The Cleveland Metropolitan Economy: An Initial Assessment

Executive Summary

Aaron S. Gurwitz, G. Thomas Kingsley
The research reported herein was performed pursuant to Grant No. 81-455-42U from The Cleveland Foundation.

The Rand Publication Series: The Report is the principal publication documenting and transmitting Rand's major research findings and final research results. The Rand Note reports other outputs of sponsored research for general distribution. Publications of The Rand Corporation do not necessarily reflect the opinions or policies of the sponsors of Rand research.

Published by The Rand Corporation
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Aaron S. Gurwitz, G. Thomas Kingsley

March 1982

Prepared for The Cleveland Foundation
This report and the forthcoming report it summarizes were prepared by The Rand Corporation for The Cleveland Foundation to assess economic trends in the Cleveland area. Our research seeks a better understanding of how the metropolitan Cleveland economy works, what its special role has been in the U.S. economy, and how it has been responding to a changing economic environment.

The authors are indebted to a number of their colleagues at Rand who helped in this work, particularly to Susan J. Bodilly, Deborah R. Both, Kathleen N. Lohr, Ellen L. Marks, M. Susan Marquis, and Priscilla M. Schiegel, who contributed directly to the research; to Stanley M. Besen and John Pincus, who reviewed earlier drafts of the report; and to David W. Lyon, Vice President in charge of Rand’s Domestic Research Division, who actively supported the project.

We are also indebted to many in the Cleveland area who so willingly gave information, advice, and other assistance to support our research. They are too numerous to mention here, but we must acknowledge the guidance and support of Susan N. Lajoie, The Cleveland Foundation’s project officer for the study, and the Foundation’s Director, Homer C. Wadsworth. We especially thank Richard W. Pogue, who served as Chairman of the Advisory Committee established by The Cleveland Foundation for the project, and the members of that committee.
FOREWORD

In March 1980, the Distribution Committee of The Cleveland Foundation decided to place greater emphasis on economic development in the Cleveland metropolitan area. This decision was based on the Distribution Committee's recognition of the obvious—that one of the most critical issues (if not the most critical issue) facing Cleveland in this decade is the vitality of the region's economy. The five major aspects of the Foundation's regular ongoing work—civic, cultural, educational, health and social—are all dramatically impacted by the strength and vibrancy of that economy.

In dealing with the question of how a community foundation can best contribute to the process of economic development in the area, the Distribution Committee soon became aware that many qualified observers believe that available economic research procedures in Cleveland do not provide an adequate basis for selecting or supporting projects which would most effectively contribute to economic growth. Cleveland suffers from a relative lack of ongoing regional economic analysis such as that which some other competitive cities enjoy. Accordingly, the Distribution Committee attempted to identify ways to help fill this void.

Here a bit of history in another context was helpful. Since its inception in the early part of this century, The Cleveland Foundation has been committed to the proposition that informed public discourse is a necessary prerequisite for lasting civic improvements. This belief was reflected in the Foundation's first ten years through support for major community surveys in the areas of social services, education, recreation, and criminal justice. For example, the criminal justice survey, a study of law enforcement agencies directed by Dean Roscoe Pound and Professor Felix Frankfurter, both of the Harvard Law School, was conducted in 1921 amidst a crime wave which had gripped cities nationwide. Its widely discussed findings helped set the stage for improved prosecution practices, support for well-qualified candidates for judicial positions, and more efficient probation procedures. In the intervening years, the commitment to informed public dialogue has been maintained through Cleveland Foundation support for a variety of research and public information projects.

This history offered a helpful, but limited, analogy. In an earlier era, a single study such as the criminal justice survey, could perform a valuable function. However, a single comprehensive economic
analysis today would quickly become outdated in the modern world of rapid technological change, increased international competition, and great geographic mobility. Consequently, rather than investing in one comprehensive study, the Distribution Committee asked The Rand Corporation, an eminent applied research organization with offices in Santa Monica, California, and Washington, D.C., to assist the Foundation in developing a process that would encourage ongoing research and dialogue on changing conditions in the regional economy. As a first step in the process, Rand was commissioned to undertake a baseline study of the metropolitan economy as a foundation for future economic monitoring.

This report summarizes the findings of that Rand study (the actual study underlying this report is a much more detailed initial analysis of the metropolitan economy). The report does not provide (nor is it intended to provide) solutions to the difficult specific economic choices which we as a community face. Instead, its purpose is to highlight the economic realities which define boundaries within which these choices will be made, and to assist the public/private partnership which has been emerging recently to take advantage of the Cleveland area’s strengths.

Both The Cleveland Foundation and The Rand Corporation benefited greatly from the insights provided by many individuals in the greater Cleveland community during this phase of Rand’s work. Most particularly, I would like to thank the members of the Advisory Committee, whose names are set forth elsewhere herein. They graciously accepted the Foundation’s invitation to review and comment upon preliminary versions of Rand’s analysis. I emphasize, however, that the work itself is that of The Rand Corporation. The findings and conclusions reported by Rand are not necessarily those of the Advisory Committee or The Cleveland Foundation. Similarly, statements in the summary regarding policy in such areas as labor-management relations should not be interpreted as representing the positions of the Committee or the Foundation.

I would also like to acknowledge the discerning, diplomatic, and diligent work of Dr. Susan Lajoie, because as the Foundation’s project officer on this work, she has vindicated well Homer Wadsworth’s confidence in her ability to help shape a modest but important contribution to the Cleveland scene.

At the end of the day, as the English say, Cleveland continues to be an amazingly resilient and diversified community, with substantial incentives for economic investment and growth in the future if the combined efforts of our strong core of corporate executives, our enlightened labor leaders, and our new breed of efficient yet long-range-thinking public officeholders can effectively coalesce and become
focused on a common goal—economic development for the Cleveland area.

We are hopeful that The Rand Corporation’s findings and conclusions will make a useful contribution to current and future discussions of Cleveland’s economic development.

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INTRODUCTION

From the Civil War until about 1960, it was easy for the Cleveland region to grow economically. The city was ideally located as one of the best transshipment points between America’s iron ore and coal. At the center of the Great Lakes industrial region, Cleveland was an ideal location for firms manufacturing almost any durable or nondurable good. Cleveland would have prospered between the end of the Civil War and the end of World War II no matter what any leader of the regional community did or failed to do.

Things are not as easy for Cleveland now. With the completion of the Interstate Highway System, other changes that reduced transportation costs and the development of smaller, lighter products, Cleveland’s geographic advantage has diminished substantially. As world markets for some of Cleveland’s anchor industries—most notably steel and automotive products—have become more competitive, the region’s absolute share of these markets has decreased. Furthermore, for the first 100 years of its industrial history, changes in Cleveland’s economic environment came about relatively slowly. The emergence of the automotive industry as the region’s mainstay took place over a period of decades. By contrast, the development of the microelectronics industry as a major element of the world economy has taken place in only a few years.

