

PRELIMINARY 1980 CENSUS COUNTS: WHAT LIES AHEAD FOR NEW JERSEY

Proceedings
A State Data Center Sponsored Conference
November 12, 1980

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STATE OF NEW JERSEY

Brendan Byrne, Governor

DEPARTMENT OF LABOR AND INDUSTRY

John J. Horn, Commissioner



DIVISION OF PLANNING AND RESEARCH

Office of Demographic and Economic Analysis

C N 388, Trenton, New Jersey 08625

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PREFACE

On November 12, 1980, the New Jersey State Data Center (NJSDC) sponsored a conference entitled, "Preliminary 1980 Census Counts: What Lies Ahead for New Jersey," at the Rutgers University Busch Campus Center. Representatives from the NJSDC's Technical Advisory Council, as well as recognized experts from local and state government, participated in this conference. This report represents the proceedings and summaries of the participants' presentations.

For those unfamiliar with the NJSDC program, an overview of the program is summarized in the introductory remarks of Arthur J. O'Neal. Also included are the agenda and list of speakers.

The NJSDC appreciates the assistance of John Cooney, Executive Assistant for Community Affairs, Rutgers University, in making the arrangements at Rutgers University. Additionally, the cooperation and support provided by personnel of the Office of Demographic and Economic Analysis (Division of Planning and Research, Department of Labor and Industry) was integral to the success of the conference.

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**PRELIMINARY 1980 CENSUS COUNTS:
WHAT LIES AHEAD FOR NEW JERSEY**

**** A G E N D A ****

- 8:30 Registration & Coffee
- 9:00 Welcome *John Cooney, Community Affairs,
Rutgers University*
- 9:10 Introduction *Arthur J. O'Neal, NJ Department
of Labor & Industry*
- 9:20 The Uniqueness of the 1980
Census *William Hill, U.S. Bureau of
Porter Rickley, the Census
John Kuntz,*
- 9:45 Overview: The Basic Demogra-
phic Phenomena *Shirly A. Goetz, ODEA, NJ Depart-
ment of Labor & Industry*
- 10:10 Audience Questions
- 10:30 Break
- 10:45 Session I: New Jersey's Labor
Force in the 1980s *Arthur J. O'Neal, Chair, NJ Depart-
ment of Labor & Industry*
- The Structure of New Jersey's
Labor Force *Connie O. Hughes, NJ State Data
Center, NJ Dept. of Labor & Industry*
- Cyclical Consequences of the
Long-Run Shifts in Industrial
Employment *Geoffrey H. Moore, Center for Inter-
national Business Cycle Research,
Rutgers University*
- New Jersey Industry's Need
for a Trained Labor Force *Robert Woodford, NJ Business &
Industry Association*
- 12:15 Lunch

New Jersey State Library

1:30	Overview: The Broad Implications for Planning in New Jersey in the 1980s	<i>George Sternlieb, Center for Urban Policy Research, Rutgers University</i>
2:00	<u>Session II:</u> Planning for the 1980s in New Jersey	<i>Richard Ginman, NJ Department of Community Affairs, Chair</i>
	Business Retention in New Jersey's Cities	<i>Jon Spinnanger, NJ Bell Telephone Company</i>
	Housing Programs and Implementation in Trenton	<i>Thomas Ogren, City of Trenton, Department of Housing & Development</i>
	Health Care Planning in New Jersey	<i>Jack Hornung, Greater Essex Hospital Council</i>
	Planning for Higher Education	<i>Lewis Dars, NJ Department of Higher Education</i>
3:30	Audience Questions	
4:00	Adjournment	

PRELIMINARY 1980 CENSUS COUNTS:
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November 12, 1980

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INTRODUCTION
PRELIMINARY 1980 CENSUS COUNTS:
WHAT LIES AHEAD FOR NEW JERSEY

Arthur J. O'Neal, Assistant Commissioner
Department of Labor and Industry

This conference is part of a continuing program of State Data Center sponsored conferences on timely topics of demographic and economic interest. The purpose of today's conference is to address the potential implications of the 1980 census counts for some important planning and policy issues in New Jersey, including the labor force, business, housing, health, and higher education. Several of our speakers are drawn from a component of the Technical Advisory Council of the State Data Center. We have also invited representatives from the U.S. Bureau of the Census, as well as experts in other areas.

The speakers who are members of the Technical Advisory Council will be fulfilling part of their function as members of this council, which is to assist the State Data Center in identifying demographic and economic analysis and impacts of current trends.

To provide you with a background of how this group fits into the overall structure of the State Data Center, and for those of you unfamiliar with the program, I'd like to briefly outline it for you.

On February 29, 1980 Governor Byrne signed the Joint Statistical Agreement between the State of New Jersey and the U.S. Bureau of the Census establishing the New Jersey State Data Center. The State Data Center program is a Federal-State cooperative effort. Approximately 25 states have joined the program to date and it is hoped that all states will participate.

The objectives of the State Data Center are: to expand accessibility to, and user awareness of, Census Bureau data and resources; to provide technical assistance to data users in state and local government, private industry, academia, and community and nonprofit organizations; to provide user-oriented training in census products;

and to provide analytical support for research, planning, and decision-making applications.

The Division of Planning and Research, within the Department of Labor and Industry, is the lead agency in this program and as such serves as the coordinator. The State Library, Rutgers - The State University, and Princeton University are primary participants. They maintain collections of census publications, participate in training, and assist with data user requests.

In order to promote an even distribution of services to all areas of the state, Affiliate Data Centers or "branch" offices of the Data Center have been established in the state's 21 counties. The county planning boards serve in this capacity in all but Somerset County, where the county library fills this function. In addition, many of the state's libraries are working in cooperation with the planning boards.

A unique feature of the New Jersey State Data Center program is that Satellite Offices or additional "branch" offices have been established in each agency of the executive, legislative, and judicial branches of state government. These offices act as the initial point of contact for census data users within each state agency.

The Advisory Council of the State Data Center consists of four subcommittees, each having a separate function. The Management Subcommittee assists in the management, coordination, and planning of training workshops, and data user services. The Computer Subcommittee assists in the coordination of census tape processing. The Affiliate Network Subcommittee assists in the coordination of the planning boards and libraries and the sharing of resources and services.

The fourth subcommittee of the Advisory Council is the Members-at-Large component. This is the group from which several of today's speakers have been drawn. The purpose of the Members-at-Large component is to ensure that the State Data Center meets the needs of the data user community and to aid in the determination of conference agendas and the identification of current demographic and economic data issues which would be of most concern to researchers and decisionmakers.

The Members-at-Large represent all segments of the data user community. They were selected in an attempt to include a broad spectrum of the state's user interests. They include persons representing business, academia, and local government, including recognized technical experts in their respective fields.

Dr. Geoffrey Moore from the Center for International Business Cycle Research at Rutgers in Newark, Dr. George Sternlieb from the Center for Urban Policy Research at Rutgers in New Brunswick, and Dr. Julian Wolpert from the School of Architecture and Urban Planning at Princeton University are nationally known for their respective research in labor and business cycle economics, urban problems, planning, and demographics.

Ray Petterson formerly served as Director of the Governor's Office

of Policy and Planning and has been actively involved at Bell Telephone in gathering and improving census and other data bases for the state's urban areas. Jon Spinnanger is representing Mr. Petterson on this afternoon's panel.

Jack Hornung, who was formerly head of the state's Hospital Association and currently is Executive Director of the Greater Essex Hospital Council, has long been concerned with census and population related data issues as they affect health planning.

John Taylor, who was unable to be present, is the president of the New Jersey League of Municipalities, which has exhibited a vital interest in population and other data issues related to planning and grant allocations.

Representing the New Jersey Business and Industry Association is Robert Woodford, who is the association's Vice President for Policy Development. He has worked with most of its policy committees and presently staffs its education committee.

In addition to the above named members of the State Data Center's Technical Advisory Council, we are fortunate to have with us representatives of both the New York and Philadelphia Regional Census Bureau Offices. Bill Hill is Director of the New York Regional Office; and, from the Philadelphia Regional Office, Porter Rickley, the Director, John Kuntz, Assistant Regional Director, and Tom Heuring, Assistant Regional Director are here to speak.

