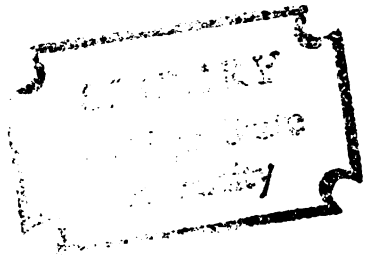
AN ANALYSIS OF EARNINGS AMONG PERSONS OF SPANISH ORIGIN IN THE MIDWEST

Dissertation for the Degree of Ph. D.

MICHIGAN STATE UNIVERSITY
RICHARD SANTOS

1977



ABSTRACT

AN ANALYSIS OF EARNINGS AMONG PERSONS
OF SPANISH ORIGIN IN THE MIDWEST

By

Richard Santos

Five states in the Midwest (Illinois, Indiana, Michigan, Ohio and Wisconsin) have a substantial and increasing Spanish origin population, even though relatively little is known about their economic performance in this major industrial area of the United States. This study is an initial effort to analyze earnings of Spanish origin persons using a human capital approach to examine the earnings structure of the Spanish origin population in relation to their supply characteristics. An econometric earnings model examined the effects of certain human capital characteristics and other independent variables on (1) labor force participation, (2) weeks worked, (3) total earnings, (4) occupational earnings level, and (5) an occupational earnings ratio.

The data source for the study was Public Use Samples of Basic Records from the 1970 U.S. Census (5 percent, 1/100 census files). During the 1970 census, 5 percent of the households in the states under study were asked to reveal type of Spanish origin (Mexican, Puerto Rican, Cuban, Central or South American, other Spanish), if applicable. Using the census data, the earnings and other related

characteristics of the group are described and compared. In addition, a randomly selected white group was also selected from the data files for comparative purposes. However, the major statistical analysis of the econometric earnings model focused by sex on all Spanish origin persons, the Mexican-American group separately, and the randomly selected white comparative group.

The major results of the study revealed that certain types of investments in human capital can positively influence total earnings, the decision to participate in the labor force, number of weeks worked, and type of occupation obtained for all the groups under study. This type of investment may include additional years of schooling, vocational training, job related experience, and improved health. Despite these favorable findings for improving the economic performance of the groups under study, similar investments do not necessarily produce similar economic returns for each of the groups. Even when similar human capital characteristics are assigned to the male group, the Spanish origin and Mexican origin groups earned as much as one-fifth less than the white group. Since the male groups did not vary substantially in labor force participation or weeks worked, this unexplained earnings differentials indicates that discrimination is a factor contributing to the economic performance of the Spanish origin groups in the Midwest.

In adopting a manpower policy to improve the economic performance of all Spanish origin persons in the Midwest, the results of the study indicate that governmental action must pay close attention to the following: (a) maintaining favorable labor market conditions,

(b) providing manpower opportunities in the area of education, vocational training, and labor market information, (c) pursuing strong affirmative action policies to create employment opportunities in certain types of occupation and industries, and (d) continuing research activities into the economic performance of Spanish origin persons in the Midwest, especially in comparing the performance of native Spanish origin residents to recent Spanish origin settlers and foreign Spanish origin immigrants.

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

College of Social Science School of
Labor and Industrial Relations

1977

This report was prepared for the Employment and Training Administration, U.S. Department of Labor, under research and development (Grant) No. 91-26-73-23. Since (grantees) conducting research and development projects under Government sponsorship are encouraged to express their own judgment freely, this report does not necessarily represent the official opinion or policy of the Department of Labor. The (grantee) is solely responsible for the contents of this report.

Par Mis Padres - Santiago y Rita

ACKNOWLEDGMENTS

The research efforts of this dissertation were greatly enhanced by the following types of contributions and supportive assistance: (1) the academic contributions and assistance of the Ph.D. dissertation committee and other faculty members at Michigan State University, (2) the computer and technical assistance of the Computer Institute for Social Science Research at Michigan State University, (3) typing and editing assistance, (4) financial and administrative support, and (5) other supportive assistance. While I alone bear responsibility for any possible error or misjudgment in the dissertation, the recognition of certain individuals and organizations for their contributions and assistance in the areas listed above is warranted.

Dr. Michael E. Borus (School of Labor and Industrial Relations) chaired the Ph.D. dissertation committee and he provided invaluable assistance and academic support during my entire research efforts. The other committee members of my dissertation included Dr. Robert W. Jackman (Political Science), Dr. Daniel H. Kruger (School of Labor and Industrial Relations), and Dr. Lester Manderscheid (Agricultural Economics). Dr. Joseph Spielberg (Anthropology) was the Dean's representative from the College of Social Sciences during my dissertation defense. Each committee member provided academic support

at each stage of my dissertation and I express my sincere appreciation to the committee for their efforts.

Other faculty members in the School of Labor and Industrial Relations at Michigan State University who commented on the dissertation or provided assistance were Dr. Steven M. Director and Dr. Einar Hardin. The presentation of the dissertation at a research seminar provided by Dr. Hardin greatly benefited my research analysis.