In a more volatile and uncertain world, metropolitan areas have begun to compete with each other more aggressively to attract and retain investment. Cleveland’s leaders in the public and private sectors are well aware of this new competitiveness. In the past few years, they have jointly launched several new initiatives to prepare for the economic battles ahead. The goal of one of these initiatives is to enhance the level of "economic intelligence" in the community; to build information and understanding that will help the community respond more rapidly and effectively to the new economic realities.

THE BEGINNING OF A PROCESS

This report, and the longer report it summarizes,\(^1\) are first steps in a process aimed at achieving that goal. In late 1980, The Cleveland

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Foundation asked The Rand Corporation to (1) prepare these initial studies on the metropolitan economy; (2) prepare a detailed computer data base on local economic conditions that could be expanded and used by others in the future; and (3) design a plan by which Cleveland area leaders could most effectively obtain and use information on changing economic conditions to guide decisions over the years ahead.

The plan that has evolved envisions the development of a permanent economic monitoring capability in metropolitan Cleveland—a new staff unit probably affiliated with a university or other local institution. By systematically assembling economic data as soon as it becomes available, the unit would serve as an efficient information clearinghouse. In the future, other local agencies and firms would only have to go to one place to secure reliable and up-to-date information about the local economy that they may require. More important, the unit would apply the techniques of economic analysis to examine the implications of changing conditions. Regular dialogue about research findings between technical experts and community leaders would improve the reliability of the analysis and its usefulness in practical decision-making. Such a process should yield better answers to questions like:

- What types of industries appear most promising for the Cleveland area in the future?
- What changes in the vocational education curriculum in local public schools and community colleges would most help local economic development?
- From the point of view of strictly local interest, what Defense Department procurement policies should Cleveland area representatives in Congress support?
- What allocation of public service improvements between the central business district and other industrial and business areas would yield the highest payoff to the local economy?
- What combination of new jobs, affirmative action, and training policies would best reduce the rate of unemployment in Cleveland's minority communities?

These are only illustrations from what could be a very long list. Responding to them adequately requires better data and analysis than have been available in the community in the past.

Better economic intelligence will not enable Cleveland's leaders to overturn the local impacts of major forces operating in the world economy, but in a highly competitive environment it could prove to be an important edge.
THE INITIAL STUDY

The objective of our work is a long-term process rather than a short-term product. Even so, that process could not be well-designed without an initial comprehensive review of the available facts about metropolitan Cleveland's economy. This evidence needed to be brought together to provide guidance not only about the area's general economic strengths and weaknesses, but also about the kinds of information gathering and analysis that will deserve attention in the future.

Our study sought to understand how the Cleveland economy works, what its special role has been in the larger U.S. economy, and how it has been responding to its environment. The conception we have developed is more complex and in many ways less pessimistic than some commonly held views of the local economy based on surface appearances.

This summary has three sections. The first two highlight some of the major factual findings of the broader study. The facts are presented in such a way as to illustrate how a view beneath the economic surface generates new insights into how this metropolitan economy works and how it has been changing. The final section outlines directions for economic development policy suggested by our study as well as priorities for further analysis.
I. MAJOR TRENDS IN THE CLEVELAND ECONOMY

THE VIEW FROM THE SURFACE

Three broad trends characterize economic conditions in the Cleveland area over the past two decades and especially during the 1970s. The total population of the metropolitan area has been declining. Total employment has increased annually, but at a much slower rate than the nationwide average. Employment in manufacturing industries has decreased, and employment in nonmanufacturing industries has increased.

These general tendencies are illustrated in Figs. 1 through 3. The city of Cleveland began losing population in the mid-1950s. Until 1970, the suburbs grew more than enough to make up for the city's loss, but between 1970 and 1980, the entire Standard Metropolitan Statistical Area (SMSA) began to lose population.

Even though total population declined, total employment has continued to grow in the Cleveland area at slightly less than 1 percent per year between 1967 and 1977. Cleveland's total growth rate in employment, however, is slower than that of the earlier postwar period (1.2 percent) and slower still than the increase in employment nationwide (2.1 percent) during the last decade.

Most new jobs created by the Cleveland metropolitan economy over the 1967-77 period were in the nonmanufacturing sectors. Manufacturing employment actually declined during the period, but the creation of new jobs, especially in the service sectors, more than made up for the losses in Cleveland's traditional economic base.

These then are the familiar trends as they appear on the surface.

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1 Most statistics used in this summary are for the Cleveland SMSA, which includes the Counties of Cuyahoga, Lake, Geauga, and Medina. Lorain, Summit, and Portage Counties have strong ties to the SMSA and we would have preferred to include them in our study area. We were unable to do so, however, because data available for them is less detailed. In this summary, when we discuss "the Cleveland area" or "metropolitan Cleveland," we are referring to the four-county SMSA.

2 In most of our analysis, we examine change from 1967 to 1977; two years at approximately the same position on the business cycle. Some economic data are available through 1980, but they are much less detailed. Also, because of the 1980 recession, using that year as our endpoint would have led to a distorted characterization of the forces at work over most of the 1970s. As expected, the more recent figures show that economic conditions have worsened locally as well as nationally since 1977. The 1980 data do not alter any of our basic findings about relative differences between major sectors, however.
Taken together, they seem to suggest a deeply troubled region with a basically stagnant economy. To the extent that these surface trends suggest a hope, it is that the service industries will assume the role of the disappearing manufacturing sector in keeping the local economy on, at best, an even keel. When we take our first look just beneath the surface, however, a different picture emerges.

**BENEATH THE SURFACE: WHAT DOES POPULATION DECLINE MEAN?**

Metropolitan Cleveland's population is decreasing, but that fact does not reflect any unique problems in the area's environment. In losing population, the Cleveland area is simply sharing the fate of most of the largest metropolitan areas in the northeastern quadrant of the United States, but at a slightly faster rate. The general movement of population to the sun belt responds to fundamental social and economic changes in the U.S., and not to specific conditions in particular metropolitan areas.
Fig. 2—Index of total private nonagricultural employment, 1945-1980, United States and metropolitan Cleveland

So marked are differences in population and economic growth rates between the northeast and the sun belt that it might seem as if the Great Lakes industrial belt is being decimated. This is not the case. The northeast quadrant of the U.S. still remains the nation's population and economic heartland. In 1978, more than half the population of the United States lived within 500 miles of Cleveland, and more than 60 percent of U.S. durable goods manufacturing fell within the same circle. What is more, by the same measure, Cleveland remains much more centrally located with respect to economic activity in the U.S. than any similarly sized city except Pittsburgh, as illustrated in Fig. 4.

What is more surprising is that, in spite of the sizable percentage increases in economic activity in the sun belt during the 1970s, Cleve-
land’s comparative locational advantage has changed very little. For example, the percentage of total U.S. service industry employment located within 250 miles of Cleveland actually increased slightly between 1970 and 1976. The proportion of total U.S. employment in several other industry groups also increased over the same period (see Fig. 5) and the comparative locational advantage of many of Cleveland’s competitors decreased.
In other words, economic activity in the U.S. is still heavily concentrated in the industrial northeastern quadrant. The shift to the sun belt regions has not yet been large enough to alter this basic fact.