The other speakers include Shirley Goetz, Assistant Director of the New Jersey Department of Labor and Industry's Division of Planning and Research. The State Data Center program is one of the many programs for which Ms. Goetz is responsible. Representing the State Data Center is Connie Hughes, who has direct responsibility for the program.

Richard Ginman, Director of the Division of Planning, Department of Community Affairs, will chair the afternoon panel session. Also on this afternoon's panel are Dr. Lewis Dars, Director of the Department of Higher Education's Office of Research and Manpower, and Tom Ogren, Director of Trenton's Department of Housing and Development.

A list of all of these speakers has been included in the package of materials distributed to you at the door.

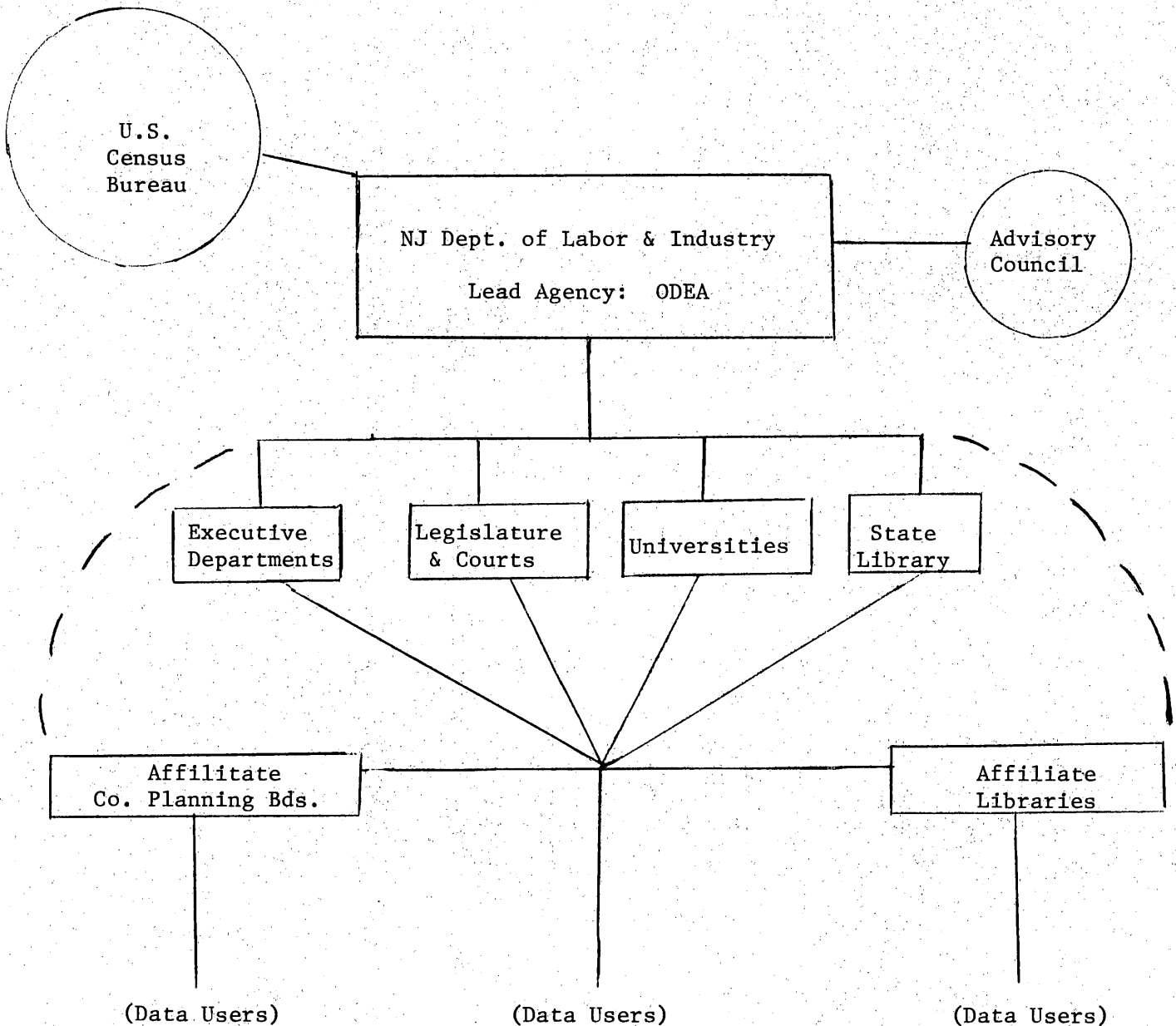
I think you'll find that today's agenda is quite good and that the speakers are interesting and informative. Time has been allotted for audience questions. I'm sure that the speakers will be more than happy to answer your questions, but please hold them until the time designated.

At this time I'd like to turn the floor over to Shirley Goetz, who will present the representatives from the Census Bureau.

NEW JERSEY STATE DATA CENTER
ORGANIZATIONAL CHART

The New Jersey State Data Center is a cooperative effort among federal, state, and local government to meet the growing demand for census statistics by improving access to and use of census data, offering technical support, and providing user training and other related services.

In New Jersey, the State Data Center consists of a consortium of state government and universities, and a network of County Planning Board affiliates and libraries. It provides a system of data access throughout the state. Within the New Jersey Department of Labor and Industry, the Office of Demographic and Economic Analysis (ODEA) is the lead agency of the State Data Center.



THE 1980 CENSUS

John Kuntz and Tom Heuring
Philadelphia Regional Office
U.S. Bureau of the Census

There is no statistical measure of the 1980 undercount, but the Census Bureau has estimated the U.S. population to be 222 million as of April 1, 1980, and the census count was about 226 million. A rough estimate of the 1980 undercount was put at about 0.5% or about 1 million people missed.

The 1970 census undercount was 2.5%, and two goals for the 1980 census were to reduce the undercount and to "make it more level" across racial, ethnic groups. Ten (10) years of planning were done to prepare for the 1980 counts. Specific efforts involved special publicity in minority areas, the formation of a minority statistics program advisory committee, and community services personnel in the district offices. There were committees for blacks, Spanish origin, and Asian and Pacific Islander groups. Members of the committees reviewed census procedures and advised the Census Bureau. The National Services Program provided speakers at conventions to discuss and promote the 1980 census. The community services program assigned people to local areas to bring the work of the census to minority groups. Workshops on census forms were done in Trenton and Camden. The Ad Council provided free publicity under an agreement with the Census Bureau. A committee of 80 leaders in the broadcasting industry worked on the publicity. Minority publications and newspapers were used to reach minority populations.

There were several technical changes in the 1980 census to improve coverage. A much larger mail census was conducted in 1980 - 90% mail and 10% door to door. This compares to 60% mail in 1970. New Jersey was 100% mail. In 1970 there was a 2.5% miss rate overall but only a 1.6% miss rate for mail and 3.9% for door to door. In 1980 every prepared mail list was precanned by enumerators. Again, 1970 results showed that this procedure would reduce the miss rate. Additional editing procedures at the district office level were introduced.

There were several other programs in 1980 to improve coverage. Special efforts to reach transient populations and "causal count operations" (6 weeks after census day) were carried to find people away from or who do not have usual residences. A non-household sources program was instituted to identify persons missed by using drivers license records and other lists. Persons found in this way were contacted, if missed by the census. Single persons and the 18-35 age group were the special targets of this program. Finally, the Local Review Program supplied 40,000 communities nationwide with an early look at census housing, population, and vacancy figures for review. The main type of problem found was geographic, that is, counts in wrong area rather than missed.

OVERVIEW: THE BASIC DEMOGRAPHIC PHENOMENON

Shirly A. Goetz, Assistant Director
Office of Demographic & Economic Analysis
Division of Planning and Research
Department of Labor and Industry

When this November 12 conference was first planned, New Jersey had been assured by the Census Bureau that preliminary 1980 census counts of total population and housing units would be available for every municipality in the state by no later than October 12, 1980. Certainly, the track record made that assurance credible: 1970 preliminary counts were released by September 1970 for the entire state. But today we have 1980 preliminary figures covering only 8 of New Jersey's 21 counties, with all counties except Essex now scheduled for release by the end of November, and Essex preliminary numbers promised by early December 1980.*

In all fairness to the Census Bureau, I believe that they have traded timeliness for a more accurate set of preliminary figures. Although the preliminary figures may differ from the official counts of total population, which will be certified to the President on January 1, 1981, the preliminary or so-called press release counts will probably not differ very much from the official counts. The 1980 preliminary figures have been subjected to substantially more scrutiny and checking by the district, regional, and headquarters staff than was ever done in prior censuses.