Computer and technical assistance was provided by the Computer Institute for Social Science Research at Michigan State University. Specifically, the following individuals provided computer or technical assistance: Dr. James L. Phillips (CISSR), Dr. Leighton A. Price (CISSR), Beverly Braden (CISSR), and Andy Johanson of Computer Applications Programs. The efforts of Beverly Braden were invaluable as she secured the data from the public use sample tapes and was in charge of the computer research operations of the dissertation.

Pat Sorenson typed the early chapters of the dissertation and Signey Nelson edited various drafts of the dissertation.

The dissertation was financially supported by a Ph.D. dissertation research grant from the U.S. Department of Labor, Employment and Training Administration. Administrative support for the dissertation was provided by Assistant Dean Charles Hanley, College of Social Science, and Dr. Jack Stieber, School of Labor and Industrial Relations. Dean Donald Weston, and Professor James Lyon in the College of Human Medicine, also provided administrative support by allowing a half time leave of absence from my duties in the Office

of Health Services Education and Research in order to complete my research efforts.

Finally, there is a category of assistance called "other supportive assistance," which even though it contains too many persons to name individually, is just as important as the other types of assistance usually provided in a dissertation. This type of support includes such things as a "shoulder to lean on," "occasional threats," encouragement, friendship, and an occasional meal and beverage. Without this type of support from professors, friends, and family, this dissertation would have never been completed.

To all those individuals and organizations who assisted and supported my research efforts in the areas listed above, I am most grateful and appreciative.

Richard Santos

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CHAPTER I

THE SCOPE OF THE RESEARCH

Introduction

A job is an important piece of property in this country. Over 90 percent of the U.S. labor force earns their livelihood directly from wages and salaries. However, this has not always been the case. In earlier periods, a substantial proportion of the population earned its livelihood from the land and later on were self-employed in offices, stores and service activities. As the nation developed into a more urbanized and industrialized economy, self employment declined, and working as an employee in business, industrial firms, and government significantly increased to transform the economy into a job economy. To millions of Americans, a job represents the most important economic activity in their lives since the quality of their lives are determined by their jobs.[1]

Statement of Problem

To persons of Spanish origin, the central means for underwriting a particular standard of living are also provided through the job, even though they may not obtain the same benefits accruing to other members of the job economy. In a job oriented society, the earnings obtained from working are the major economic resources that determine among other things: what type of neighborhood and school

district a person is going to reside, the need for public assistance, social mobility, and the purchasing power of the household. Since earnings accrued from a job determine the standard of living, it is important to understand the dynamics of earnings in a job economy, especially among groups of individuals such as Spanish origin persons whose economic performance in the job economy has not been commensurate with the majority population. One approach to gauge the economic performance among persons of Spanish origin is to analyze the structure of their earnings.

Analyzing the economic performance among persons of Spanish origin through their earnings however involves a very complicated process. Earnings are directly related to labor force status (i.e., employed, unemployed, not in labor force), the number of hours and weeks worked, and the wage rate. These in turn are influenced by the levels of education, training, and other human capital skills, the person's occupation and industry, and demand conditions in the labor market. The process of analyzing the various factors which contribute to and are associated with earnings is thus a complex and dynamic process. Various relationships such as the effect of human capital skills on earnings and occupational level require study. Labor force participation among persons of Spanish origin also needs to be examined, especially as it relates to earnings. In addition, the effect of education, a form of human capital investment, on earnings and its relationship to occupational attainment, a prime determinant of earnings, should be analyzed.

Unfortunately, very little analytical research on the factors contributing to or associated with earnings among the second largest minority group in the nation has been undertaken. A paucity of data, regional concentration of many Spanish origin groups, and a lack of awareness of the Spanish origin population among manpower researchers have all contributed to the neglect of research in this area in varying degrees. While these factors have hindered manpower research on the Spanish origin population, the need for additional research on earnings among persons of Spanish origin is nevertheless fully warranted. Factors which are associated with and contribute to earnings need to be identified in order to form a base of knowledge to facilitate manpower efforts in ameliorating the economic situation of Spanish origin persons.

However, before an analysis of earnings among persons of Spanish origin can be undertaken, an understanding of the Spanish origin population is required. In the next sections of this chapter a brief background of the Spanish origin population, their migration to the Midwestern part of the United States, and the need for an analysis of earnings of Spanish origin persons in the Midwest is presented.

The Spanish Origin Population

Numerical estimates of persons with a Spanish background in the continental United States range, depending upon the source (e.g., school census, migrant programs, Spanish origin spokesmen, Cuban resettlement data), from nine to sixteen million persons.[2] The U.S. Census

Bureau, however, officially estimated that in 1970 approximately nine million persons with a Spanish background resided in the 50 states and the District of Columbia, representing about 5 percent of the population.[3] The term "persons of Spanish background or origin" generally implies individuals who are Mexican American, Puerto Rican, Cuban, Central and South American, or from other Spanish ancestry. In 1972, the ethnic composition for this heterogeneous population was 5.3 million Mexican Americans, 1.5 million Puerto Ricans, and 630,000 Cubans. In addition, 1.8 million were classified as Central Americans, South Americans, and others of Spanish origin.[4] Persons of Mexican origin or descent consequently represent by far the largest group, nearly three-fifths of the estimated Spanish background population.