Nor is it certain that the movement of people and jobs to the south and west will continue to be as rapid as it has been. A number of countervailing tendencies suggest that the rate of population decline might be lower during the 1980s than it was during the last decade. The most important of these tendencies, the decrease in the propor-
Fig. 5—Percent of U.S. SMSA totals within 250 miles of Cleveland SMSA
tion of U.S. population in the "high mobility" younger age groups, may lead to a slower rate of long-distance migration. Second, much of the industrial relocation of the past decade is the result of the completion of the U.S. Interstate Highway System. Because that system has been nearly complete for about a decade, it may be that the bulk of its economic effects have been realized already. Finally, the high price of housing in some rapidly growing regions, the slow rate of housing construction, and the limited supply of water in the south-west will make migration more difficult.

It is not clear whether these trends will be strong enough to slow down out-migration from the snow belt, but they do indicate that continued rapid population decline is far from certain.

**BENEATH THE SURFACE: A SLOWLY GROWING BUT DYNAMIC ECONOMY**

Compared with the nation as a whole, especially its most rapidly growing regions, employment growth in the Cleveland area has indeed been slow. However, a fairly constant total number of jobs in a region does not necessarily signify a stagnant economy, and in fact, the Cleveland metropolitan economy has been undergoing substantial changes over the past decade. One important aspect of the essential dynamism of the metropolitan economy during the 1970s is revealed by employment, productivity, and investment trends in a number of narrowly defined manufacturing industries.

If we only look at broadly defined manufacturing groups, we do see what looks like a fairly dismal picture. Between 1967 and 1977, about one out of seven manufacturing jobs was lost to the metropolitan Cleveland economy. In the primary metals industry (mostly steel production), about one out of five jobs was lost; in transportation equipment manufacturing (mostly the automobile industry), one out of three jobs was lost. However, there were a large number of more narrowly defined industries that gained jobs in the Cleveland area. While the automobile industry was losing jobs rapidly, the number of jobs in the stampings and other fabricated metals industry increased by more than 50 percent. Employment in the rubber and plastic products industry increased by more than 40 percent and employment by firms manufacturing measurement and control devices grew by more than 75 percent. Cleveland's fastest growing industries are listed in Table 1.

Nor were all of these rapid growth industries insignificantly small to begin with. A full 36 percent of Cleveland's manufacturing em-
Table 1

Fastest Growing Manufacturing Industries, Cleveland SMSA, 1967-1977

<table>
<thead>
<tr>
<th>Industries Growing 30% or more in Employment$^a$</th>
<th>Industries Growing 5-29% in Employment$^b$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misc. paper products</td>
<td>Canned, cured &amp; frozen food</td>
</tr>
<tr>
<td>Petroleum &amp; coal products</td>
<td>Plumbing &amp; heating equipment</td>
</tr>
<tr>
<td>Misc. instruments</td>
<td>Misc. apparel and textiles</td>
</tr>
<tr>
<td>Misc. manufacturing</td>
<td>Iron and steel foundries</td>
</tr>
<tr>
<td>Fabricated metal stampings</td>
<td>Fiber boxes</td>
</tr>
<tr>
<td>Sheet metal work</td>
<td>Ready-mixed concrete</td>
</tr>
<tr>
<td>Blowers and fans</td>
<td>Secondary nonferrous metals</td>
</tr>
<tr>
<td>Misc. electrical industrial apparatus</td>
<td>Construction-related machinery</td>
</tr>
<tr>
<td>Rubber &amp; misc. plastics</td>
<td>Misc. transportation equipment</td>
</tr>
<tr>
<td>Misc. electrical equipment supplies</td>
<td>Misc. fabricated metals</td>
</tr>
<tr>
<td>Measuring and controlling devices</td>
<td></td>
</tr>
</tbody>
</table>


$^a$Listed industries account for 22 percent of Cleveland SMSA manufacturing employment.

$^b$Listed industries account for 14 percent of Cleveland SMSA manufacturing employment.

ployees in 1977 were working in industries that had grown in employment by 5 percent or more between 1967 and 1977.

Other measures of the recent performance of the Cleveland area's manufacturing sector tell us more about its recent past, but do not change the general conclusion that manufacturing industries employing a substantial proportion of the region's work force have been performing relatively well over the last decade. Average value added per production worker hour (a common and useful, if imperfect, measure of industrial productivity) was higher, on average, in Cleveland than in the U.S. as a whole throughout the 1967-77 period. There was some slight tendency for industry-specific productivity to move toward the national average, but almost 40 percent of Cleveland's manufacturing employees worked in industries in which value added per production worker hour was increasing at a faster rate than the national average.

A final measure of industrial performance is investment. Capital expenditures per production worker hour in Cleveland manufacturing was about equal to the U.S. average of that measure from 1967 through 1972, but dropped to only 83 percent of the U.S. average over
the 1973-77 period. Still, there were a number of industries (e.g., electrical industrial apparatus, general industrial machinery) in which Cleveland investment per production worker hour remained well above the national average for the industry.

The different implications of the surface view and the detailed view can be illustrated very simply. Total manufacturing employment in the Cleveland area decreased by 13.5 percent between 1967 and 1977. This summary figure suggests a dismal prospect for this broad sector. However, if each of the 84 manufacturing industries for which data are available continues to grow or decline at the same rate it did between 1967 and 1977, total manufacturing employment would decrease by only 2 percent between 1977 and 1987. Neither of these figures—13.5 percent or 2 percent—is, in any sense, a prediction of what is likely to happen over the next decade. They do, however, illustrate that Cleveland’s slow rate of total employment growth does not necessarily suggest a stagnant regional economy. The more detailed figures indicate only that the Cleveland metropolitan economy is a mature but still quite dynamic economic system. It is not exhibiting the remarkable growth rates of the sun belt cities, but it is also certainly not in the process of dying. While Cleveland may not be responding to changes in its economic environment in quite the way all Clevelanders would like it to, it is responding, apparently quite successfully, in a number of ways.

BENEATH THE SURFACE: IS CLEVELAND BECOMING A SERVICE CENTER?

Between 1967 and 1977, Cleveland’s nonmanufacturing industries created jobs even faster than the manufacturing industries lost them. The shift in employment is clearly illustrated in Fig. 3. After contemplating these summary figures, some analysts have concluded that nonmanufacturing industries, especially the service sectors, bid fair to replace manufacturing as Cleveland’s economic raison d’être. A look beneath the surface trends indicates that conditions of some of the service industries are indeed becoming more important to Cleveland’s economic health, but the relative importance of the manufacturing industries remains huge.