Although the counts have not yet been tallied for all of New Jersey or for the entire country, it appears that when they are, the 1980 census could very well produce one of the most complete counts in our history. If this proves to be the case, a lot of groups and individuals inside and outside of government can share the credit. First, the Census Bureau made several major improvements in the way it takes a census. Better coverage techniques are one example which, if present trends hold, enabled them to count about 88 million housing units nationwide or about 2 million units

*As of March 1981, 1980 census counts of population and housing stock for all New Jersey municipalities are available.

more than they had expected to find. Second, the 1980 Census apparently benefitted from an intensive, extensive, and sustained publicity campaign designed and implemented as a public service by the National Advertising Council and the mass media. It has been estimated that almost \$40 million in media time and space were donated free to 1980 census messages, ranking the census third in its time period behind McDonalds and Ford. All avenues of the mass media cooperated, including network and local television, radio, magazines, and newspapers. It has been estimated that between January and June 1980, every man, woman, and child in this country was exposed to over 100 census messages urging public cooperation with census. Third, the dedication of many individuals and groups which adopted the 1980 census as their project contributed to the apparent success of the census in reaching a greater percentage of the population than ever before. In New Jersey, as well as elsewhere, the Boy Scouts of America, companies, churches, civic groups, local governments, and New Jersey state government worked throughout the state to spread the 1980 census message: "We're counting on you. Answer the Census."

Apparently, people did answer the census, not only in New Jersey but throughout the nation. On April 1, 1980 (Census Day), the Census Bureau estimated that they would count almost 222 million people. This was based on the 1970 census count of 203 million to which was added the ten year total of about 33 million births and 4 million net immigrants and from which was subtracted the ten year total of approximately 19 million deaths. In 1960 and 1970 the total population estimates computed in this way came very close to the actual counts nationwide. For example, the 1960 estimate was off by only 3,000 and the 1970 estimate, by 379,000 or less than two tenths of one percent from the actual 1970 census count.

If the present trends hold throughout the tallies, the 1980 census count will approximate 226 million or 4 million more people than the Census Bureau expected to find.

What does this imply for the undercount? In 1970, the Census Bureau estimated that they missed 5.3 million people or 2.5% of the population nationwide in the census. In 1980, preliminary estimates would put the undercount at about the 1 million mark or less than one half of one percent. Even if the 226 million count proves correct in final tallies of the 1980 census, and the preliminary estimates of the undercount analysis are backed up by the post-enumeration survey, the reduction in the undercount may not be as great as it first appears due to illegal aliens, who are probably not counted or estimated accurately by any census or statistical techniques. It remains to be seen from later analysis of how the undercount breaks down by age, race, Spanish origin, sex, and geographical location before a final determination of the accuracy and completeness of the 1980 census can be made.

Nevertheless, the preliminary indications for an accurate count look promising. But where did the Census Bureau find the extra 4 million people? Apparently, not in New Jersey and, generally speaking, not in the Northeast or Midwest, but apparently in several sunbelt states.

In New Jersey, the Census Bureau expects to come up with a population count that comes very close to the trends estimated by the Department of Labor and Industry and the Census Bureau during the 1970s--about 7,345,000 give or take 10,000, which compares with a July 1, 1978 estimate of 7,332,000. If this proves correct, the state will have grown by less than 200,000 or a little more than 2% during the decade of the 1970s. From the rapid growth rate of 26% during the fifties and 18% during the sixties, New Jersey's population appears to have stabilized. Stabilization is the result of two factors--low fertility rates (New Jersey followed the national pattern) and a reversal in net migration (New Jersey became more like its neighboring states, which have experienced significant outmigration). By now everyone is familiar with the baby boom which started after World War II and lasted in New Jersey until the early 1960s, followed by the baby bust during the mid and late sixties and throughout the 1970s. With fewer babies being born in the state, migration became more important as a deterrent of population growth during the seventies. Sometime during the early part of the decade, more people began to move out of New Jersey than into the state, reversing the pattern of the 1950s and 1960s. Although the magnitude of outmigration was small (probably less than 2% during the decade), the result combined with declining fertility meant stabilization of the state's population. Therefore, when the census results are tallied, New Jersey can be expected to lose its number 8 ranking, which it held in 1970, and drop to number 9 behind Florida in total resident population.

Since the Census Bureau and this Department have had so much apparent success in estimating the overall state population, I can go a step further and forecast what I expect the 1980 census to tell us about the people in this state and where they are located. Primarily because of the aging of the post-war baby boom generation into their 20s and early 30s and the baby bust generation of the 1970s, I would expect New Jersey's 1980 population to be older than in 1970, with average age in the early to mid 30s. The racial mix would be similar to 1970, with 88% white and 12% nonwhite. In 1980, Spanish heritage will have increased to about 6% of the state's population. The 1980 census should document a big drop in household and family size in the state, with large increases in the number of non-family households headed by females, single person households, and single person households headed by those over 65 years of age. Educational attainments will have increased, paralleling U.S. gains and rising significantly beyond the high school diploma for the average New Jersey adult.

Geographically, there are wide ranges in growth throughout the state. The counties with the fastest rates of growth appear to be those with low population density such as Ocean, Cape May, Sussex, and Hunterdon. The center of the state's population appears to be shifting south in response to the growth in the central and southern areas and loss of population in northern areas adjacent to New York City, such as Bergen, Essex, Hudson, and Passaic counties. The state's cities probably continued to lose population, with the largest declines centered in Newark, Jersey City, and Camden.

With the preceding as background, you will hear from other speakers on the implications of these expected demographic trends on the outlook in the 1980s for the state's labor force, business community, cities, housing, health care, and higher education.

Session I

New Jersey's Labor Force in the
in the 1980s

NEW JERSEY'S LABOR FORCE
AND THE IMPACT OF MIGRATION

Connie O. Hughes
State Data Center
Office of Demographic and Economic Analysis
Department of Labor and Industry

Although data are not available yet from the 1980 census to provide information on the structure of the state's labor force--and probably will not be available until late 1981, early 1982--evidence exists which can provide a background on what the structure can be expected to be.

First, let's examine New Jersey's labor force of the 1970s. According to estimates, the state's population grew by about 161,000 or 2% from 1970 to 1979. At the same time the size of the labor force expanded from 3 to 3½ million, or 19%. At a time when the state's population exhibited so little growth, what caused the state's labor force to expand so much more?

The three components of population change are births, deaths, and migration. As is by now the conventional wisdom, the decade of the 1970s was a continuation of the baby bust era, with couples choosing to have fewer or no children, or delaying childbearing for a number of reasons. The mid-to-late 1970s was also a time when New Jersey experienced a negative netmigration, albeit slight--to the tune of between -1 and -2 percent. These two factors--a reduction in the number of births and negative netmigration--resulted in reduced overall state population growth.

The three components of labor force change are entrants, exits, and migration. Of these three, the largest contributor to the increase in the size of the labor force during the 1970s were the entrants. By the late 1970s all of the baby boom generation were of labor force age--16 years of age and over. Additionally, overall total labor force participation has increased and of particular import is the increase of female participation. Thus, while the size of the state's population appears to be stabilizing, the numbers in the labor force grew considerably.

The age structure of the population had a great deal to do with this increase and has important ramifications for the structure of the labor force. The average age of the population has been moving upward as the baby boomers became adults. The population of New Jersey tends to be somewhat older than the national average, as do the populations of New York and Pennsylvania. The age groups that are experiencing, and will continue to experience, the most growth are the 18 to 44 year olds. There have been general declines in the number of persons below the age of 17.

What does the changing age structure of the state's population imply for the state's labor force and economy? Although the number of new entrants into the labor force will decline as the baby bust generation become young adults, potentially creating a lack of rejuvenation to the labor force, there are several positive aspects to the lessening in size of the youth population. And, the overall impact of the changing age structure on New Jersey and attendant implication for the labor force are not necessarily negative. Although there is a higher percentage of older persons and fewer 18-20 year olds in New Jersey than at the national level, from which the labor force can be drawn, there has been an increase in the number of persons of labor force participation age. Therefore, from the labor force supply side, the demographic trends in New Jersey are promising. The increase in the prime working age years should heighten productivity and lower unemployment due to the experience gained by the labor force through the maturation process. And as the bulges in the youth population decrease, the large adult bulge is favorable in terms of aggregate demand for housing, appliances, furniture, and related products, in turn creating more employment opportunities.