Classifying the various ethnic groups into one broad encompassing category as Spanish origin for Census purposes runs the risk of over generalization since this broad category entails quite a heterogeneous group. For example, not all Spanish origin persons speak Spanish even though their ancestry has a common Spanish language heritage.[5] Racially, the population is also quite diverse and includes blacks and other racial groups as well as whites. In addition, this diverse population includes recent immigrants, such as the majority of Cubans who have entered the United States since 1959, as well as families long established in this country. Some Spanish origin groups can trace their ancestry in this country before the landing of the Mayflower.

Diversity within the various ethnic groups extends further into the nomenclature for classifying these groups. While the Census Bureau and other governmental units employ a wide range of classifications (e.g. Persons of Spanish Origin, Spanish Surname, Spanish American, Hispanic, Spanish Speaking), some groups and individuals use other terms such as Latin Americans, "Latinos," Chicanos, "Niuyorricans," and "Raza" to describe and identify this population. Moreover, the various identifying terms invoke various feelings of pride and have different connotations.

While it is apparent that considerable controversy exists over the actual number of Spanish origin persons and that a wide range of diversity characterizes this population, Spanish origin persons do represent the second largest minority group in this country, and in spite of their diversity have an overall sense of group identity which is enhanced by a common language heritage and similar cultural values. Furthermore, there is little controversy over the fact that persons of Spanish origin have not enjoyed full economic and social equality. For example, data from the 1973 Manpower Report of the President notes that in 1971, the median income for all families of Spanish origin was $7,500, compared to $10,300 for all American families. Puerto Rican families reported a median income of only $6,200. In addition, the unemployment rate for the Spanish origin population during March 1972 was reported over 8 percent, about a third above the overall national rate.[6] Despite their disproportionately low family income and high unemployment, the socio-economic situation of Spanish origin persons has not received wide-spread

national attention and concern. It has been only within the last several years that national efforts have been directed to ameliorate the economic problems faced by persons of Spanish origin.

One possible explanation for this lack of a national perspective on persons of Spanish origin arises from the regional perspective usually assigned to this group since this population is heavily concentrated in certain parts of the country. For example, Mexican Americans or Chicanos, who comprise the largest segment of this population reside primarily in five southwestern states--Texas, New Mexico, Arizona, California, and Colorado--although significant numbers have moved to other states especially in the Midwest. On the other hand, Puerto Ricans are more commonly found on the Eastern seaboard while Cubans are largely concentrated in Florida.[7]

While nearly three-fourths of the Spanish origin population in this country resides in five states (California, Texas, New York, Florida, and New Mexico) and helps explain the regional parochialism usually assigned to this population, Spanish origin groups have tended, especially since World War II, not only to move to more urbanized industrial areas but also to become more geographically dispersed throughout the nation. For example, the 1973 Manpower Report of the President notes that every state has some Spanish origin residents, ranging from 2,000 in North Dakota to over 2,500,000 in California. In addition, 31 states report a Spanish origin population of at least 20,000 people. As for urbanization, 46 cities now have 10,000 or more Spanish origin inhabitants.[8]

The movement of Spanish origin persons into areas outside their traditional geographical concentration has extended into the Chicago area, the northern parts of Indiana and Ohio, and southern Michigan. Five Midwestern states (Wisconsin, Illinois, Michigan, Indiana and Ohio) have over three-quarters of a million persons of Spanish origin according to the 1970 census. Spanish origin organizations, however, claim that the actual number may well exceed a million. Regardless of the actual number, the Midwest is an area of the country that has a sizeable and increasing Spanish origin population that includes Mexican Americans, Puerto Ricans, Cubans, and others of Spanish origin.

Even though the Midwest has a substantial and increasing Spanish origin population, not much is known about their economic performance in this major industrial area of the United States. For example, are earning differentials between Spanish origin groups and whites in the Midwest less than in other geographical areas where the Spanish origin have traditionally resided? Has the labor force participation increased among the Spanish origin groups, especially among females, as a result of a predominantly industrial-manufacturing environment? This type of inquiry into the earnings of the Spanish origin persons would yield considerable insight into some of the major factors influencing economic performance of the Spanish origin population.

Prior to undertaking a research inquiry into earnings among Spanish origin persons in the Midwest, however, it is important to understand the historical aspects of the migration of Spanish origin

persons to the Midwest, especially if the search for work and better economic opportunities are the major reason for migration. The development of a historical perspective in this type of research inquiry permits a more well developed analysis of their economic performance.

Spanish Origin Persons in the Midwest

The Spanish origin population has generally settled in the Midwest either through (a) direct migration from a "Spanish country" such as Mexico or Cuba; (b) migration from a region of the country with a large Spanish origin population such as New York City or South Texas; or (c) settling out from the migrant labor stream. The location of Spanish origin persons in the Midwest is reflected in Table 1-1 which presents the Spanish origin population by group for five Midwest states. According to the 1970 Census, Illinois has the largest Spanish origin population, slightly over 393,000 or approximately 45 percent of the Spanish origin population in these states. The largest category of Spanish origin persons in these states is the Central and South American group, approximately 334,000 persons. While this is a sizeable group, it does cover a broad spectrum of Central and South American countries. In contrast, the much more narrowly defined category, Mexican origin, has over 300,000 inhabitants in these states. If one categorizes Spanish background by country of origin, Mexican Americans are the largest sub-group of Spanish origin persons in the Midwest.

