correlate highly and positively, the relative changes in these correlate highly and negatively.

TABLE 2  
NUMBER OF ESTABLISHMENTS PER 1,000 OF POPULATION  
IN RETAILING AND SELECTED SERVICES

|                                                                        | <u>Michigan</u> |           | <u>United States</u> |             |
|------------------------------------------------------------------------|-----------------|-----------|----------------------|-------------|
|                                                                        | 1954            | 1958      | 1954                 | 1958        |
| Population <sup>a</sup>                                                | 6,941,132       | 7,510,499 | 162,418,417          | 174,139,472 |
| Number of Establishments,<br>Retailing                                 | 67,995          | 72,379    | 1,721,650            | 1,788,325   |
| Number of Establishments,<br>Selected Services                         | 29,699          | 38,521    | 785,589              | 975,250     |
| Number of Establishments<br>per 1,000 population,<br>Retailing         | 9.79            | 9.63      | 10.60                | 10.26       |
| Number of Establishments<br>per 1,000 population,<br>Selected Services | 4.28            | 5.13      | 4.84                 | 5.60        |

<sup>a</sup>Population figures are derived by interpolation based on the difference between 1950 and 1960 Censuses of population.

SOURCE: Basic data for establishments from 1958 Census of Business, op. cit.; and Population figures based on the Population data reported in the Michigan Statistical Abstract, op. cit., p. 3.

## CHAPTER VI

### SUMMARY CONCLUSIONS AND WELFARE IMPLICATIONS

A comparison between the rates of business failure in Michigan and the United States for the past 15 years indicated that Michigan's rate is more erratic than its national counterpart. Also, the failure rate in the state for the past five years has been increasing, on the average, faster than the national. Despite these two tendencies, Michigan's rate, with the exception of 1949, has been below the national since 1947. Some appreciation of the underlying causes of failures as well as the overall functioning of their respective economies can be attained by examining the disparity between these two failure patterns.

Two major causes of failures can be distinguished—internal and external. While the former deals mainly with managerial ability and other internal properties of the business enterprise, the latter relates failures to business conditions and the economic structure.

Both of these approaches have merits in explaining failure. At any given time there will be certain firms with submarginal managers entering into the race and probably no matter how good business conditions are they will not long stay in business. However, basically the external causes superimposed upon the internal would form the general

failure pattern. In other words, there will always be some internally weak firms which cannot combat the adverse effects of certain external factors. Since the most important internal factor, managerial skills, does not change from one year to the next and also are more difficult to analyze objectively, the external factors are more suitable for quantitative as well as qualitative analysis. In this type of approach time spans greater than one year must necessarily be considered.

Of these two approaches the second one was employed in this study. Aggregate Michigan and national failure statistics were considered within their respective economies as a whole, and also in respect to different economic sectors. The analyses were based not only on time series but also on special selected points in time. The discussions of failure patterns were restricted to their composition, size groups, age, and cyclical characteristics. When treated as a continuum, failure rate analyses were related to other major changes in the economy to attain further understanding of business failures in the aggregate economy.

By the analyses of external changes it is possible to explain significant changes in the failure rates from one year to the next. Among the external factors considered here business population, income, business conditions, and new entries were given special consideration as being



important in the formation of the overall failure patterns. Establishing interrelationships between these factors and business failure statistics contributes substantially to the explanation of the disparity between Michigan and the national business failure rates.

Business failures in this study were defined as voluntary or involuntary cessation of business activities entailing a loss to creditors. The data used here are limited because of their very definition. It is possible that many firms going out of business because of poor performance may not entail a loss to creditors; these are by definition left out of the study. One very important characteristic of the failure statistics, however, is their resemblance to the discontinuance figures. Despite their limited scope the movements in failure statistics are generally duplicated by discontinuance figures.

It is then the main contention of this study that basically the differences between the business failure patterns in Michigan and the United States are traceable to the very nature of these respective economies. This, in conjunction with the changes in business conditions, forms the overall business failure pattern.

#### Business Failure Patterns

A comparison of business failure patterns in Michigan and the United States for 1953, 1954, 1958, and

1959 revealed the following patterns in terms of kinds of failures, size of failures, life span, and cyclical changes.