Labor force participation, as mentioned earlier, has been steadily increasing. This is the case at the national level, as well as in New Jersey. For males and females, New Jersey's labor force participation rates tend to be higher than the national average and even higher than those of New York and Pennsylvania. The increase in female participation rates have outpaced those for males.

The future of the labor force in New Jersey depends not only on population growth, but on the age structure of the population and the future levels of labor force participation. The growth of the labor force is influenced by the demand for labor, which reflects investment and employers' hiring decisions, and by several demographic trends, of which the most spectacular has been the rapid influx of women into the workforce. The changing pattern of retirement also affects labor force projections. In recent years, participation rates for men 55 years old and over have declined, reflecting the growing attraction of early retirement. But with the advent of legislation restricting mandatory retirement and the squeeze of inflation on retired workers who live on fixed pensions, participation rates could well increase for older workers. During the 1980s the baby boom generation will be of prime working age; even with all variables remaining the same, there will be an increase in the size of the labor force. And the number of females in the labor force will continue to increase as previously nonworking mothers join the labor force and women gain confidence and acceptance in the working world.

But the age structure and participation of population in the labor force are not the only factors which affect the labor force. The educational level and opportunities of an area also have an effect. Dr. Dars will discuss the impact of the changing age structure on higher education later. Two items which are important to note in the context of this presentation are that, in general, New Jersey tends to have higher levels of educational attainment than the nation as a whole, and (this might appear to be somewhat in contradiction) New Jersey is one of the largest net exporters of college students. What might be concluded is that while higher education may be sought out of state, persons with college education move to or return to New Jersey for employment.

So far I've indicated that the state's labor force of the 1970s and the 1980s will be older and thus more experienced, larger in size with more females, and perhaps better educated, particularly in light of the apparent trend toward a large share of persons seeking college education. What about its other characteristics?

Two characteristics of the labor force which are important for policy-makers, planners, industry, and business are its industrial and occupational composition. Dr. Moore will discuss how the shifts in the industrial structure have contributed to some of the trends indicated, such as more women working. And Mr. Woodford will address the suitability of the labor force and business' needs for labor. Therefore, I will only very briefly present the trends in industrial and occupational employment in New Jersey. Although New Jersey exhibited one of the largest decreases in the proportion of persons employed in manufacturing, in other sectors, particularly services, the state had among the highest gains in comparison to other areas of the nation. The experience of New Jersey was similar to the nation as a whole in terms of changes in occupational structure. The state's labor force is becoming more white-collar and service dominated. There appears to be a tendency for the industrial and occupational structure of an area's economy to reinforce each other. If New Jersey has the appropriate jobs, it can attract those seeking employment in professional, managerial type positions. But, the state will not attract manufacturing workers if the jobs are not present. On the other hand, there may be industries and businesses in place or considering locating in the state for which the appropriate labor are unavailable. Perhaps Mr. Woodford will have some solutions to this dilemma.

To this point I have discussed the growth of the labor force and some of its potential characteristics in the 1980s. I've indicated that the slowdown in the state's population since 1970 has not adversely affected the size of its labor force. The lack of population growth was attributable to a not particularly significant net outmigration. At the same time, the aging of the population, particularly those born during the baby boom years, and the increase in labor force participation, especially of females, resulted in an increasing labor force supply. The state's future labor force may differ from that in the past. It may be better educated and larger in size. There may be more females, and there may be fewer men over 55 years of age. The average age of the labor force will be increasing. There may be a more stable labor force as the surge of youth seeking their first jobs diminishes and as the labor force

becomes more experienced. The industrial and occupational structure of the state may change to meet the demands and supply of the labor force and population.

I've mentioned the negative netmigration during the 1970s of the total population and that migration is also one of the components of change in the labor force. I would like to now pose the question: What impact does migration have on the labor force? Specifically, what impact has the slight negative net migration of New Jersey in the 1970s had on its labor force? This question may be raised more if the state experiences increased net outmigration.

Migration is a highly selective process. That is, some groups are more likely to migrate than others. The process appears to be selective with regard to age, race, sex, income, education, employment status, and occupation. Other factors also produce migration.

Data relevant to answering the question are hard to come by. What is available is from the Social Security Work History Sample and refers to workforce migration. Workforce differs from labor force in that workforce refers to people who are working in an area, whereas labor force refers to people who are working or seeking work and living in a particular area. Such data were available for a short time frame during the 1970s. Examination of the data provided some information. It should be remembered that the magnitude of net outmigration was fairly small and the severity of the issues raised are not substantial at present.

During the 1970s there was also a net outmigration of the workforce; with respect to origins and destinations of migrants, the patterns of mobility for the total population and the workforce were the same. Much of the interchange with New Jersey was within the Northeast, with the South Region, particularly Florida, being the recipient of the second largest proportion of migrants.

White males tended to be the most mobile group and, of the six race-sex groups examined, were the only ones to exhibit a net outmigration.

Workers 25 to 34 years of age represented the only age group to outmigrate in smaller numbers than they immigrated. The patterns reflected across the workforce age partitions offer several policy issues. For example, the net outmigration of the under 25 years of age workforce, if continued, may lessen the requirement for higher numbers of entry level employment positions, particularly in the context of the impending entrance of the baby bust generation into their workforce years.

As to be expected, New Jersey experienced a net outmigration of manufacturing workers and a slight net immigration of persons employed in the finance, insurance, and real estate sector. These patterns are, in many respects, analogous to those exhibited by the change in the distribution of employed persons by industry. This congruence may indicate a healthy balance between a mobile workforce and an evolving industrial structure. That is, through workforce migration, unemployment (labor

force surplus) or unfulfilled industrial demand (labor force shortages) may be kept to a minimum.

The dimensions of workforce migration need to be viewed in the context of other forces affecting workforce changes in order to assess its significance. When the numbers of migrants of New Jersey's workforce are compared to the exits and entrants to the workforce during the early 1970's, it appears that the net surplus of entrants over exits accounts for the largest changes in the workforce. Thus, for the 1970s at least, migration had a relatively small impact on the state's workforce.

However, as the population at the national level continues to exhibit slow growth due to declines in fertility, migration will play an increasing role in population and labor force growth at the subnational level. Projections of New Jersey's population into the 1980s show slow growth and imply negative netmigration. If the lessening of immigration is sustained into the future and the present magnitude of outmigration continues, the quality of the labor force of the state could suffer. The combined effects of a lessening immigration of the 25 to 34 year olds, a continuing of large outmigrations of young adults below the age of 25, and a decline in the pool of persons becoming working age due to the baby bust, could result in a labor force which is stagnant and suffering from a brain drain due to the lack of rejuvenation provided by an influx of newly educated and skilled persons.

Offsetting these potentially negative effects, there are some positive implications for the state of the changes in the labor force age mix. A rise in the overall age should result in an increase in productivity as well as a decrease in unemployment due to the experience gained by the labor force through the maturation process.

Additionally, there would appear to be no shortage of total workers available to New Jersey employer in the 1980s. Projections indicate the labor force may increase by at least as much as it did in the 1970s.

The policy ramifications of the continuation or acceleration of these migration trendlines are exceedingly varied and complex. I offer three prominent ones for your consideration:

- 1) Pressures may be considerably eased in terms of entry level employment opportunities as the decade proceeds. The shrinking size of the cohorts entering the labor force years imply that the problem of finding employment for the underskilled and undereducated will diminish. This offers the states' urban areas the opportunity to more adequately focus efforts on its minority and undereducated citizenry.
- 2) While the preceding situation may become more manageable in terms of size and scope, the possibility exists for the need to retrain some older workers in order to maintain a competitive and technically up-to-date labor force.
- 3) In addition, attention on the state's job base may have to persist in the short-term future; the labor force parameters as they will emerge

in the 1980s will probably not diminish the state's attractiveness to those employers presently within the state. However, the entrance of new firms and new industries into New Jersey, an important component of the maintenance of a viable state economic base, may be hindered by the labor force contours. While the latter is obviously speculative, it would appear that the attention of the state's policy-makers is warranted in regards to labor force change.