In explaining the presence of large numbers of Spanish-speaking people in the Midwest and their increasing attraction to

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Table 1-1.--Persons of Spanish Origin in the Midwest.

State	Mexican American	Puerto Rican	Cuban	Central and South American	Other	Total Spanish Origin
Illinois	160,419	87,477	20,796	106,157	18,355	393,204
Indiana	30,034	9,269	1,158	65,775	6,236	112,472
Michigan	65,329	6,202	2,762	61,837	14,940	151,070
Ohio	26,795	20,272	2,809	67,662	12,457	129,995
Wisconsin	18,268	7,248	840	32,157	4,362	62,875
Subtotal	300,845	130,468	28,365	333,588	56,350	849,616
U.S. Total	4,532,435	1,429,396	544,600	1,508,886	1,057,305	9,072,602

Source: U.S. Bureau of the Census 1970, Persons of Spanish Origin in the United States.

the area, it appears that the desire to improve their economic and working conditions plays a strong and primary motivating force for the various Spanish origin groups with the exception of Cubans since they represent an exiled group. In the case of Mexican Americans, a survey in the Chicago area supports the prospect of improved economic conditions as the primary motivating force for migrating to an urban area.[9] Many Mexican immigrants and Mexican Americans from the Southwest were attracted to the rapidly increasing manufacturing jobs, railroad construction, and harvesting of sugar beets and other agricultural crops in Northern and Midwestern states. In Chicago and the Calumet region, the steel industry through the use of "recruiters" brought Mexicans by the train and car load.[10] The recruited workers may have come with the desire to return but many instead remained.

The development by agricultural interests of a migrant farm labor force, of which the overwhelming majority are of Mexican origin, also accounts for the large number of Mexican Americans currently residing in the Midwest. Extensive efforts at labor recruitment were practiced by the agricultural industry. The Beet Growers Employment Committee, for example, was formed in 1938 to recruit workers for the Michigan Sugar Company.[11] While the companies never contracted with workers directly and disclaimed responsibility for their welfare, they nevertheless maintained an economic interest in their supply of labor. Recruitment efforts were successful and by the early forties, it was estimated that as

many as 15,000 Mexican American farm workers were coming to harvest Michigan's seasonal crops.[12]

While there have been efforts to document the migration of Mexican Americans into the Midwest, few systematic studies exist on the Midwest settlement of other Spanish origin groups.[13] For example, even though Puerto Ricans now reside in all 50 states, with Chicago having the second largest mainland Puerto Rican community, migration information is usually centered on the New York State area and emphasizes the Puerto Rico/mainland migration.[14] This situation is understandable since most of the migration to the mainland occurred immediately after World War II, and settlement occurred exclusively in New York City. It was not until after 1950 that Puerto Rican communities began to appear in other metropolitan areas of the country. Migration outside the New York area is reported more frequently among second generation mainland residents than first generation residents, probably reflecting greater labor market information among the former concerning other locations on the mainland. While a scarcity of specific information exists on these Puerto Rican communities, it is reported that a disproportionate number of them reside in the deteriorating cores of large urban areas, and that a smaller but significant group are migrant farm workers, returning to the island yearly or settling in the North East and North Central states.[15]

Cubans on the other hand experienced their major influx into the United States since 1959, with nearly two-thirds of the approximately 600,000 Cubans immigrating as refugees. Florida has the

largest Cuban population; an overwhelming 51 percent of the Cuban immigrants since 1960 have settled in that state.[16] Illinois, however, is one of the five states with the largest Cuban population.

As for pinpointing the exact migration pattern of persons who are of Central and South American extraction and others of Spanish origin, the task is extremely difficult since the groups are quite large and diverse. These individuals may derive their Spanish origin from such diverse countries as Costa Rica, Panama, Haiti, Colombia, and Chile to name just a few. While persons from these countries may have common cultural and language traits, differences are evident. There has been, however, virtually no efforts to document the migration and implications of Central and South American origin persons to this country.

In summarizing the migration origins of the nearly three-quarters of a million persons of Spanish origin who currently reside in five Midwestern states, it is apparent that geographical origins and periods of migration vary for the various Spanish origin groups. Spanish origin settlements in Midwestern communities were prompted not solely by expanding employment in industry and agriculture but also through effective labor recruitment practices by these industries in the economically depressed areas where Spanish origin groups, especially Mexican Americans, have historically resided. While these factors help explain Spanish origin settlements, it must be noted that migration is a complex phenomenon and a subject which is beyond the scope and purpose of this research. Nevertheless, the Midwestern industrial states do appear to offer a contrasting economic situation

to Spanish origin persons since they have been traditionally concentrated in economically depressed areas such as South Texas and Puerto Rico. In addition, Midwest states are generally characterized by relatively high wages, industrialization, unionization and even though subject to dispute, greater perceived opportunities in the area of civil rights.