1. The overall resemblance of business population and the composition of business failures was the first important observation in our analyses. Generally speaking, in the economic sectors and industrial groups where the number of existing firms is large, the probability of having a larger number of failures is proportionately high. In many cases this was observed to be true. However, the similarity between the composition of business population and that of business failures was not perfect. In some industry groups there were more than proportionate failures, which is chiefly explained by specific adverse business conditions in these categories. For instance, when the manufacturing failures were analyzed it was found that there were, relatively speaking, more failures in Michigan which were producing durable goods prior to cessation. Similarly, a larger portion of the national manufacturing failures belonged to nondurable goods industries. Although still behind the national rate, Michigan's failure rate showed a sharper increase. This was consistent with the relatively slower performance

of the state economy as a whole which was reflected by higher state unemployment rates and relatively slower increasing personal income, especially during 1954-1959. During 1954-1959 not only was there a temporarily lessened demand for the state's major durable goods but also certain long term tendencies prevailed. Among these were the dispersion of the auto industry, shrinking defense contracts and changes in their composition. All of these, no doubt, played pertinent roles in the slower performance of the state economy relative to the national.

2. In all but one category Michigan failure rates, i.e., failures expressed as a percent of total firms, were lower than their national counterparts. However, comparisons between 1954 and 1958 revealed that failure rates in the state in all categories increased faster (Table 1). This fact mainly could be accounted for by certain developments in the state economy, among which were:

- a. A decline in the lumber and lumber products industry.
- b. Dispersion and integration in the automobile industry.
- c. A decline in demand for major consumer durable goods.

- d. Less than proportionate increase in retail sales relative to the rest of the economy.
- e. A slowdown in the construction industry.

TABLE 1

NUMBER OF FAILURES EXPRESSED AS A PERCENT OF NUMBER OF ESTABLISHMENTS IN DIFFERENT ECONOMIC SECTORS IN MICHIGAN AND THE UNITED STATES, 1954, 1958

| Sectors       | <u>Michigan</u> |                 | <u>United States</u> |                 |
|---------------|-----------------|-----------------|----------------------|-----------------|
|               | 1954<br>Percent | 1958<br>Percent | 1954<br>Percent      | 1958<br>Percent |
| Manufacturing | .36             | .72             | .78                  | .87             |
| Wholesaling   | .16             | .59             | .33                  | .50             |
| Retailing     | .16             | .39             | .33                  | .44             |
| Construction  | .16             | .62             | .39                  | .69             |
| Services      | .03             | .05             | .08                  | .08             |
| Total         | .21             | .52             | .42                  | .54             |

SOURCE: Tables 4, 8, 17, 20, and 23, Chapter Two.

3. The size of business casualties was analyzed by considering their liability size on the basic assumption that larger firms have greater liabilities. These analyses revealed that Michigan failures in general were more sizeable than their national counterparts. The smallest sizes prevailed in the services sector in the state, while retailers were the smallest failures in the national picture. Both of these sectors are relatively more easy to enter in terms of low capital and know-how requirements. The average

liability size of manufacturing failures was the largest in both economies, and were somewhat greater in Michigan. This latter fact is most probably due to relatively more durable goods manufacturing failures in the state. Generally speaking, durable goods manufacturers are relatively larger than nondurable goods manufacturers because of lower capital and manpower requirements. Analyses indicated that in those sectors where failures had relatively the greatest size, life spans were the longest. Manufacturing failures, for instance, the largest in terms of liability size, survived the longest both state and nationwide. Michigan failures experienced a longer life span, in general, than their national counterparts, and their liability size also was greater. Relatively fewer state failures in service industries and relatively more in durable goods industries can account for the major disparity in life spans between Michigan and the United States.

4. Both Michigan and national manufacturing failures showed a high sensitivity to business cycles. In Michigan this sensitivity was noticeably higher, especially among failures in durable goods industries. The Michigan failure rates in

recession years increased faster in these categories and in general faster than their national counterparts.