Four of our study’s findings illustrate that point. First, we found that even though the nonmanufacturing industries did increase in employment substantially in Cleveland during this period, they were growing even faster nationwide. Figure 6 compares the growth rates for nonmanufacturing industries in the Cleveland area and for the
U.S. as a whole. In each case, the Cleveland rate is slower. In other words, Cleveland’s rapid increase in nonmanufacturing employment does not necessarily mean that the area is becoming a “service center.”

Second, Cleveland’s fastest growing nonmanufacturing industries that compare most favorably with national growth rates are those most closely linked with manufacturing industries: trucking and warehousing and administrative and auxiliary activities (including headquarters’ offices) of manufacturing firms.
Third, analyzing the composition of Cleveland's exports to the rest of the U.S. and the world indicates that as important as some non-manufacturing industries may be in terms of total employment, the bulk of Cleveland's exports still consists of durable manufactured goods. A summary of our findings on the composition of exports is presented in Fig. 7, which indicates that any trend toward increased exports of business and health services would have to continue at a rapid pace for a long time before these sectors rivaled the importance of the key manufacturing industries.

Finally, even though the total number of jobs in manufacturing industries decreased during the last decade, about 40 percent of manufacturing employees worked in industries that were growing at least as fast in Cleveland as nationwide. Less than 20 percent of Cleveland's nonmanufacturing employees held jobs in local industries that kept pace with the U.S. market. In other words, the general shift in employment to the nonmanufacturing sectors obscures the fact that

![Graph showing industrial composition of Cleveland SMSA exports]

SOURCE: Rand analysis of Cleveland SMSA input–output relationships based on data from U.S. Department of Commerce, Bureau of Economic Analysis.

Fig. 7—Industrial composition of Cleveland SMSA exports
more industries in which Cleveland has an apparent competitive edge are found within the manufacturing sector.

It would be a mistake to overstate the conclusions of this section. We are not saying that the Cleveland area has no strong potential advantages in such fields as business-related services and health and medical services or that Cleveland's function as a corporate headquarters location is not one of its great assets. Nor are we suggesting that Cleveland's leaders pay exclusive attention to the manufacturing industries. We do say, however, that the shift in regional employment to the nonmanufacturing sectors does not reflect a fundamental shift in Cleveland's basic role in the U.S. economy. Cleveland's most important function remains as a manufacturer of durable goods.

SUMMARY

We began this section with a surface view of the Cleveland area economy. It might have appeared that local manufacturing was practically moribund and that its only hope was to shift quickly to the role of a service center. A look beneath the surface, however, indicated that the region had many economic strengths; that high among these was still its potential as a mature but dynamic manufacturing center.

At the same time, we must reemphasize that this is only an initial look beneath the surface. The data that led to these conclusions raise more questions than they answer. For example, part of our discussion of population trends revolved around younger households being the group most likely to migrate. Analyzing the needs of that group and what Cleveland can offer them might indicate how to maintain a stable work force and population.

We also found substantial growth in exports by the business services industry, but were unable to identify exactly what accounted for that growth. A closer examination of those industries, along with an analysis of what the Cleveland area might offer such firms, would be worthwhile.

This section concluded that durable goods manufacturing was still perhaps the Cleveland area's greatest economic strength. The next section will look more closely at that sector, beginning with a broad surface characterization and then once again taking a look beneath the surface.
II. DURABLE GOODS MANUFACTURING: CLEVELAND'S TRADITIONAL MAINSTAY

THE SURFACE VIEW

A surface view of durable goods manufacturing immediately identifies five large industries that have traditionally been thought of as the region's "anchor industries": primary metals, fabricated metals, nonelectrical machinery, electrical machinery, and transportation equipment. Changes in employment levels in these industries (see Table 2) illustrate that all of them encountered serious problems in the 1970s.

Table 2

EMPLOYMENT DECLINE AND MARKET SHARE LOSS FOR CLEVELAND SMSA ANCHOR INDUSTRIES, 1967-1977

<table>
<thead>
<tr>
<th>Anchor Industry</th>
<th>Percent Change</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cleveland SMSA</td>
<td>Share of U.S. Employment</td>
</tr>
<tr>
<td>Primary metal industries</td>
<td>- 21.3</td>
<td>- 9.5</td>
</tr>
<tr>
<td>Fabricated metal products</td>
<td>- 1.3</td>
<td>- 14.9</td>
</tr>
<tr>
<td>Nonelectrical machinery</td>
<td>- 15.2</td>
<td>- 24.1</td>
</tr>
<tr>
<td>Electrical machinery</td>
<td>- 14.6</td>
<td>- 7.0</td>
</tr>
<tr>
<td>Transportation equipment</td>
<td>- 33.2</td>
<td>- 30.7</td>
</tr>
</tbody>
</table>


Explanations abound as to the main forces that influence change in these industries, but three stand out in most discussions. In one view, Cleveland is regarded as dominated by the automotive industry, since many other local industries sell a large share of their output directly or indirectly to the automotive sector. The implication of this view is that Cleveland's economic future depends almost exclusively on the future of automobile production in the United States.

A second view sees Cleveland as a more diverse economy and stresses local production of machinery and related products used to
equip or supply new factories here and elsewhere. Local problems are laid to the United States becoming a consumption-oriented society. Local prospects are dim because too few of our national resources are being invested in new plants and equipment.

A third view emphasizes that Cleveland's manufacturing wages are out of line with wages paid elsewhere in the U.S. and the world. The average manufacturing wage in metropolitan Cleveland is 20 percent higher than the U.S. average. With this differential, many find it hard to believe that Cleveland will be able to attract any new manufacturing investment in the future.

Although there are facts to support each of these views, all are too simplified. None tells the whole story. Taken together, they could create misleading expectations about the Cleveland area economy in the years ahead.

BENEATH THE SURFACE: THE ROLE OF THE AUTOMOTIVE INDUSTRY

Automobile production is the single most important manufacturing industry to the U.S. economy as a whole. To Cleveland, that industry is even more important than to most other U.S. cities. In fact, some have argued that all of Cleveland's anchor industries do little more than supply automotive production. Cleveland's steel mills sell most of their output to the automotive industry and G.M., Ford, Chrysler, and their suppliers are major customers of Cleveland's machine tool firms. Much of the large local "metal stampings" industry consists of small shops that supply auto factories. On the surface, it might appear, then, that Cleveland is almost as dependent on the automotive industry as Detroit, albeit somewhat more indirectly.

An initial analysis, however, indicates that this may not be the case. We studied the relation between month-to-month fluctuations in U.S. automobile and truck production from 1975 to 1981, and local unemployment rates in a number of major metropolitan areas. In Detroit, the two variables were highly correlated: declines in production were consistently and closely followed by increases in unemployment. In Cleveland, a correlation existed but it was not nearly as strong. By implication, Cleveland production serving other markets cushioned the shocks of swings in demand from the automotive sector. In fact, our analysis suggested that Cleveland is significantly less sensitive to that industry than a number of other metropolitan areas not ordi-

narily thought of as auto towns. In addition to Detroit, both Pitts-
burgh and Indianapolis were more sensitive to trends in auto production than Cleveland.¹

We conclude, therefore, that the automotive industry is very important to Cleveland, but not exclusively so. If U.S. automobile production does not recover from its current slump, Cleveland will undoubtedly face hard times, but the regional economy has better potential for weathering that slump than some other northeastern industrial cities.