CYCLICAL CONSEQUENCES OF LONG-RUN SHIFTS
IN INDUSTRIAL EMPLOYMENT

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For several decades, at least since the 1930s, employment in the service industries has been growing faster than in the goods-producing industries. There are, of course, exceptions. Employment in the production of electronic goods, for example, has grown rapidly, while employment in rail transportation services has lagged. But these are exceptions, and by and large jobs in the service sector, such as retail trade, have been growing relative to those in the goods sector, such as manufacturing. The trend is tied up with several other important trends in employment as well as with some long-run changes in the characteristics of business cycles.

One of the related trends is the spectacular increase in recent decades of the proportion of women and young people in the labor force. Large numbers of women are employed in retail trade, teaching, and other service industries, and the growth of this sector has not only been fostered by their availability but has provided more job opportunities as well. It has been a two-way street. The entrance of women and young persons into the labor force has had many causes besides the opportunities provided by service industry expansion and the service industry expansion has depended on other factors too. But the two trends have meshed.

A second related trend is the growth in part-time employment. The number of part-time jobs filled by people who want only part-time work has grown much faster than the number of full-time jobs. Many of these part-time jobs are in the service industries, and they also fit the needs of married women and of young people. So this trend meshes with the other two.

A third related trend is double-barreled. The unemployment rate has been higher in recent years than it used to be, but so has the percentage of the population that is employed. At first sight this may seem like an

arithmetic impossibility, but what has happened is that there are fewer people outside the labor force, so there are both more employed and more unemployed. Again, a complex set of reasons lies behind this, but one of the main factors is that women and young people have joined the labor force, frequently hold part-time jobs, and are frequently unemployed, more so than adult men. Hence the employment ratio can look pretty good at the same time that the unemployment rate looks pretty bad.

Finally, a fourth related trend is the growing number of two-earner families. Many years ago the Bureau of Labor Statistics picked a "married worker with three dependents" as the typical family on which to base its spendable weekly earnings series. It still reports this figure even though the one-earner family is no longer typical. The two-earner family has become the rule, thanks to the much larger number of women with jobs.

Now all these trends have short-run as well as long-run consequences. They affect the severity of recessions and the impact of recessions on the average family, and they also affect inflation. We can review some of these effects, both for New Jersey and the nation.

First, goods-producing industries in the United States experienced the biggest declines in employment during the six recessions between 1948 and 1975, and services-producing industries experienced the smallest declines or none at all. One exception is transportation, communication and public utilities. This service-producing industrial group experienced a decline in employment in freight transportation (carrying goods) which dominated the whole sector.

The proportion of total employment accounted for by the "recession-prone" goods-producing industrial group has declined dramatically, from about 50% in 1955 to 35% in 1980. This trend is likely to continue, according to the Bureau of Labor Statistics. The shift affects the size of the decline in total employment during recession. Even if each individual industry continued to decline as much in recession as it did on the average, by 1990 the percentage decline in total employment would be only half what it would have been in 1955. Faster growth in the more stable industries tends to stabilize the economy.

What is true for the nation has also been true for New Jersey. Durable manufactures, mining, construction, nondurable manufactures, transportation, and utilities were the industries that had the worst declines in employment in New Jersey during the 1974-75 recession. Back in 1955 these industries accounted for more than half of the state's total employment. By 1974 it was down to 40%; in 1979, 36%; and it is projected to go to 34% by 1985. The stabilizing effect of this shift on New Jersey employment has been similar to that in the country as a whole. As the importance of the recession-prone industries has diminished, the potential effect of recession on total employment has become smaller. In 1979 this effect was less than half of what it was in 1955.

As already noted, the growth of the service industries has given employment to large numbers of women. At the same time, the stability

of employment in these industries has made women's jobs relatively recession-proof. Let us examine this during the recession of 1973-75. In November 1973, immediately prior to the recession, more than three times as many women held jobs in the recession-proof industries as in the recession-prone industries. During the recession itself, employment in the recession-proof industries expanded, and most of these jobs went to women. Hence there was no decline in the total employment of women during the recession--in fact, there was an increase of 400,000. At the same time, the employment of men declined by 1,900,000.

Something similar has happened during the current recession. The heavy concentration of women in the recession-proof industries led to an increase in the total number of women employed between January and July 1980, while employment of men declined by 1,300,000. The recession may or may not have ended in July, but so far the pattern resembles previous recessions in that most of the jobs lost have been lost by men. Not least among the achievements of women is that they have found a way to avoid recession!

The employment of women in relatively recession-proof industries has another consequence that lightens the impact of recessions. It provides a kind of family unemployment insurance. In a two-earner family, when one member becomes unemployed, the earnings of the other provide some support, augmenting what may be obtained from unemployment compensation payments. The difference that this makes is substantial. In the third quarter of 1980 there were about 15 million married couple families with one earner but 18 million with more than one earner. The median weekly earnings of the first group were \$316, that of the second, \$551. Among these families some members were unemployed, and that, of course, reduced the reported earnings. Yet even among the 3½ million married couple families who had an unemployed member, the median weekly earnings were \$343, somewhat higher than the median for those with only one earner. This does not, of course, mean that these families were not experiencing some hardship, some of them very considerable hardship. But the burden is obviously lighter than it would have been if the two-earner family had not become so prevalent.

Although the trends we have traced have been moving in the direction of making recessions more enduring, we must also observe that they are reducing the impact of recessions upon inflation. It is an unpleasant fact of life that periods of recession have been the time, and indeed almost the only time, when the rate of inflation has been reduced. The process that brings this about is complicated but it has survived a very long time, at least as far back as our records go, and not only in this country but in Europe and Japan as well. Consequently, when we see a trend toward milder and shorter recessions developing it is likely to mean that we are losing some of the power that recessions once had to inhibit inflation. This is just one more reason why the development of and strict adherence to anti-inflation policies is so important.

NOTE: Data tables from this presentation were distributed at the November 12 conference. Additional copies of these tables are available from the Office of Demographic and Economic Analysis, Division of Planning and Research, Department of Labor and Industry, CN388, Trenton, New Jersey 08625.

NEW JERSEY INDUSTRY'S NEED FOR A TRAINED LABOR FORCE

Robert Woodford, Vice President
New Jersey Business & Industry Association

The primary concern of business today is to have trained people available to handle the more demanding, highly technical jobs developing. Changing technology, in the areas of electronics and computers in particular, is creating an enormous demand for specially trained people. The general shifts have been away from blue collar jobs to white collar jobs.

These changes are having some specific effects on occupations. There are shortages of computer specialists. Engineers are being swallowed up by industry. The demand for them is so great that shortages of engineering PhDs are expected to develop. Graduates with bachelor's degrees in engineering are accepting high salary offers rather than continue schooling. Also, there is a shortage of people available for the less desirable jobs in apparel and certain other manufacturing industries. The older workers in these jobs are slowly leaving the work force and young people are unwilling to take these jobs.

The New Jersey Business & Industry Association surveyed over 2,400 firms in New Jersey about the availability of various skill level workers. The results were tabulated for 1,900 respondents:

Unskilled workers - Available in all counties with some exception in Atlantic and Ocean.

Office workers - About 30% of the reporting firms responded that they were having difficulty finding available people. Atlantic reported it especially difficult.

Semi-skilled workers - A little less than half reported difficulty finding people. In manufacturing, almost 60% in durable and 54% in nondurable reported problems finding workers.

Professionals - A total of 57% statewide are facing difficulty locating sufficient professional personnel. Many firms fill their needs with

foreign born, foreign educated professionals.

Skilled - Almost 80% of the firms reported difficulty finding qualified people. Twenty-one percent said qualified people are just not available. Almost 60% in durable and nondurable manufacturing reported difficulty and about 30% in durable goods reported skilled persons not available. (Note: Whether skilled persons were not available for one, several, or all positions to be filled was not discernable from the survey.)

Why does this problem exist? The unavailability of unskilled workers is attributable to two factors. The first is that businesses have been re-locating from the cities to suburban areas for tax purposes and generally a nicer environment for their workers. However, the unskilled workers needed sometimes can't be found in higher priced suburban areas and, in general, mass transit does not serve many of these areas. Second, unemployment insurance benefits are thought to be too generous by business and considered a deterrent for low wage earners deciding between work or continuing on benefits.