### The Economic Structure

A comparison of Michigan's economic structure with the national provides a partial answer for the dissimilarity between the failure patterns in these two economies. An analysis of income and its composition in both economies showed a more erratic pattern in Michigan and similarly Michigan's failure picture also has been more erratic. The basic single cause for this instability was the lack of diversity in the state economy. Michigan's extreme dependency on durable goods, and specifically on the automobile industry, helped the state's economy to grow faster than the national in good times as was the case between 1950 and 1953. Contrarywise, when demand for these industries' outputs slackened, Michigan was hit harder. Thus, while during 1950 - 1953 Michigan's failure rates were substantially below their national counterpart, they increased during 1956 - 1959 much faster than in the nation.

Another observation was the slowly decreasing role of manufacturing in Michigan's income and employment picture, which suggested that the two economies are becoming more alike. Akin to this trend were the income and failure pictures of the two economies which also are tending to come closer together.

Besides being extremely sensitive and thus having short-term implications, the durable goods industries played a negative long-term role in the state's economy. First, the durable goods industries in the national economy suffered a decline in their relative importance. The growth in the rest of the economy since 1955 was not experienced in this sector, a fact which was more harmful for the state than the nation as a whole. Second, Michigan's share in defense contracts declined, both because of the contraction in their size and more important because of the changes in their nature.

Lastly, the dispersion of the automobile industry also seemed to be an important factor with adverse effects on the state economy. The very structure of Michigan's economy with its relative lack of diversity and heavy dependence on durable goods seemed to be a major cause of the more erratic nature of the state's income. Significant disparity was witnessed between the state and national income, the former being more erratic and growing at a slower pace during the latter part of the 50's. Failure rates also in the state were more erratic than the national.

Correlation analyses established the relationship between these two phenomena, i.e., income and failure rate. Analyses of correlation between the change in income and the change in the failure rate yielded correlation coefficients of  $-.6051$  and  $-.8065$  for Michigan and the nation as a whole, respectively.

As stated previously, despite the sharper increase in Michigan's failure rate between 1954 and 1959 the state's rate was still lower than its national counterpart. The average larger size of establishments in Michigan coupled with the higher per capita income in the state along with larger population per existing establishment, were in the main, major causes of the lower rate. These conditions made the state economy, on the average, more desirable for the marginal firms.

#### Business Conditions

Although business conditions can hardly be separated from economic structure and income generation, an attempt was made toward this end. Such a distinction is important in an economy such as Michigan's which is very dependent upon conditions in the national economy. When national demand for certain consumers' durable goods contracts, two distinct impacts can be witnessed. First, those manufacturing firms which lack capital, know-how and diversification fail and secondly, the shrinking demand brings about an income contraction which further contracts local demand for consumer's goods and services. Consequently, some local firms in wholesaling, retailing, construction, and services fail.<sup>1</sup>

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<sup>1</sup>It is extremely difficult to pass a judgment on the timing of these two groups of occurrences. Although possibly they might take place in a sequential order of some sort, it is equally possible that they occur concurrently.



A special measure was devised to test the relative impact of conditions in the nondurable and durable goods industries on business failures. This measure is the ratio of inventories to new and unfilled orders. Fluctuations in this ratio indicate ups and downs in the economic sectors. A series of correlation analyses showed that in the nation as a whole the state of business in the nondurable goods industries had relatively more bearing on the failure picture. In Michigan, on the other hand, conditions in the durable goods industries affected the failure pattern more noticeably. Business conditions in general had more impact on failures than the new entries. This finding, however limited, refutes the basic premise that failures are a function of entries. A series of correlations between failures and new entries substantiated this statement by showing very low correlation coefficients. There are also a number of other factors which have bearing on the overall formation of the failure pattern. While detailed analyses of these are not within the scope of this study it has been asserted that the size of firms, the legal form, credit availability and liquidity in an economy, the mood of consumers, wholesale prices, population changes and others are all pertinent factors which must be considered. Just how significant these factors are in the formation of the overall failure pattern, and how they actually affect the failure pattern are two specific questions needing to be

answered, and therefore, further research is needed in these areas.

Our analyses thus far indicated a number of functional relationships between the economy, business conditions, and failures. It is necessary for our purposes to take a brief look at the welfare aspects of business failures. Only by adequate understanding of these aspects can areas needing investigation be identified. In the following few pages the welfare aspects of business failures are briefly discussed.