This view is also suggested by another finding of our study. Table 3 indicates that total employment and export employment in three of Cleveland’s major export industries—fabricated metals, nonelectrical machinery, and instruments—increased between 1972 and 1978; over the same period, the local automotive industry declined sharply. This suggests that these local industries either began with or were able to acquire a more diverse set of customers than just the automotive industry.

Table 3

<table>
<thead>
<tr>
<th>Anchor Industry</th>
<th>Average Annual Growth Rate</th>
<th>Total Employment</th>
<th>Export Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary metals</td>
<td>-2.1%</td>
<td>-16.0%</td>
<td></td>
</tr>
<tr>
<td>Fabricated metals</td>
<td>2.6</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>Nonelectrical machinery</td>
<td>1.8</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Electrical equipment</td>
<td>-1.6</td>
<td>-2.0</td>
<td></td>
</tr>
<tr>
<td>Motor vehicles</td>
<td>-3.3</td>
<td>-8.6</td>
<td></td>
</tr>
<tr>
<td>Other transportation equipment</td>
<td>-1.1</td>
<td>-1.1</td>
<td></td>
</tr>
<tr>
<td>Instruments</td>
<td>9.2</td>
<td>9.7</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous manufactures</td>
<td>6.3</td>
<td>0.4</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Rand analysis of Cleveland SMSA input–output relationships, based on data from U.S. Department of Commerce, Bureau of Economic Analysis.

¹The other cities tested were less sensitive to the auto industry than Cleveland. These were Columbus, New Orleans, Philadelphia, Phoenix, and Seattle.
BENEATH THE SURFACE: SHIFTS AMONG THE
ANCHOR INDUSTRIES

Analysis of industry employment data suggests that the Cleveland area's economic specialty is not well characterized by the simple list of five industries noted earlier. Since so much steel and automotive production take place in Cleveland, one would expect fabricated metals production (the manufacture of parts and other semi-finished goods) and machinery production to be heavily represented in the regional economy. Even with that expectation, the concentration of these latter activities in metropolitan Cleveland is unusually high, as illustrated in Fig. 7.

Since fabricated metals and nonelectrical machinery (especially machine tools) are more heavily concentrated in Cleveland than expected, given the heavy industrial character of the economy, we conclude that these two types of products, more than steel and automotive products, define Cleveland's particular role in the U.S. economy.

Two other industries that are playing large or increasing roles in the region's export economy are electrical equipment and instruments. Both sell most of their output to other manufacturers.

Because it specializes in semi-finished goods and investment goods, Cleveland's role in U.S. manufacturing is not as a general supplier of durable goods, but more as a factory town that sells things to other factory towns. Cleveland's prosperity, therefore, is very closely linked to the general condition of the U.S. manufacturing sector. Not only is a large part of U.S. manufacturing activity located in the Cleveland area, but Cleveland depends on other U.S. manufacturing centers for most of its "export" earnings.

That finding indicates that the continuation of a consumption-oriented national economy (rather than one that is manufacturing investment-oriented) would not bode well for Cleveland. It is possible to take heart, however, in the growing recognition that this orientation also would not bode well for the U.S. as a whole. Stimulating investment in manufacturing is now a primary goal of both major political parties. Indeed an investment boom would provide much more stimulus for the Cleveland economy than anything else that might happen to the national economy over the next few years. In simulating the effects of different combinations of new export business on Cleveland, we found that demand generated by business investment nationwide helped the local economy much more than consumption-oriented demand and somewhat more than demand generated by defense procurements.

Although Cleveland would profit from a business investment boom,
there are risks involved. For example, as the machinery and fabricated metal industries become more important as a source of income for the metropolis, diversity in export earnings decreases, and the Cleveland area becomes more vulnerable to problems faced by either of those industries.

One of those industries is, in fact, increasingly threatened by foreign competition. Three years ago, for the first time since statistics have been kept, the U.S. became a net importer of machine tools. If this trend continues and the U.S. machine tool industry follows the pattern of the automotive industry, an increasingly important element of the local economy could be threatened. Trends in the U.S. and world market for machine tools should be closely watched by Cleveland regional economists, and any well-considered programs that could help maintain the area's competitiveness in this industry deserve priority.

Also, it should not be assumed that a general investment boom would benefit all segments of the metropolitan community equally. In 1970, the investment and semi-finished goods industries employed relatively small proportions of Blacks, for example. Unless Cleveland's key industries have become more integrated over the last decade,2 Cleveland's Black community would not receive a proportionate share of the benefits generated by an investment boom. This does not counter our view that the investment scenario is best for Cleveland, but it does suggest a concern for policymakers. High unemployment in the Black community is one of Cleveland's major economic problems. Stronger efforts to promote minority opportunities in a broader range of industries may well be warranted.

BENEATH THE SURFACE: COMPOSITION OF CHANGE IN MORE DETAIL

As noted earlier, although total manufacturing employment declined substantially in Cleveland between 1967 and 1977, a number of industries grew rapidly during that period and even increased their share of the U.S. market. This told us that, while decreasing, Cleveland's manufacturing sector was not necessarily in a state of precipitous decline.

Table 4 lists Cleveland area industries that increased their share of U.S. production from 1967 through 1977 and shows the rankings of those industries according to their national growth rate. Some of the industries that did exceptionally well in Cleveland also did well na-

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2Data on the racial composition of industry work forces from the 1980 census were not available when this report was completed.
tionwide. Cleveland increased its share of production in the seventh (rubber and miscellaneous plastics products), ninth (blowers and fans), eleventh (other fabricated metal products), and twelfth (other instruments and related products) fastest growing industries in the U.S. In other words, Cleveland was doing well in some high-growth industries. At the same time, some industries that were not performing well nationwide were more than holding their own locally. Iron and steel foundries and nonelectrical plumbing and heating equipment are good examples.