A priori, one might expect the Midwest to provide an economic and social environment which offers better opportunities to persons of Spanish origin for advancement. Income statistics lend support and the 1970 U.S. Census notes that four of the five Midwest states in 1969 reported higher median income of Spanish origin males 16 years and older than any other state in the country with a population of 100,000 or more Spanish origin persons.[17] Reflecting on this favorable economic climate in one of the Midwest states, one study concluded that the state could expect an above average growth in its population of Spanish origin persons.[18] However, an assessment of the economic situation including the supposedly favorable economic climate for persons of Spanish origin in the Midwest has yet to be fully explored.

An Earning Analysis in the Midwest

While there has been a need to analyze earnings among persons of Spanish origin especially in areas outside their traditional geographical residence, research efforts on persons of Spanish origin in the Midwest have largely been hindered by a paucity of data. Moreover, available studies on this population in the Midwest have generally adopted a case study approach which limits the ability to

generalize and at times produces inconclusive results.[19] For example, a case study of East Chicago revealed little support for the assertion that the Midwest urban environment had contributed to important differences between the position of Mexican Americans in the Midwest and the Southwest.[20] Results also appear to vary on this issue depending on whether they focus on recent immigrants or people with longer residence status. In addition, a comparative assessment among the various ethnic groups of Spanish origins in similar economic environments has generally been omitted from most studies; although one report indicates that people of Central and South American extration and others of Spanish origin tend to have higher income, better jobs, and more education than the other Spanish speaking groups.[21]

Outline of the Study

An analysis of earnings among persons of Spanish origin should focus on the role of human capital factors, such as education and experience, in explaining earnings. The analysis should also examine the earnings of recent arrivals as compared with those of longer residence status. What are the earning differentials, if any, between Spanish origin groups? How do the earnings of Spanish origin groups compare with those of the overall white population? An analysis of the various factors associated with earnings among persons of Spanish origin would reveal many insights into these types of questions.

Prior to analyzing the earnings among Spanish origin persons in the Midwest, an overview of the literature on the economic

performance of Spanish origin groups, especially as it relates to the Midwest, is essential to a complete understanding of the earning structure of the Spanish origin. Chapter II presents an overview of the major research and findings which have focused on the economic performance of the various Spanish origin groups with special emphasis and relevance in the states under study.

Chapter III reviews certain theoretical considerations involved in analyzing earnings and outlines the basic research design of the study. Chapter IV describes and compares the social and economic characteristics of the various sample groups under study. Chapter V analyzes the earnings data utilizing the basic research design of the study. Chapter VI examines the manpower implications of the major findings of the study. Overall, the study is undertaken with the realization that an adequate knowledge of the earnings situation for Spanish origin persons is required to insure that manpower policies reflect efforts to achieve economic parity with other groups in the region. A thorough understanding of the economic performance of Spanish origin persons is especially warranted if migration by Spanish origin persons to the states under study is to persist.

FOOTNOTES--CHAPTER I

[1]The concept of a job economy is taken from Dr. Daniel H. Kruger, Michigan State University School of Labor and Industrial Relations, and I express my appreciation to Dr. Kruger for sharing his well developed concept on the importance of a job.

[2]The Spanish origin overview draws considerably from the following articles and reports: Henry Ramirez, "America's Spanish Speaking: A Profile," Manpower, Vol. 4 (September, 1972), 31-34; P.M. Ryscavage and E.F. Mellor, "The Economic Situation of Spanish Americans," Monthly Labor Review, Vol. 96 No. 4 (April, 1973), 3-9; Department of Labor, Manpower Report of the President 1973, section on "Spanish-Speaking Americans: Their Manpower Problems and Opportunities," 85-103.

[3]U.S. Department of Labor, Manpower Report of the President, 1973, p. 87.

[4]Ibid.

[5]Henry Ramirez, op. cit., p. 31.

[6]Manpower Report of the President, 1973, p. 86.

[7]Ryscavage and Mellor, op. cit., p. 3.

[8]Manpower Report of the President, 1973, pp. 88-89.

[9]Daniel O. Price, "Rural to Urban Migration of Mexican Americans, Negroes, and Anglos," International Migration Review, Vol. 5 (November, 1973), 286.

[10]Julian Samora and Richard A. Lamanna, Mexican Americans in a Midwest Metropolis: A Study of East Chicago, Advance Report #10 to the Mexican American Study Project, Division of Research, Graduate School of Business Administration, University of California at Los Angles, 1967, p. 71.

[11]Carey McWilliams, "Mexicans in Michigan," Common Ground (Autumn, 1941), 6.

[12]Ibid., 5.

[13]For some sources on Midwest migration, see Nancy Saldana, Mexican Americans in the Midwest: An Annotated Bibliography (Michigan State University, East Lansing: Department of Sociology, July 1969), 44-49.

[14]An excellent article on Puerto Rican migration, see J. Hernadez Alvarez, "The Movement and Settlement of Puerto Ricans Within the United States, 1950-1960," International Migration Review, Vol. 2, No. 2 (Spring, 1968), pp. 40-51, and also Joseph P. Fitzpatrick, Puerto Rican Americans: The Meaning of Migration to the Mainland (New Jersey: Prentice Hall, Inc., 1971), pp. 72-76.