#### Welfare and Failures

There are basically two extreme approaches to the failure problem. The first and probably most advocated maintains that failures manifest the veto power of the market place. In the free enterprise system the unwanted firms are bound to fail. Thus, failure usually means the elimination of weaklings; the economy becomes sounder and more efficient. The other view, in contrast, contends that above a "certain" rate failures become costly for the economy, since the resultant waste and malutilization of resources may indicate not good health but a certain type of economic malaise.

Choosing one of these two approaches is very important in terms of determining what to do about failures. If the first point of view is correct then there will be no need to be alarmed when failures increase. However, if

failures do not contribute anything to competition or welfare why continue carrying the burden? To investigate the validity of either point of view one may take a retrospective approach by looking at the types of businesses, when they ceased existence, how long they survived and whether they really had anything to offer to society.

Just how costly then are failures? Are advantages obtained from failures more than enough to offset their cost? Present economic knowledge is not adequate to answer these questions. However, some observations can be made here which would be of value. Oxenfeldt distinguished four specific cases in which new firms will be beneficial to the economy. New entrants will benefit the society if they bring about:

1. Reduction in prices by partially eliminating excessive pays to factors of production.
2. Reduction in cost without underpaying the productive factors mainly by innovations in production and distribution.
3. Reductions in profits without compelling the existing producers to leave but forcing them to reduce their profits thus attaining normalcy.
4. Reductions in the number of concerns by eliminating the marginal or inefficient producers.<sup>2</sup>

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<sup>2</sup>Alfred R. Oxenfeldt, New Firms and Free Enterprise (Washington: American Council on Public Affairs, 1943), p. 10.

If, however, the prices of the established firms are not affected by the new firm or none of the existing firms are compelled to leave and the total sales of the industry remain the same, the profitability of the existing firms declines because of the decline in per establishment sales volume. Hence, the ultimate effect is an increase in cost because of the increased idle capacity. A social cost commonly associated with unused capacity is the depletion of irreplaceable natural resources.<sup>3</sup>

In many cases the fact that about two-thirds of the total failures take place during the first five years of operation, may indicate that the newcomers actually do not have a chance to contribute much to total welfare. They cease existence without becoming beneficial to the economy.<sup>4</sup> The smaller than normal size places the new entrants in a disadvantageous position at the very beginning.

As already discussed, there is a positive relationship between survival and size. Oxenfeldt wrote:

The fact that new firms, on the average, are considerably smaller than established firms in an industry has extremely significant implications. It implies that new firms are generally not erected of a size permitting

<sup>3</sup>Oxenfeldt, op. cit., p. 69.

<sup>4</sup>In one sense this might be compared with biological fertility. The increased infant mortality causes a smaller proportion of the population to survive to the reproductive age. An interesting discussion of population functions, mortality, and fertility is presented in K. E. Boulding, A Reconstruction of Economics (New York: John Wiley & Sons, 1950), Chapter I, especially pp. 17-21.

profitable operation and that their invested capital will therefore be dissipated. The relatively small size of new firms also brings into question the rationality with which entrepreneurs select the scale of their operations. Moreover, it suggests that, despite the existence of many producers and the entrance of many firms each year, industries often are not highly competitive because of the uneconomical scale of the new operators.<sup>5</sup>

Furthermore, although competition may keep some prices low, which to a certain extent, is the case in retailing, yet as failures take place the public pays indirectly.<sup>6</sup> Especially, even if the unfit and inefficient were to be eliminated, they would be replaced by others probably equally as bad, thus eliminating all the advantages that might be gained by the occurrence of failures.<sup>7</sup>

<sup>5</sup>Oxenfeldt, op. cit., p. 139.

<sup>6</sup>Prices in the retailing sector of our economy are relatively more stable as was found by Helen B. Junz and Theodore R. Gates, "Do Retail Prices Follow Wholesale Prices?," National Industrial Conference Board, Business Record, June, 1957, pp. 271-276.