Table 4

CLEVELAND SMSA MANUFACTURING INDUSTRIES' INCREASING SHARE OF NATIONAL EMPLOYMENT, 1967-1977

<table>
<thead>
<tr>
<th>Manufacturing Industry</th>
<th>Cleveland SMSA Share of U.S. Industry (%)</th>
<th>Growth Rate Rank in U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other misc. manufacturing industries</td>
<td>63</td>
<td>39</td>
</tr>
<tr>
<td>Petroleum and coal products</td>
<td>45</td>
<td>45</td>
</tr>
<tr>
<td>Plumbing and heating (except electric)</td>
<td>43</td>
<td>75</td>
</tr>
<tr>
<td>Other paper and Allied products</td>
<td>36</td>
<td>47</td>
</tr>
<tr>
<td>Canned, cured and frozen food</td>
<td>36</td>
<td>65</td>
</tr>
<tr>
<td>Other instruments and related products</td>
<td>31</td>
<td>12</td>
</tr>
<tr>
<td>Other fabricated metal products</td>
<td>26</td>
<td>11</td>
</tr>
<tr>
<td>Blowers and fans</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>Other electrical industrial apparatus</td>
<td>23</td>
<td>36</td>
</tr>
<tr>
<td>Sheet metal work</td>
<td>21</td>
<td>67</td>
</tr>
<tr>
<td>Iron and steel foundries</td>
<td>14</td>
<td>79</td>
</tr>
<tr>
<td>Other apparel and textile products</td>
<td>13</td>
<td>56</td>
</tr>
<tr>
<td>Corrugated and solid fiber boxes</td>
<td>10</td>
<td>41</td>
</tr>
<tr>
<td>Rubber and misc. plastic products</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Special industrial machinery</td>
<td>1</td>
<td>49</td>
</tr>
</tbody>
</table>


The composition of this list indicates that Cleveland’s role in the U.S. manufacturing economy may be evolving in two directions. First, Cleveland is enjoying more than its share of the growth of a number of fast-growing industries. Second, Cleveland is finding or preserving a number of what might be called "market niches." Many names for industry groups that are doing best in the Cleveland area include the words "miscellaneous" or "other." Those terms indicate that Cleve-
land area firms are succeeding in producing products that do not fit neatly into traditional categories. Although more analysis would be needed to determine exactly why Cleveland has been succeeding in these areas, the combination of national winners and "market niches" amounts to a sound industrial strategy for any city.

BENEATH THE SURFACE: CLEVELAND'S WAGES

The causes and effects of wage levels, especially in manufacturing, are naturally controversial topics. Executives of firms with plants in the Cleveland area frequently claim that they can get the same work done elsewhere in the U.S. at half the hourly total labor cost Cleveland's workers charge and at even lower wage rates abroad. Workers struggling to cope with the effects of a decade's high inflation are indignant at any suggestion that they are too well off. It is not our purpose here to determine definitively which side of the bargaining table is making the best debating point. Instead, we present a collection of information that helps diagnose some aspects of the Cleveland area's manufacturing labor cost issue and examines some of its causes.

In 1977, the average manufacturing employee in Cleveland received $7.06 per production hour in Cleveland, a rate that exceeded the national average by 20 percent. This does not mean, however, that the average Cleveland manufacturing employer pays his workers 20 percent more than his competition does. Cleveland's concentration of employment in the high-wage automobile and steel industries (with hourly wages in 1977 of $9.28 and $9.88, respectively) raises the average for the entire area's manufacturing work force. On an industry-by-industry basis, the differences between Cleveland's average wage and the national average are less startling. The $9.88 per hour wage in basic steel production exceeds the national average for that particular industry by only four percent. Cleveland wages in automobile production exceed the national average by 11 percent.\footnote{High wages in the U.S. steel and automobile industries may be a problem for the U.S. economy as a whole and, therefore, for the Cleveland economy. We do not treat that issue here because, presumably, wages set by national contracts are beyond the control of the Cleveland community.} Wages in Cleveland's metalworking machinery industry almost equal the national average in that industry.

Still, as Table 5 indicates, Cleveland wages in most manufacturing industries exceed the national average, sometimes by substantial amounts. Furthermore, comparisons with the national average do not
reflect the full wage difference between Cleveland and areas with which Cleveland is competing for new jobs. Often a manufacturer must choose between expanding a plant in Cleveland or opening a new plant in a rural area or in the southern states. Comparing Cleveland wages with those paid in the nine fastest growing southern states better illustrates the options available to employers. These wage comparisons are shown in the second column of Table 5. Even those figures probably do not reflect the full difference in total labor costs between Cleveland and the south because the data do not include information on fringe benefit packages or differences in work rules.

Table 5

MANUFACTURING WAGE COMPARISONS, 1977

<table>
<thead>
<tr>
<th>Manufacturing Industry</th>
<th>U.S. Average</th>
<th>Southern States Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary metal products</td>
<td>10</td>
<td>31</td>
</tr>
<tr>
<td>Fabricated metal products</td>
<td>12</td>
<td>34</td>
</tr>
<tr>
<td>Nonelectrics, machinery</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>Electrical machinery</td>
<td>15</td>
<td>38</td>
</tr>
<tr>
<td>Transportation equipment</td>
<td>17</td>
<td>56</td>
</tr>
<tr>
<td>Food and kindred products</td>
<td>6</td>
<td>37</td>
</tr>
<tr>
<td>Textile mill products</td>
<td>-6</td>
<td>-4</td>
</tr>
<tr>
<td>Apparel and other textile products</td>
<td>58</td>
<td>76</td>
</tr>
<tr>
<td>Furniture and fixtures</td>
<td>28</td>
<td>47</td>
</tr>
<tr>
<td>Paper and allied products</td>
<td>-13</td>
<td>-14</td>
</tr>
<tr>
<td>Printing and publishing</td>
<td>6</td>
<td>27</td>
</tr>
<tr>
<td>Chemicals and allied products</td>
<td>-5</td>
<td>2</td>
</tr>
<tr>
<td>Petroleum and coal products</td>
<td>-31</td>
<td>4</td>
</tr>
<tr>
<td>Rubber and plastic products</td>
<td>-10</td>
<td>-10</td>
</tr>
<tr>
<td>Stone, clay and glass products</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Instruments and related products</td>
<td>-6</td>
<td>19</td>
</tr>
<tr>
<td>Miscellaneous manufacturing</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Average all industries</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>Average weighted by employment</td>
<td>20</td>
<td>53</td>
</tr>
</tbody>
</table>

The data we do have, however, indicates clearly that Cleveland employers in most industries do pay higher wages than their competitors. What effect does this "Cleveland wage premium" have on the metropolitan area's economic growth?

THE EFFECTS OF WAGES ON ECONOMIC GROWTH: AMBIGUOUS FINDINGS

A simple argument highlights the potential importance of wages as a determinant of a region's economic growth rate.

- Firms choose locations so as to make the greatest profit.
- High wages reduce profits.
- Wage differences across regions are substantial.
- Therefore, everything else being equal, regions with low wage rates will have higher growth rates than regions with high wage rates.

This argument justifies serious consideration of the wage issue: its logic suggests that high wages deter regional growth, but does not address whether they are the only deterrent, an important one of many deterrents, or are relatively unimportant compared with other factors affecting regional growth.

Assessing the role of Cleveland's high wages in its sluggish economic performance is a complex research undertaking. The findings we summarize here do no more than begin that task. Our initial analysis was based on this reasoning: If wages are either the sole or the single most important determinant of economic growth, Cleveland industries whose wages most exceeded the national average should have grown most slowly in Cleveland over the last decade compared to that industry's performance nationwide. Conversely, Cleveland industries whose wages are comparatively low should have grown most rapidly. As Table 6 indicates, that expectation was not confirmed by the data. Industries with moderate increases in U.S. market share, on average, had higher than average wages. Industries that declined rapidly had wages that were about equal to the national average. In other words, we found no relationship between a Cleveland area industry's growth rate and its average wage compared to the national average for that industry. Furthermore, this table shows the results of only one of several tests we conducted to identify the relationship between wages and local economic development. None of these tests yielded clear results in the expected direction.