The problems that exist regarding the availability of skilled and clerical workers differ. Technological and energy changes require retooling of equipment. The new equipment requires special training and those people that have special training are not available. Additionally, businesses are claiming that schools do not teach students general education skills and, therefore, it's difficult to further train employees. Also, business and schools are not communicating adequately. Finally, an aging workforce is another problem. Unlike the Danes and Germans, we have not emphasized re-training these people.

What is being done to supply New Jersey's industry with a trained labor force? Several things are in progress. For example, by 1981 or 1982 the Basic Skills Competency Test will be used in New Jersey as a graduation requirement, and students not properly trained will receive additional training before a diploma is issued. Follow-up programs have been initiated. All in all, the picture for the 1980s does not look too positive.

Intercession

OVERVIEW: THE BROAD IMPLICATIONS FOR
PLANNING IN NEW JERSEY IN THE 1980s

George Sternlieb, Director
Center for Urban Policy Research
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There are challenges that face the state and nation and inconsistencies of present economic governments and private planning.

On the one hand, the state is committed to a policy of preserving the cities while, at the same time, it builds highways that facilitate industry's move to the suburbs. The hub of activity today is in the new business centers, at the intersection of major highways, while the workers live in cities and suburbs far away from these new complexes. As examples, there is the AT&T development in Bedminster and Bernardsville, and the Exxon Facility in Clinton. Both are large corporate complexes, surrounded by land which is zoned for 3 to 5 acre residents, effectively excluding middle-income housing. To work out necessary compromises and land use regulations in such situations--this is the end test of the Mount Laurel decision.

What about the effects on the housing supply of (1) declining population and (2) continuing inflation? Relation to changes in population is the decline of the cities. The old industrial cities of the East are rapidly losing their economic functions. For these cities, epitomized by Hudson County, there appears to be no hope, within present national priorities of turning them around. Moving outward from this inner ring of cities, New Jersey's growth region consists of three counties: Somerset, Middlesex, and Morris Counties--or the "Sunbelt region of New Jersey." The outer ring of counties, specially Monmouth and Ocean Counties, where development has been primarily residential are the "new suburbs" of the expanding industrial areas.

Other population changes which affect planning are the trend toward smaller, but increasing number of households, and the augmenting of our labor force by large numbers of illegal aliens. These unregistered workers in this country take the place of what European countries have long

practiced: permitting workers from other countries to take jobs that the native population does not want to perform; then, sending these workers back to their country of origin in times of crisis or high unemployment. This is the "guest-worker syndrome." But in the United States a large proportion of the illegals become defacto permanent residents.

The rising cost of housing creates drastic changes in the housing market. An end to the speculative buying of one-family houses is in the offing. In the past, one function of homeownership had been capital appreciations. This possibility will stop, or the process will slow down, as the people who need housing cannot afford to buy at much-inflated prices. The middle class black migration to suburban areas is an example: when they try to sell houses at a profit, there are no buyers at the yet higher prices. Here, then, is the "escape valve" which may save some of the urban areas: rearrangement of housing for the population. But whether this will be enough to turn around the cities is more than questionable. In the course of redevelopment both UDAG and EDA will give way to "enterprise zones." Eventually, the issue will turn on an improvement in environment.

Finally, how will the new census results contribute to planning and decision-making. The census provides an aura of authority. The electorate as a whole will not accept "statistical verity" unless it is confirmed by the census. While it is most useful on the macro-level, I expect that well-designed surveys have produced such reliable results that the 1980 census will produce few surprises. Protest by mayors must give way to focussing on the issues of coping with reduced population.

Session II

Planning for the 1980s in New Jersey

BUSINESS RETENTION

Jon P. Spinnanger
Manager - Urban Affairs
New Jersey Bell

According to the U.S. Department of Labor, the Northeast has experienced an 8.9% decrease in manufacturing employment during the period between 1970 and 1978. The South and West experienced an 18.7% growth in manufacturing jobs during the same period.

Dr. Joseph Seneca, Chairman of the New Jersey Economic Policy Council, reported recently that among the significant characteristics about New Jersey that were evident during the '70s and which are expected to continue into the decade of the '80s are:

- the decline in manufacturing employment and the decline in capital spending by industry.
- higher energy costs than the rest of the nation, which have contributed to the loss of manufacturing jobs.
- a relatively high tax burden, contributed to by the recent corporation tax increase.
- high land prices, with extensive land use regulation.

In an article published earlier this year, Dr. Roger Vaughn of Citibank reported that, according to his research, tax competition among states for business attraction has shifted the tax burden from business to individuals. In 1948, personal income taxes provided 7.4% of the state's revenues, and corporate income taxes 8.7%. By 1977, personal income taxes had swollen to 21.0% while corporate income taxes had actually fallen to 7.6%.

Earlier this year the state's corporate income tax was increased from 7½% to 9%, an action clearly at odds with much of the rest of the nation.

Dr. Roger's continues, instead of offering costly incentives to attract large firms from elsewhere, development officials should assist expanding local companies and small start-up firms.

In a capsule, when we are successful in New Jersey in creating an atmosphere conducive to the manufacturing segment, both big and small alike, we will have created an environment in which business attraction efforts will also succeed.

Recognizing the need to learn more about the manufacturing industry in the state, the Make Jersey Work Roundtable, an organization of business and government leaders, earlier this year commissioned a task force to conduct an indepth survey and analysis of the manufacturing segment in several of the state's urban areas. It is believed that when the wants and needs of these businessmen are better understood, the programs necessary to assist them will be far more evident.

Several of the highlight statistics gained thus far, from a very preliminary analysis of early returns, are as follows:

- 83% of those surveyed thus far own their own facilities.
- 44% of those surveyed thus far have considered relocating at one time or another in the past.
- 44% of the employees who work in these firms reside within the city limits.
- Less than 5% have never taken advantage of any financial incentive program in order to modernize or expand their operations.
- Almost half of those surveyed thus far feel that there are steps which could be taken to improve New Jersey as a place for business. Expressing it another way, these business people feel there are other states in which they could get a "better deal" (as advertised in state promotional media campaigns).

Finally, there are other reasons why business retention makes sense. Dr. Seneca touched on it when he mentioned that New Jersey has experienced a decline in manufacturing partially due to extensive land use regulation.

HOUSING TRENDS - PROGRAMS:
CITY OF TRENTON

Tom Ogren, Director
Dept. of Housing & Development
City of Trenton

The most significant trend with regard to housing these days is the increasing cost of housing. While the high prices of suburban housing are a well-known phenomena, the cost of urban housing (not just in George-town-type sections) has been rising as well. In 1977, for example, housing prices in Trenton increased more than any of the surrounding suburban municipalities except for one. And that one was not Princeton.

Obviously, housing prices are not rapidly rising in all areas of central cities such as Trenton. However, the increase in prices is not just limited to single family, detached houses found on the fringes of the city. Semi-detached houses and row houses are looking more attractive, particularly to first-time home buyers.

In terms of owner-occupied housing, the rising cost of housing has had two effects on the urban housing market. The first is that, because of the high price of suburban housing, there has been less out-migration of middle class households who are looking to move from a city house to a suburban house. Secondly, the high cost of suburban housing has made less expensive housing in the city more attractive to first time home buyers who might have otherwise considered a suburban home.

In recognition of these trends, several years ago the City of Trenton launched its own advertising campaign to highlight the attractiveness of city home buying. Brochures featuring various Trenton neighborhoods were printed for distribution to realtors.

In the last four years, the demand for city housing has been further strengthened by the availability of below market interest rate mortgages (now 10 3/4%) available through the State Mortgage Finance Agency. The lower interest rate mortgages were made possible through the tax exempt bonding capability of the agency. No more than two points may be charged

for such mortgages and the maximum down payment is limited to 20%. Over \$6.5 million in mortgages has been provided by the agency in Trenton to date.

An important feature of the mortgage loan program of the state agency is that it is targetted to areas of selected New Jersey cities where mortgage lending has been a problem in the past. The program has, therefore, helped to strengthen marginal residential neighborhoods by increasing home buying demand. The program has provided both an incentive for home buying in certain areas, as well as made possible and more affordable home ownership by moderate income households.

The future of this important housing program is clouded somewhat by the recent Congressional debate about providing tax-exempt financing for such mortgage loan programs. There is a concern that the federal government is providing a "backdoor" subsidy which might get out of hand. I would only note that the federal government has been providing a "backdoor" subsidy for homeownership for decades in the form of income tax deductions for mortgage interest costs and property taxes.