<sup>7</sup>Boer wrote: "If our system as presently constituted eliminated the unfit and inefficient, not to be replaced by others equally as bad, there would be no point in raising a question regarding either the method or the results. However, the system apparently perpetuates the dissipation of capital, encourages a waste of the services of labor, results in lessened purchasing power, and causes inconvenience to the consuming public." A. E. Boer, "Mortality Costs in Retail Trades," The Journal of Marketing, July, 1937, pp. 59-60. On this Cox had this to say: "Freedom of entry in practice is costly because people do make mistakes. They do not know whether they are going to succeed or fail, and the screens set up to separate the probable successes from the probable failures are far from exact and accurate. In fact, the available evidence indicates that failure is considerably more common than success among new business ventures. The fact that the business population is maintained through a costly process offsetting

Our analyses in Chapter Four showed that failures in the strict sense are not a function of new entries since the two did not correlate highly. This means that neither new entrants due to extreme incapability go out of business immediately nor due to superior competitive power do they soon force existing firms out of the market.

Analyses, on the other hand, also showed a close inverse relationship between business conditions and business failures by indicating high correlation coefficients. It necessarily follows that in recession or depression years failures soar. If by this process it were possible to guarantee the elimination of the inefficient then the result naturally could be beneficial to the general welfare. However, marginal and inefficient firms in an imperfect economy are not synonyms as would be the case in perfect competition. In many cases the inefficient large firms can easily survive a recession or depression by simply absorbing the losses incurred. As Corwin Edwards stated:

Where big companies have small competitors, small suppliers, or small customers, there may be a substantial inequality of bargaining power between the big and those who must deal with them or compete with them.

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against each other a high disappearance rate and a correspondingly high rate of inflow indicates that opportunity in at least one sense is very great for individuals in this country . . . . In the real world, this extreme form of opportunity is not wholly desirable. Less costly ways are needed for winnowing the fit from the unfit." Reavis Cox, "Quantity Limits and the Theory of Economic Opportunity." In Reavis Cox and Wroe Alderson (eds.), Theory in Marketing (Chicago: Richard D. Irwin, Inc., 1950), pp. 242-243.

Whether or not the large concern has an advantage over the small in productive techniques and operating costs, it is likely to be able to outwit its small customer or supplier, to outbid its small rival . . . .<sup>8</sup>

Thus, despite the fact that it is not inefficient, the small firm might go out of business mainly due to the size of its capital and assets.

From the above discussions it becomes obvious that the picture is not at all clear-cut. As McKean put it ". . . . Whether current rates of business turnover are indicative of health or sickness in the small business world is by no means self-evident from the data."<sup>9</sup>

The importance of the welfare implications of business failures makes the topic especially important and necessitates further studies to understand clearly the above proposed interrelationships. In Cole's words: "Possibly no inquiry in the area of economics deserves greater support."<sup>10</sup>

### Need for Further Inquiry

Besides the studies made in the 1930's and the

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<sup>8</sup>Corwin D. Edwards, Big Business and the Policy of Competition (Cleveland: The Press of Western Reserve University, 1956), p. 10. Also in a paper submitted by H. Woorhies in the A.M.A. national convention during December, 1961, in New York, it was stated that small concerns do not have a chance despite their efficiency because they do not own mass media and cannot advertise nationally. It might be added that multi-product large firms are better safeguarded than relatively fewer or single product small firms.

<sup>9</sup>McKean, op. cit., p. 33.

<sup>10</sup>A. H. Cole, "A Note on Continuity of Enterprise," Business History Review, Spring, 1961, p. 75.

N.B.E.R. studies, business failures is a relatively neglected topic. A number of reasons can be given for this lack of interest. For one thing, they are considered by many students to be beneficial to the economy. Some consider them a necessary evil. Others accept them on faith. Also for some, failures is a negative topic and would not be considered unless the failure rate becomes very high. Success stories are more popular topics for detailed study. Until recently, the lack of data also was one of the hindrances. In addition, a lack of data reliability might sometimes present a negative factor.

The studies of the 30's as well as the present studies by D. & B. consider failures in the micro sense and attribute casualties to internal, mainly managerial causes. The N.B.E.R. studies go no further than establishing a relationship between the ups and downs in the economy and the total failure data, thus providing a use for failure statistics as an economic indicator.