[15]Magdalena Miranda, Puerto Rican Task Force Report (New York: Council on Social Work Education, 1973), pp. 6-7.

[16]Manpower Report of the President, 1973, p. 85.

[17]U.S. Bureau of the Census, Census of Population: 1970 Subject Reports, Final Report PC(2)-1C, Persons of Spanish Origin (Washington, D.C.: U.S. Government Printing Office, 1973). (Wisconsin does not have a population of 100,000 or more Spanish origin persons and therefore no median income was reported for that state.)

[18]David I. Verway, "Spanish Michigan," Michigan State Economic Record (Michigan State University, East Lansing: Bureau of Business and Economic Research, Vol. 15 (January/February, 1973), p. 7.

[19]For a bibliography on Mexican American employment in the Midwest see Saldona, Mexican Americans in the Midwest, pp. 30-34, and also Harvey M. Choldin and Frafton D. Trout, Mexican American in Transition: Migration and Employment in Michigan Cities (Michigan State University, Department of Sociology and Pural Manpower Center, East Lansing, 1969).

[20]Samora and Lamanna, op. cit., p. vi.

[21]Ramirez, op. cit., p. 32.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

Literature on the economic performance of Spanish origin persons has not been abundant for a variety of reasons. Until recently Spanish origin persons had not received widespread national attention, and their socioeconomic problems have largely been regarded in a regional context. Empirical research and data on the economic performance of the Spanish origin population usually focus on those geographical areas such as the Southwest, historically associated with large numbers of Spanish origin persons. Research on the Spanish origin population has also been hindered by inadequate data bases and problems in properly identifying the population under study. Moreover, these studies rarely focus on comparative data among persons of Spanish origin because of the regional perspective, i.e., Cubans, Puerto Ricans and Mexican Americans are not generally found together in large numbers within a region. Indeed, the major research on this population has predominantly concentrated on Mexican Americans in the Southwest. Again, due to a paucity of data and lack of awareness of the Spanish origin population among manpower researchers, the Midwest for the most part has been generally disregarded in research on the economic performance of Spanish origin persons.

Nevertheless, the relatively few studies which have been generated on employment and earning related issues are worth reviewing before an analysis of earnings is undertaken. The first section of this chapter highlights the literature regarding general employment and earnings outside the Midwest but with applicability or relevance to the Midwest, and the next section isolates major research pertaining to earnings in the Midwest states.

Economic Overview

The 1973 Manpower Report of the President presents the most recent and succinct manpower profile of the Spanish origin population, largely based on data from the 1970 Census. By various measures of economic performance--earnings, income, employment--persons of Spanish origin lag behind the general population. Salient findings in the manpower profile indicated that approximately 20 percent of the Spanish origin adults age 25 and older were classified as illiterates, the population was overwhelming urban (84 percent), and it was relatively young with a median age of 20, eight years younger than the median for the total population. While the Manpower Report presents a general descriptive profile of manpower, several recent articles in the Monthly Labor Review, also for the most part utilizing 1970 Census data, focus on more refined economic aspects of the Spanish origin population. Ryscavage and Mellor in a Monthly Labor Review article note that the average earning per Spanish American worker, especially among primary workers, was lower than that of white workers.[1] In the case of Puerto Ricans, the woman was often the primary worker in the family. These lower earnings

primarily account for the income differentials between the Spanish origin population and the white population. Another Monthly Labor Review article utilizing quarterly data from the Current Population Survey finds higher unemployment rates among Spanish origin workers in comparison to white workers.[2]

A more in depth article has examined various factors which are associated with occupational standing of Spanish surnamed workers, an indication of their economic performance.[3] Based on the 1960 Census data and data from the Equal Employment Opportunity Commission, it was shown through use of regression techniques that factors directly affecting the behavior of the employers such as affirmative action mandates, are more significant in explaining the occupational standing of Spanish surnamed workers than factors relating to the worker himself or the community.

A recent dissertation, while not focusing on all Spanish origin persons, comparatively examined the labor force participation rate (L.F.P.R.) of urban poor.[4] Using 1960 Census tract data, the sample includes Mexican Americans and Puerto Ricans. The purpose of the study was to examine the significantly different patterns of labor force participation among urban poor--poor whites, blacks, Mexican Americans, and Puerto Ricans--and determine if the difference was due to different economic environments. The results showed the differences in L.F.P.R. among the urban poor was generally not a significant result of economic environments but rather a result of educational attainment.[5]

Another comparative study using 1960 Census data analyzed the effects of education on income among selected ethnic groups that included Mexican Americans and Puerto Ricans.[6] Half of the difference between the income among the selected ethnic groups and the white group could be accounted for in terms of education. In the case of Mexican Americans, more than half of the income difference could be accounted for by educational differences. Moreover, the study found considerable support for the notion that labor market discrimination is directly related to the observable physical appearance dissimilarity between the ethnic group and the majority population.