If there is an area in need of major reform with regard to governmental policy to promote home-ownership, I believe it is in the area of income tax deductions related to owner-occupied housing. These deductions cost the Federal Treasury some \$19.5 billion in 1979, an amount which dwarfs the 3.6 billion for direct federal housing subsidy programs. It is ironic that this largest federal subsidy program for housing should disproportionately benefit those in the most expensive homes. The disproportionality of benefit results from the household in the highest tax bracket and having the highest mortgage interest, getting the most benefit.

The inequity of this situation extends to property taxes. Moderate income households tend to live in cities having higher tax rates. Although the tax rates are higher, they generally do not receive a corresponding increase in federal tax benefits. Most moderate income households would not itemize deductions in any case.

Unfortunately, the area of homeowner tax benefits has received even less attention by Congress than business entertainment deductions, symbolized by the two martini lunch. One Senator proposed a couple of years ago that tax credits be substituted for tax deductions. Under this proposal, the federal government would not subsidize the expenses of housing of higher income households and every homeowner would receive the same benefit for mortgage interest cost and property taxes up to a certain limit. Such a proposal would, aside from equity considerations, provide a major boost to city homeownership in making homeownership more affordable and attractive by lessening the property tax burden.

Another aspect of the increased cost of homeownership is, of course, the price of heating oil. The 65% jump in the cost of heating oil in the last year alone has worked a special hardship for urban households, which generally depend upon fairly old, inefficient oil burners. The rising cost of oil has over shadowed the exorbitant tax rates in urban areas as the primary villain of high housing costs. It is no coincidence

that the rate of mortgage foreclosures in the city has risen along with the price of oil. For its "contribution" to this problem, the federal government controlled the price of natural gas, which heats most newer homes, but did not control the price of heating oil to the same extent.

The rising costs of urban homeownership have meant that many urban households cannot afford to make improvements necessary on older homes and to replace inefficient heating systems. Even requests for city financial assistance for such purposes, including loans at a 3% interest rate, have fallen off sharply. When the city's assistance program first began in 1975, the backlog of requests for assistance was close to 1,000 households. Today, there is virtually no backlog. For these households receiving assistance now, the percentage of income going for housing expenses is generally around 30% to 35%, maybe 10% higher from what it averaged four years ago.

Rehabilitation assistance to homeowners has been the mainstay of Trenton City's housing efforts. Beginning with the Community Development Program in 1975, the city has allocated over \$5 million for homeowner rehabilitation, including an emergency assistance program for heating and other emergency repairs. Over 1,000 households have been assisted, with the average amount per household being about \$5,000. Supplementing this federally-funded program of the city has been the Home Improvement Loan Program of the State Mortgage Finance Agency, which is similar to the mortgage loan program and provided below market interest rates on home improvement loans.

These rehabilitation programs are, of course, another attraction for urban home buying. Their major contribution, however, has been to reduce the cost of home repairs for long time homeowners.

Only a small portion of the rehabilitation assistance, however, perhaps 15%, has gone for new furnaces and other energy saving improvements, even though such improvements are encouraged by the City of Trenton. Obviously, more needs to be done in this area and, as a result of being selected as one of five cities for HUD technical assistance in developing a program to finance energy saving improvements, Trenton hopes to do more in this area.

The City of Trenton is trying to provide new townhouses close to the downtown to accommodate state office workers. Providing new housing in an attractive urban setting is another important element in the city's housing policy which will take advantage of job proximity.

Rising housing costs have probably had an even greater impact on rental housing in the city. As with owner occupied housing, rental housing has suffered in particular from rising heating oil costs and property tax rates, while tenant income has increased only minimally. Increased housing costs have forced landlords to become more efficient in their operations, which has generally meant less maintenance and, as a last resort, the abandonment of unprofitable units. As a result of increased financial abandonment by landlords, the city has become the landlord of last resort through tax foreclosure.

The abandonment problem in Trenton, which has been well documented by the Center for Urban Policy Research here at Rutgers, is, of course, not merely a problem of blight. It results in a substantial revenue loss to the city and, in most cases, a loss in the city's supply of available housing. Almost half of the properties foreclosed, however, are occupied.

The abandonment of rental housing is primarily a problem of insufficient tenant income. Even though Trenton has a rent control ordinance, landlords are often not able to raise rents to the permitted level because of tenant income. I should point out that Trenton's rent control ordinance is fairly generous in comparison with other New Jersey cities in allowing rent increases of about 7% a year, based on increases in the rent component of the Consumer Price Index.

Trenton now forecloses an average of 200 to 300 properties a year. Most of these structures are single family units which were especially inefficient from a management standpoint. Most of Trenton's rental housing consists of structures containing one to four dwelling units.

Government efforts in addressing the rental housing problem have been costly, but the impact has been relatively slight because of the large subsidy per dwelling unit. As construction costs have escalated, the federal government's traditional role in building new housing for low income households should be re-examined. The annual subsidy cost for newly constructed dwelling units is \$4,000 to \$5,000 at this time.

It is interesting to note that, because of the strong interest of developers in senior citizen housing, three out of four new housing units in Trenton have been constructed for senior citizens in the last five years. The construction of senior citizen housing disproportionate to the need of family households is characteristic of federal assistance for new construction.

As the federal government has focused on new construction in addressing the rental housing problem, it has given scant attention to the problem of rental housing abandonment and the loss of units as a result. In Trenton, the number of demolished units, not to mention abandoned units still standing, almost equals the total number of units constructed with federal subsidies over the last five years. The federal government has belatedly given more attention to financing the maintenance and rehabilitation of existing rental units. For the first time, the City of Trenton has been allocated federal assistance for the renovation of just over 100 rental units under a "moderate rehabilitation program" sponsored by HUD.

If there is one bright spot with regard to abandoned rental housing, it is that it has made possible owner-occupancy through the city's Homestead Program. Most of rental units abandoned by investors are scattered-site, single family units which are suitable for homesteading. Trenton has successfully operated a homestead program for the last five years, although it has not been until the last couple of years that a strong demand for homestead properties has occurred.

Homesteading is a much more affordable route to homeownership than mortgage financing, given the 3% rehabilitation loan money available and usually a \$100 purchase price. Its primary beneficiaries are female-headed households who would have little chance of purchasing a home in the private market. Generally, homesteaders are able to reduce their housing costs from their previous rent level.

What then is the outlook for urban housing? We have already seen that population loss does not necessarily mean a decline in the number of households and demand for housing. Even if Trenton's population were to decline further, which I think is unlikely, the demand for housing should remain strong. The smaller, more modest city homes are well suited to smaller households which are an increasing percentage of all households.

Given the high cost of suburban housing, recent trends of increased urban home buying by middle-class households should continue. While retention and expansion of the city's middle-class is important to the city's economy, moderate income households would be less able to compete for the same housing. Such households would be "forced" to remain in less desirable areas. This may, however, result in the upgrading of such areas.

In closing, I want to comment on the impact of the energy crisis on urban housing and cities in general. The energy crisis was hailed by many as a boon to city living. While I would like to encourage that perception, the fact is that people in cities are faced with a growing problem of having to go out to the suburbs for jobs, shopping, especially for food, and even for getting gas. The challenge to city and state government is to provide the essential services and goods within the city, as well as strengthen employment opportunities. In other words, we must provide all the elements which make a city a city, rather than a bedroom community with older bedrooms. Only then can we take advantage of the city's energy-saving potential and maintain the attractiveness of urban living.

DEMOGRAPHY & HOSPITAL PLANNING

Jack Hornung
Greater Essex Hospital Council

Demographics are used to measure and forecast the need for hospital resources at the state, regional, county, or individual hospital level.

First, a deliberately over-simplified assumption is made about the present appropriateness of the volume of the state's hospitals capacity as it relates to the state's population and its needs. On an aggregate statewide basis, one might simply project a need for an increase or decrease of hospital capacity by directly relating it to proportionate projected population change. However, such hospital projections must be broken down by planning regions within the state, since the needs are not uniform throughout the state. For example, the three federally mandated health system agencies in the northern urbanized area of the state will be characterized by an extensive existing hospital capacity which seemingly contrasts with a projected population decline. In contrast, the two health system areas in the southern portion of the state would be characterized as a growth region in terms of both population and projected new hospital capacity.