Throughout this study, an effort was made to establish a functional relationship between the failure pattern, i.e., kind, size, age and cyclical characteristics of failures, and the nature of the economy in conjunction with business conditions. Despite the specific findings, the analyses are not conclusive due mainly to the limited numbers of years considered. It is important in the future to substantiate further or to refute the findings of this



study. Thus, more concrete functional relationships can be established between the economy and the failure picture. Not only substantiation of these findings but further analyses of the factors suggested in Chapter Five is a consideration for future studies. Among these are: the size of firm, legal form, credit availability and liquidity, the mood of consumers, wholesale prices, and many other socio-economic and demographic factors.

Another future avenue for prospective study would be to establish further relationships between the macro and micro analyses of failure studies. It then would be possible to know under what circumstances, with any given external conditions firms fail. On the same basis, it may be possible also to ascertain with any given internal conditions which factors precipitate failure.

By means of these studies it would be possible to appreciate the role of failures in society, to propose remedies to minimize the costs incurred, and to maximize healthier competition. Only at that time will there be adequate information on failures to guide managerial action and thus be valuable in a micro sense.

APPENDIX--TABLE I

FAILURES IN MICHIGAN BY LIABILITY SIZE GROUPS  
1953, 1954, 1958, AND 1959

|                    | Under \$5,000 |      |      |      | \$5,000 to \$25,000 |      |      |      | \$25,000 to \$100,000 |      |      |      | \$100,000 and Over |      |      |      |
|--------------------|---------------|------|------|------|---------------------|------|------|------|-----------------------|------|------|------|--------------------|------|------|------|
|                    | 1953          | 1954 | 1958 | 1959 | 1953                | 1954 | 1958 | 1959 | 1953                  | 1954 | 1958 | 1959 | 1953               | 1954 | 1958 | 1959 |
| Manufacturing      | 1             | 3    | 6    | 1    | 6                   | 12   | 25   | 20   | 6                     | 17   | 38   | 31   | 6                  | 14   | 28   | 13   |
| Wholesale Trade    | 3             | 1    | 12   | -    | 6                   | 5    | 19   | 23   | 3                     | 9    | 20   | 16   | 4                  | 4    | 13   | 6    |
| Retail Trade       | 4             | 4    | 33   | 29   | 28                  | 72   | 137  | 139  | 17                    | 26   | 15   | 84   | 4                  | 4    | 26   | 23   |
| Construction       | 2             | 2    | 7    | 2    | 8                   | 10   | 37   | 30   | 6                     | 9    | 29   | 26   | 1                  | 5    | 16   | 15   |
| Commercial Service | 3             | 1    | 5    | 5    | 4                   | 6    | 8    | 21   | 2                     | 5    | 12   | 9    | -                  | -    | 1    | -    |
| Total              | 13            | 11   | 63   | 37   | 52                  | 105  | 226  | 233  | 34                    | 66   | 114  | 166  | 15                 | 27   | 84   | 59   |

SOURCE: Dnn and Bradstreet, Inc., special tabulations.

APPENDIX—TABLE II  
NUMBER OF FIRMS AND BUSINESS FAILURES  
IN MICHIGAN

| Year | Number of Failures | Number of Firms | Failures as a Percent of Firms |
|------|--------------------|-----------------|--------------------------------|
| 1940 | 361                | 76,316          | .47                            |
| 1941 | 250                | 79,620          | .31                            |
| 1942 | 226                | 78,362          | .29                            |
| 1943 | 70                 | 75,659          | .09                            |
| 1944 | 30                 | 70,506          | .04                            |
| 1945 | 24                 | 71,476          | .03                            |
| 1946 | 43                 | 81,566          | .05                            |
| 1947 | 139                | 93,933          | .15                            |
| 1948 | 157                | 97,949          | .16                            |
| 1949 | 337                | 100,243         | .34                            |
| 1950 | 280                | 104,231         | .27                            |
| 1951 | 181                | 96,967          | .19                            |
| 1952 | 170                | 99,217          | .17                            |
| 1953 | 114                | 100,366         | .11                            |
| 1954 | 209                | 100,330         | .21                            |
| 1955 | 211                | 101,074         | .21                            |
| 1956 | 413                | 102,130         | .40                            |
| 1957 | 512                | 101,330         | .51                            |
| 1958 | 547                | 103,842         | .53                            |
| 1959 | 496                | 105,432         | .47                            |

SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S., op. cit.