One study by Martin T. Katzman has developed an econometric model to explain ethnic differences in economic performance.[7] It attempts to explain differences in performance among 14 ethnic groups including Puerto Ricans and Mexican Americans in the nation's nine largest Standard Metropolitan Statistical Areas. The study concludes that Mexican Americans are the least successful group in terms of economic performance. Puerto Ricans also earn less, are underemployed, and underpresented in all the white collar employment but fare better than the Mexican Americans.

In another study by Katzman examining discrimination and the economic performance of Negroes, Puerto Ricans, and Mexican Americans in several metropolitan areas, he also suggests that color discrimination does not account for all of the underachievement of the minority groups.[8] In the case of Puerto Ricans and Mexican Americans, the data indicates that second generation Puerto Ricans complete

more years of schooling, have more businessmen, and enter clerical and sales jobs at a higher rate than Mexican Americans. The research suggests that this underachievement results from the distinct sub-cultural patterns (emphasis mine) and the reaction of the white middle class to these patterns.

Data from one study in the New York SMSA suggest that Puerto Ricans achieve lower earnings relative to whites with similar educational attainment or in similar occupations.[9] Findings from the study suggest that earning differences among various racial groups arise not from employer related discrimination but rather from real skill differentials. The study notes if adjustments for skill differences between Puerto Ricans, blacks, and whites are taken into account the earning differentials among the groups are eliminated in the New York SMSA. The results raise the possibility that earning differentials may originate before entry into the labor market, especially during the early schooling period when minorities receive low quality education.

Even though the research mentioned above represents most of the comparative research on economic performance of Spanish origin persons, there also has been some analytical research on factors associated with income and earnings for particular groups of the Spanish origin category, especially among Mexican Americans. Walter Fogel has done considerable research on the economic relationship between income, education, and discrimination among Mexican Americans in the Southwest through the use of income ratios.[10] Fogel's research is reported in two Advance Reports of the University of

California, Los Angeles Mexican American Study Project and the results are also presented in the Mexican American People, the results of the UCLA study.[11]

In one advance report, Fogel examines the relationship between education and income in an analytical and comparative framework and notes that average earnings of Mexican Americans have been high relative to their educational preparation.[12] However, in terms of income differentials between Mexican Americans and the white population, education accounts for only a part of these differentials. Some of the findings which are reported in the Mexican American People are:[13] (1) income does not increase with age; (2) there is low labor force participation by women, possibly due to cultural factors; (3) payment of the same wage rate to all persons employed in the same job classification exists in some geographical areas and certain industries associated with higher earnings, but wage standardization is also associated with low minority group employment, and; (4) there is limited support for the notion that earnings ratios of Mexican Americans would be high where they represent a large portion of the total labor supply and low where they account for a small portion.

Two recent articles appearing in the Social Science Quarterly also focus on income related issues among Mexican Americans in the Southwest. One of the articles examines some factors associated with income for Mexican Americans in Austin, Texas, using Duncan's theoretical model of contrasting the income producing effects of status inheritance with those of racial discrimination.[14] The

findings based on data obtained from this locale indicate that status inheritance and education explain more of the income discrepancy between whites and Mexican Americans than between whites and blacks in the Duncan study. The other article examined the income difference between Mexican Americans and whites attributed respectively to educational and occupational differences and to minority status.[15] Using 1960 U.S. Census Data, the study examined the cost of being a Mexican American male worker after educational and occupational differentials with white males were taken into account. The economic cost of being a Mexican American in comparison to a white worker was found on the average to be $900. The major thrust of these studies appears to be in the area of discrimination and the relationships between education, occupation, and income.

Other studies addressing the issue of job discrimination among Mexican Americans in the Southwest are the ones undertaken by Schmidt and Blair, respectively. Schmidt examines Equal Employment Opportunity data in 20 counties and offers evidence supporting a job caste system that walls off white collar employment for Spanish surnamed workers even in areas where their number in the population is proportionately greater.[16] Blair on the other hand uses rates of return from schooling among Mexican Americans and whites in Santa Clara County, California to determine the possibility of discrimination.[17] He concludes that the disadvantages evident in the rates of return to schooling among Mexican Americans appear to lie on the employment market side, rather than on measurable

schooling effects.[18] In other words, the disadvantages status arises primarily from lower wages paid to Mexican American employees in comparison to other employees.

Not all economic research on Mexican Americans employ human capital factors or the presence of labor market discrimination to explain low earnings among Mexican Americans. One researcher notes that the economic assumption of a rational income maximizing individual may not apply to Mexican Americans:

> ...In the case of the Mexican American, traditional values have been strongly influenced by a folk or rural culture in which organized and continuous striving for future monetary gains plays little part. Satisfaction of present wishes and needs tends to take precedence over long range planning which requires immediate sacrifices.[19]

In contrast, other research has concluded that it is erroneous to think that any significant difference in the desire to participate in the labor force exists for Mexican Americans and whites.[20] Schmidt feels that it is just that Mexican Americans are not able to fulfill that desire and to reap the same benefits that the majority population is able to extract from the job economy.