For effective planning, gross population changes must be refined by breaking the projections into age cohorts and deriving hospital use rates for key age groupings. Such an exercise reveals that the older the group, the more seriously disproportionate its use of hospital facilities is. In addition, application of the age differential use rates to the northern urban areas of the state reveals that there may well be continued or even increased need for hospital facilities despite a projected overall decrease in the population. This seeming anomaly is explained by the fact that the increase in the number of older persons offsets the general population decline, vis a vis hospital usage.

Within the state, its planning regions or counties, projected population shifts raise the possibility, desirability, and feasibility of redistribution of hospital resources. This issue portends a serious

potential political conflict. Gross overall population projections, it should be reiterated, need breaking down into projections of significant age groups. If erroneous and distorted projection of capacity is to be avoided, these age group projections must be coupled with use rates to arrive at true hospital capacity.

Final projections of hospital capacity require careful analysis of the management, utilization, and other factors which have been deliberately omitted in these oversimplified examples. Management judgments, coupled with the use rates, all of which have to be adjusted by common sense, can provide very useful tools for avoiding the twin pitfalls of over capacity or inadequate facilities in hospital planning.

MEASURING THE IMPACT OF CHANGES IN POPULATION ON
THE DEMAND FOR HIGHER EDUCATION

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I. Introduction

Recently the Department of Higher Education completed a major task of developing a higher education master plan for the state. A major element of the plan was the development of a projection model capable of estimating the number of enrollments by collegiate sector (i.e., Rutgers University, NJIT, state colleges, community colleges, and independent colleges and universities.) In an attempt to define what the future shape of the higher education system will look like, we sought to answer the following research questions: What is the projected student demand (over the next fifteen years) for educational services at the undergraduate, and first-professional levels in New Jersey colleges and universities? What is the projected demand by attendance status, i.e., full-time and part-time? What is the projected demand by New Jersey residents for specific occupational/vocational program. For general liberal arts educations? What enrollment changes will occur with changes in college attendance rates, out-of-state migration, etc.? Can we reduce the migration of New Jersey residents to out-of-state colleges?

II. Enrollment Projections Methodology

There are basically three methods in current use for the projection of enrollments of full-time undergraduate students. These are: ratio method, trend method, and cohort survival method.

The principal tool for the study of the anticipated number of students seeking higher education in New Jersey was a computerized cohort survival or flow method projecting full-time and part-time undergraduate enrollments for the academic years 1979 to 1995. The advantage of such a model is that numbers of students can be projected either from historical

data alone, census data, or from a mixture of historical data and data that are adjudged to reflect the introduction of changes in environment, policy, or both.

Obviously, projections are subject to various possible errors, but it is advantageous to have available the results of "what if" studies, "sensitivity analysis," and the like from a flow-model capability. In the past decade, the growth in the use of flow models for human resource planning has been very rapid; the general methodology has been widely adopted, not only in education but also in civil service, military, and industrial establishments in the U.S.A. and Europe.

The term "flow" has been borrowed from the terminology of inventory control--the study of "flows" between "stocks." In human resource planning work, the term "stock" has been more commonly replaced by "pool." In the present context, pools of available New Jersey high school graduates from individual counties flow into the pools of freshmen attending institutions of higher education in New Jersey and elsewhere, or else into a "labor pool". Aggregation over counties, educational sectors, and educational levels is then feasible.

The idea basic to flow-model methodology is that individuals in a pool make a series of transitions to other pools and that, if these transitions take place over time, a pool originating at a given time--a cohort, as it is called--is redistributed to other pools by a series of one-year, two-year, or longer-term transitions.

The basic methodology may be illustrated in the following example concerning children (5-year-olds) entering kindergarten in 1980 from the pool of children born in 1975:

$$\begin{array}{l}
 \text{Number of New Jersey} \\
 \text{Children Entering} \\
 \text{Grade K in 1980}
 \end{array}
 =
 \left[\begin{array}{l}
 \text{Proportion of} \\
 \text{Children in New} \\
 \text{Jersey Born in 1975} \\
 \text{Who Enter Grade K} \\
 \text{in 1980}
 \end{array} \right]
 \times
 \begin{array}{l}
 \text{Number of} \\
 \text{Children} \\
 \text{Born in} \\
 \text{1975 in} \\
 \text{New Jersey}
 \end{array}$$

$$\text{NEW POOL} = \text{TRANSITION RATIO} \times \text{OLD POOL}$$

While this is almost a mathematical identity, it is useful as a starting point to structure the process of transitions from pool to pool. A commonly used approach is suggested when the historical behavior of a proportion like the one bracketed in the above equation is reasonably stable over a period of cohort years--in this case, preceding 1975. The assumption has been made that the number of pre-college students migrating into New Jersey roughly equals those migrating out. Depending on the degree of stability in this behavior, an appropriate weighting scheme may be applied to these past data to create an effective average proportion--or transition ratio--to be applied over a series of cohort birth years beyond 1975. Thus, application of the transition ratio distributes a portion of the birth-year cohort--into the kindergarten pool in this illustration--five years later. In some cases, averaging in other ways (e.g., over institutions within sector) may enhance the reliability of

of the transition ratio.

The cohort survival model includes such factors (or parameters) as: a) high school graduation rate, b) college participation rate, c) enrollment of out-of-state students, d) enrollment of transfer students, e) retention rates, and f) population size by age, sex, and race.

III. Data and Trends

The data used to drive the model come from essentially two sources: Department of Education's information on the number of high school graduates and the number of students in the various classes from kindergarten through the senior year in high school; and census information provided by the New Jersey Department of Labor and Industry on the size and projected growth of the New Jersey population to 1990.

IV. Policy Implications of Projections

What the data seem to indicate, and we see they are being confirmed by preliminary estimates of the 1980 census, are the following trends:

- 1) The typical college going cohort is getting smaller and is expected to decline further into the future. By 1995, projections indicate that the number of public high school graduates will drop by approximately 30% from its current level of approximately 100,000.
- 2) The population will be getting older as the number of individuals over 55 will dramatically increase.
- 3) The percentage of minorities and women in the college is expected to increase.
- 4) Overall, the model projects a 13% decline in the college going population.

In light of the demographic shifts and its consequences for enrollment, and in order to avoid nonproductive competition between colleges for the smaller student population, the Department of Higher Education, in conjunction with the educational institutions in the system, will seek to implement the following policy actions over the coming ten years:

- 1) About 52% of New Jersey's public high school graduates now go on to college immediately after high school, either in New Jersey or at institutions in other states. Rising career expectations and changing requirements for job entry make it likely that there will be small but continuous increases in the proportion of high school graduates who seek higher education in the future. It appears reasonable to adopt a goal of 55% of the public high school graduates who go on to college in 1990.

- 2) We will seek a reduction in the proportion of New Jersey college-bound high school graduates who attend college in other states from an estimate 40% to 35% in 1990.
- 3) Rutgers University should be encouraged to expand the proportion of out-of-state freshmen in New Brunswick to 12% by 1985 and to 15% by the end of the decade; the state colleges should be encouraged toward a proportion of five per cent by 1985. Independent colleges and universities with less than 25% out-of-state students are encouraged to attract an additional five per cent of out-of-state residents without reducing their enrollment of New Jersey students.
- 4) Through a systematic effort to improve student support services, a greater attention to remedial programs, institutions should strive to increase the proportion of freshmen who successfully complete their undergraduate education and are awarded degrees. As a statewide goal for 1990, the public institutions should try to increase their student retention rate by six percentage points.
- 5) In the fall of 1979, the state's four-year institutions enrolled approximately 7,000 transfer students from New Jersey two-year colleges or from colleges in other states, many of whom were returning New Jersey residents. This number should increase 15% by 1985, so that the four-year institutions will enroll about 8,000 transfer students from out-of-state institutions or two-year colleges in New Jersey.
- 6) In 1979, 70% of all undergraduates over age twenty-four in the public institutions of higher education in New Jersey were enrolled as part-time students in the community colleges and state colleges, a pattern which reflects the mission of these institutions to serve older part-time students. The community colleges should try to increase the number of part-time students from 106 per 10,000 New Jersey residents over age fifteen in 1979 to 115 per 10,000 by 1985; the state colleges should try to increase the enrollment by these students from 40 per 10,000 over age fifteen in 1979 to 45 per 10,000 by 1985.

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