## APPENDIX—TABLE III

NUMBER OF FIRMS AND BUSINESS FAILURES  
IN THE UNITED STATES

| Year | Number of Failures | Number of Firms | Failures as a Percent of Firms |
|------|--------------------|-----------------|--------------------------------|
| 1940 | 13,619             | 2,156,450       | .63                            |
| 1941 | 11,848             | 2,170,615       | .55                            |
| 1942 | 9,405              | 2,151,549       | .44                            |
| 1943 | 3,221              | 2,023,007       | .16                            |
| 1944 | 1,222              | 1,855,033       | .07                            |
| 1945 | 810                | 1,909,095       | .04                            |
| 1946 | 1,130              | 2,141,807       | .05                            |
| 1947 | 3,474              | 2,404,883       | .14                            |
| 1948 | 5,250              | 2,550,018       | .21                            |
| 1949 | 9,246              | 2,679,306       | .35                            |
| 1950 | 9,162              | 2,686,786       | .34                            |
| 1951 | 8,058              | 2,607,977       | .31                            |
| 1952 | 7,611              | 2,637,004       | .29                            |
| 1953 | 8,862              | 2,666,680       | .33                            |
| 1954 | 11,086             | 2,632,312       | .42                            |
| 1955 | 10,969             | 2,633,063       | .42                            |
| 1956 | 12,686             | 2,628,910       | .48                            |
| 1957 | 13,739             | 2,652,248       | .52                            |
| 1958 | 14,964             | 2,675,409       | .56                            |
| 1959 | 14,053             | 2,708,168       | .52                            |

SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S., op. cit.

APPENDIX—TABLE IV  
BUSINESS FAILURES AND BUSINESS DISCONTINUANCES  
IN THE U. S., 1946-1959

| Year | <u>Failures</u> |                 |              | <u>Discontinuances<sup>a</sup></u> |                 |              |
|------|-----------------|-----------------|--------------|------------------------------------|-----------------|--------------|
|      | Manufacturing   | Wholesale Trade | Retail Trade | Manufacturing                      | Wholesale Trade | Retail Trade |
| 1946 | 466             | 99              | 304          | 24.3                               | 11.4            | 65.5         |
| 1947 | 1,275           | 447             | 1,222        | 26.8                               | 17.7            | 76.5         |
| 1948 | 1,481           | 669             | 2,185        | 27.4                               | 19.1            | 98.5         |
| 1949 | 2,331           | 1,110           | 4,246        | 30.0                               | 18.0            | 115.5        |
| 1950 | 2,074           | 1,016           | 4,429        | 24.7                               | 16.3            | 115.0        |
| 1951 | 1,533           | 827             | 4,088        | 22.7                               | 13.5            | 113.0        |
| 1952 | 1,581           | 748             | 3,833        | 25.5                               | 14.2            | 115.1        |
| 1953 | 1,857           | 933             | 4,381        | 27.7                               | 16.0            | 124.4        |
| 1954 | 2,282           | 1,132           | 5,491        | 30.5                               | 17.6            | 134.0        |
| 1955 | 2,202           | 1,164           | 5,339        | 28.2                               | 17.3            | 132.7        |
| 1956 | 2,285           | 1,207           | 6,341        | 26.4                               | 17.3            | 147.8        |
| 1957 | 2,411           | 1,236           | 6,845        | 29.0                               | 17.0            | 137.0        |
| 1958 | 2,680           | 1,431           | 7,514        | 30.0                               | 19.0            | 138.0        |
| 1959 | 2,465           | 1,387           | 6,873        | 26.0                               | 18.0            | 141.0        |

<sup>a</sup>In thousands.

SOURCE: Dun and Bradstreet, Inc., as reported in the Statistical Abstract of the U. S., and Business Statistics, op. cit., 1961 edition, p. 9.

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