What does this finding mean? It certainly does not mean that high
Table 6
CHANGE IN CLEVELAND SMSA SHARE OF U.S. PRODUCTION AND CLEVELAND-U.S. WAGE COMPARISON

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid increase (+30% or more)</td>
<td>95</td>
</tr>
<tr>
<td>Moderate increase (+5% to +29%)</td>
<td>120</td>
</tr>
<tr>
<td>About same (−4% to +4%)</td>
<td>104</td>
</tr>
<tr>
<td>Moderate decrease (−5% to −29%)</td>
<td>105</td>
</tr>
<tr>
<td>Rapid decline (−30% or more)</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
</tr>
</tbody>
</table>


aAverage wage ratio for 84 Cleveland SMSA manufacturing industries, grouped by changing share of employment in national counterpart industries.

Wages are never an impediment to regional growth. Our test was much too crude to allow us to reject the logically compelling argument that wages do affect growth. Observers of the Cleveland economy can point to many specific instances in which firms decided to locate new production lines outside of Cleveland mostly because wages were much lower elsewhere. The evidence does mean that high industry wages are neither obviously the sole determinant nor obviously the most important determinant of industrial growth in Cleveland. The Cleveland community should look into a wide range of possible causes of slow economic growth, including labor availability, entrepreneurial environment, capital infrastructure, and technological competitiveness, to name a few.
WHY ARE CLEVELAND'S WAGES HIGH?

As high as local wages may be, U.S. workers do not appear to be flocking to the Cleveland area to take jobs at those wages. During the last decade, Cleveland wages across industries and occupations were higher than the national average and the Cleveland area’s unemployment rate was lower than the national average, but the population of the Cleveland metropolitan area still declined. This means that some former Clevelanders were willing to leave the area to wait in lines for jobs that were likely to pay less than in Cleveland. There must, therefore, be some disadvantages to living in Cleveland that outweigh the wage premiums Cleveland’s workers command. What might those disadvantages be, and can they be remedied locally?

Although the cost of living in Cleveland is lower than that of many metropolitan areas, it is at a disadvantage compared to other regions now competing for manufacturing investment. The annual cost of maintaining an intermediate standard of living for a family of four in metropolitan Cleveland exceeded the national urban average by about 2 percent in 1974 and the equivalent figure for southern non-metropolitan areas by close to 20 percent. Specific budget items that account for this difference are the cost of homeownership (including utilities), which was almost 70 percent higher in Cleveland than in the nonmetropolitan south, the cost of medical care (13 percent higher in Cleveland), and income taxes (34 percent higher).

A second set of wage determinants are the specific amenities and disamenities associated with life in Cleveland. There are several of both. For example, among similarly sized metropolitan areas, Cleveland had by far the best set of cultural institutions. By contrast, Cleveland’s climate was poor by most commonly accepted measures and its violent crime rate was high.

A final factor that can raise local wages is the quality of local industrial labor relations. It is difficult to measure this factor, but we know that Cleveland, even given the industrial composition of its economy, has a highly unionized work force and that the percentage of work time lost as a result of work stoppages tends to be high in Ohio, even in comparison with other industrialized north central states.

Not all the factors that raise Cleveland’s wages can be remedied by community action. In a typical family budget, for instance, only medical costs might be subject to some degree of local control through health care planning. Some amenities associated with living in Cleveland are more directly subject to local manipulation. Nothing can be

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4Cleveland’s amenities were compared with those of Atlanta, Baltimore, Denver, Minneapolis, Pittsburgh, St. Louis, San Diego, and Seattle.
done about the weather, but local action certainly might affect the
violent crime rate. Local action can also help preserve Cleveland's
chief amenities such as the area's cultural institutions.

Our analysis suggests that although direct attention to labor rela-
tions in certain industries may very well be in order, the attention of the
community as a whole should be focused on the underlying causes of
high wages. Community action should emphasize enhancing Cleve-
land's advantages as a place for workers to live.
III. POLICY DIRECTIONS

THE CONTEXT IN WHICH POLICY IS MADE

A metropolitan area as large as Cleveland generates ideas for economic development policies, programs, and projects at a high rate. Some of those ideas are accepted by enough of the community's leaders to be implemented. Of those that are, some meet their objectives and others do not. The function of economic analysis in this process is to increase over time the proportion of implemented projects that are successful. By producing and disseminating a more realistic view of how the local economy works and what its strengths and weaknesses are, analysts can decrease the likelihood that the community will be sold on misguided projects.

On the basis of our work to date in Cleveland, we are able to suggest a number of principles and points of fact that regional leaders should keep in mind when they consider specific action proposals for development. In this section, we highlight several of the most important.

Most basic of all is the understanding that community actions alone cannot determine an area's prosperity. The condition of the local economy depends more on how well Cleveland's entrepreneurs and plant managers respond to the changes they perceive in the U.S. and world economies.

Our analysis demonstrates that much of the change in the Cleveland area economy during the 1970s was strongly influenced by national forces. This implies that actions to promote economic development will be most effective if they explicitly recognize—not run counter to—changing conditions nationally. Given the recent volatility of events at that level, it also implies that metropolitan leaders need to keep close watch over national and international trends so that opportunities and threats can be recognized expeditiously.

THE IMPORTANCE OF MANUFACTURING

This report reemphasizes the importance of the durable goods manufacturing sectors to the Cleveland economy. We have noted that the Cleveland area's specialty within this sector is as a producer of semifinished metal goods and producers' durables—machine tools, electri-
cal industrial equipment, and, more and more, instruments. A number of the narrowly defined industries within this broad grouping have been performing very well. Some have been riding national trends: the instruments industry, for example. Others have been doing well in Cleveland despite a poor national record.

Efforts to expand the export activities of some of the service sectors may pay off, but it is unlikely that these industries will sell enough outside the metropolitan area to replace manufacturing as the core of the Cleveland area's economic base. So, in a sense, the region is still wedded to its traditional strengths. Additional threats to this strength should be viewed very seriously. Community leaders should always be ready to give local manufacturers and their trade associations a sympathetic hearing when problems call for public attention. Proposals for community action to enhance Cleveland's competitiveness as a producer of manufactured durables should always be welcomed and carefully reviewed.

We found that these industries were indeed threatened by a number of trends, some of which might be altered by community action. For instance, representatives of the machine tool and fabricated metal industries reported the absence of highly skilled manpower. Labor requirements most often mentioned were for younger journeyman machinists and electronics technicians. We did not conduct an analysis of the supply and demand for manpower with specific skills; that task should await the release of the 1980 census. However, we can recommend that possible shortages of technical manpower be given attention. That analysis should focus on whether or not there is a shortage of given types of labor and then on why the shortage has arisen. Proposed solutions should not be adopted unless they are based on sound diagnoses of real problems. Otherwise, skilled workers, trained at Cleveland's expense, may remain unemployed or take jobs in other regions.

A second set of problems of the semi-finished and investment goods industries has to do with their small average firm size. Small firms with aging owners may find it difficult to respond to changes in markets, products, and production technology. Because small durable goods manufacturing firms are such an important part of Cleveland's economy, their potential problems deserve considerable attention. Community programs to market products or develop and disseminate "appropriate" technical assistance might help, as might short-term management training programs for owners of small firms. A more careful analysis of the operations and problems of firms of various sizes and the attitudes of their owners, however, should precede formal action. It is not necessarily the case, for example, that all firms can benefit from innovations in "high technology"; some might make
better use of consulting assistance on inventory control, production timing, and workspace utilization.

HOW DO SERVICES FIT IN?

Several nonmanufacturing industries show promise of playing an important role in Cleveland's future. One of these, the medical and health services industry, is in a sense free-standing. The University Hospitals and the Cleveland Clinic may make the city a medical center for a region larger than the metropolitan area. Also, health services has been the most rapidly growing industry nationwide. However, major changes in federal health policy make the future of this industry highly uncertain. If Cleveland wishes to retain or enhance its position as a regional leader in advanced health care, concerted community action will have to replace much of the support the federal government has provided over the last decade. Our analysis of this industry did not go far enough to identify the optimal distribution of community resources between high-level medical research and primary care for those no longer supported by Medicaid. We did learn, however, that some difficult choices will have to be made in the very near future.

Other nonmanufacturing industries that appeared to be doing well in Cleveland are closely linked to the manufacturing sectors. This suggests that part of Cleveland's service sector strategy should focus on exploiting interactions between the two broad sectors. One obvious example of potential synergy is the medical technology industry. A study by the Midwest Research Institute indicated that Cleveland already has substantial resources in this field. Proposals to encourage development of those resources should be given serious consideration.

Cleveland might also enhance its role as a center for distribution and marketing of producers' durables. Business services aimed at durable goods manufacturers—engineering and design consultants, trade associations, trade journal publishers, private technical educators, and so on—could expect significant local demand on which to base potential export growth.

Finally, the Cleveland area's role as a headquarters location for large firms is of great importance to its economic base. In 1978, the Cleveland area was the home of 38 of Fortune's top 1000 industrial firms, placing it third among all U.S. metropolitan areas. Employment in headquarters' offices grew rapidly in metropolitan Cleveland in the 1970s. Although national employment in that category increased more rapidly, the gap was narrower here than in most other
components of the local service sector. In addition to its employment base per se, the fact that so many of America's industrial leaders are Cleveland area residents is a substantial strength. Community action should recognize that strength and facilitate expansion in this sector wherever possible. Attention to the quality of regional life, to local, national, and international passenger transportation, and to the availability of high-quality clerical and information processing personnel can help ensure that corporate headquarters will find what they need in metropolitan Cleveland.

MINORITY CONCERNS

In any major metropolitan area, successful development policy must serve a variety of interests. In Cleveland, the interests of the Black community command attention. As we have seen, if 1970 data are a reliable indicator, an emphasis on Cleveland's key manufacturing industries along with a service sector strategy that emphasizes linkages with manufacturing may not work very well to solve the problems of that community. A development strategy with potential for eliciting minority support might have three elements: immediate job creation, affirmative action, and training.

Immediate job creation for Blacks might involve growth of some of the sectors that employ large proportions of minority workers: hotels, personal services, food processing, public employment, and so on. However, a strategy that relied only on that approach would confine minorities to low-paying, low-status occupations. Integrating Blacks into Cleveland's economic mainstream requires affirmative action, but training may be more important in the long term. Programs aimed at training minorities for jobs available in the durable goods industries and emerging technical fields should be emphasized. For example, enhancing the vocational education capabilities of the Cleveland public school system should be high on the community's agenda for reforming that troubled institution.

CONTINUED ECONOMIC MONITORING

Our analysis demonstrates that surface trends offer poor guidance to those who would further economic development in the Cleveland area. The metropolitan economy is surprisingly complex. Policies that are not based on a more complete understanding might well result in missed opportunities and resources focused on the wrong problems.
This underscores our view that an ongoing economic monitoring capability is much needed in the Cleveland area. A well-trained staff of economists and policy analysts who devote their attention to the metropolitan economy could become an invaluable resource to community leaders who find themselves confronted with varied proposals for economic development.

Our work suggests two efforts that deserve high priority in future economic monitoring. The first is to develop methods for translating observed or predicted changes in the U.S. and world economies into their effects on the Cleveland area economy. These methods should take into account the pattern of interactions that exists among economic sectors. Also, as part of this effort, the monitoring group should draw on local specialists to build and maintain an expert understanding of national and worldwide markets for each of the Cleveland area’s export products.

These capabilities would be valuable not only in guiding local policy. If authoritative information on the local effects of changing state and federal policies was rapidly made available to Cleveland area officials, they should be able to exert stronger influence on those policies in Columbus and Washington.

The second effort entails more detailed analysis of problems and opportunities in narrowly defined industries. Our findings show that data on broad industry groupings alone can offer a misleading picture of the local economy, averaging out much of the diversity that must be understood for sound policy development. It is important for Cleveland to track the progress of its key industries, especially by involving managers and workers with useful insights into their industry’s economic future. Conducting indepth case studies of the machine tools or metal stampings industries, for example, an economic monitoring group could facilitate communication between industry leaders and the community as a whole.

In addition to these broad tasks, the monitoring group should set up a medium-term agenda of issue analysis. As new problems arise, as new solutions are proposed, and as research findings are reported, new questions about the Cleveland area economy will take shape. Our initial assessment of the metropolitan economy has generated a list of such questions. Those that deserve a high position on the monitoring group’s agenda include:

- Are there major shortages of needed occupational skill categories in Cleveland?
- What problems face small manufacturing firms in Cleveland and what community actions might alleviate those problems?
- What are the major financial needs of the Cleveland health
services industry, and what strategies for meeting those needs would best enhance the prospects for the "export" of health services?

- Do the 1980 census figures reveal a substantial integration of the minority community into Cleveland's economic mainstream?

- Does metropolitan Cleveland's particular combination of taxes and public services enhance or detract from the region's attractiveness as a place to live and do business? What changes could improve the performance of the local public sector with respect to economic growth?

Our analysis does not suggest that the Cleveland metropolitan economy has a secure future, but it has pointed out a number of ways in which local industries are coming to grips with their new environment. Through recent public and private sector initiatives, Cleveland's leadership has demonstrated that it is laying a foundation for a more solid future—for example, by stabilizing the city's fiscal situation and improving its management, and by establishing new institutions to bring diverse groups together to deal with local problems. We believe that continued economic monitoring can contribute much to the effectiveness of such initiatives in addressing economic development issues.