Research on earnings and income among Puerto Ricans, Cubans, and others of Spanish origin has been even less abundant and more regionalized than the research on Mexican Americans.[21] In the case of Puerto Ricans, research on their income and earnings on the mainland focuses on New York State and has generally been descriptive. Puerto Ricans in New York City, according to one writer, have become the "industrial reserve army" of that city.[22] Most of the remaining research extended to Puerto Ricans on the island.

Research on Cubans and their employment situation has been concentrated in one area, Florida. A recent dissertation examined the economic adaptation of a sample of Cuban refugees that included professional, white collar, and skilled workers.[23] It found more successful adaptation among civil and electrical engineers, architects, and similar professions where there was an absence of clear restrictions on entry such as licensing or specific educational requirements. However, even in areas or professions where no restrictions of entry prevailed, earnings still favored the U.S. practitioner. Overall there was a paucity of literature on the economic performance of Cubans. However, this was even more so for the broad category of Spanish origin persons described as "Central and South Americans" and "Others of Spanish Origin." Very little research outside published census reports focus on the employment and earnings situation pertaining to these groups of Spanish origin persons.

Economic Performance in the Midwest

The literature on employment and earning characteristics of Spanish origin persons in the Midwest has generally been descriptive and without much comparative depth, even though there are some notable exceptions.[24] In the comparative category, two surveys, one using Census data for Michigan and the other household interviews in Detroit, have examined some employment and earnings aspects of the Spanish origin population. The Michigan survey article based on Census data notes higher income for the Spanish origin population under 26 years of age in comparison to the same age group of the

white population.[25] However, this income advantage changes after 25 and declines in comparison to the white population. The research explains these phenomena by suggesting that prior to 25 years of age most whites are in school while young Spanish origin persons tend to be working. Among professionals, income differentials were also noted, especially among physicians of Spanish origin. The Detroit survey found Spanish origin persons concentrated in manufacturing, construction, and transportation industries.[26]

Besides the comparative findings on Spanish origin persons, there have been numerous studies on Mexican Americans in the Midwest. These studies generally focus on a specific geographical area, by state or city. Samora and Lammana, as part of the UCLA Mexican American Study Project, have done research on Mexican Americans in East Chicago.[27] Using 1960 Census data and employment data from a large local employer, they found no conclusive evidence to support the assertion that Mexican Americans in East Chicago are able to obtain better social and economic benefits in comparison to those in the Southwest. They argue that California, because of its better economic environment, has a stronger migration attraction than the Midwest. However, Samora and Lammana do find an availability of good, steady but unskilled work for Mexican Americans in East Chicago. Full economic integration, nevertheless, is thwarted because an apparent barrier exists for Mexican Americans between skilled and unskilled work.

In Saginaw County, Michigan, Olen E. Leonard undertook a study of 290 "Spanish speaking" families in 1960-1961.[28] The study

revealed nearly 80 percent of the urban heads of household performed unskilled work. Yet despite this concentration, earnings according to Leonard approached the national level for all employed persons. Like Samora and Lammana, Leonard discovered no apparent major hurdle in obtaining unskilled or semi-skilled work for Spanish speaking persons in Saginaw County. However, he found a prevalent and considerable absence of Spanish speaking people in skilled work.

Two sets of sociologists, Shannon and Shannon in Wisconsin and Choldin and Trout in Michigan, have studied the process of acculturation and absorption of Mexican Americans into a Northern industrial society.[29] Shannon and Shannon present findings pertaining to a longitudinal study of economic absorption and cultural integration of Mexican Americans and Negroes in a predominantly white industrial locale, Racine, Wisconsin.[30] They found that Mexican Americans were earning less money than whites or blacks, even though, generally, findings in other locales have indicated that Mexican Americans earn more than blacks. In spite of this situation, Mexican Americans in Racine, Wisconsin still earned more money than Southwest urban Mexican Americans which indicates a generally higher wage rate in Northern areas. In addition, Shannon and Shannon found that higher levels of education and longer periods of residence in Racine are associated with higher earnings for the white population but not for the black and Mexican American residents.

In Michigan, Choldin and Trout also examined the urbanization process of settled Mexican Americans.[31] A total of 695 heads of household were interviewed in eight counties outside the Detroit

Metropolitan Statistical Area, an area where half of the Michigan Spanish origin population resides. The exclusion of Detroit from the sample may explain why 40 percent of the sample over the age of 16 were engaged in migrant farm work before settling in Michigan. Over half of the jobs held by Mexican Americans were in the motor vehicle and kindred metal fabrication industries. Unionization was extensive in the Choldin and Trout study, with 75 percent of those sampled claiming union membership in their present or last job. Of these union members, more than half belonged to the United Auto Workers Union. In summary, the Choldin and Trout study portrays an economic transition for Mexican Americans, a movement from field work into factory work. It leaves economic welfare issues such as economic performance due to migration and transition to further research.

Mark Erenburg examines the economic performance of Mexican Americans residing in Wisconsin. However, the study focuses on the economic benefits obtained by ex-migrant workers who settled in Wisconsin, in comparison to current migrant workers.[32] Using a control group of Mexican American migrant workers (N=65) and a group of settled out migrant workers (N=196) the net economic returns, calculated by using benefit cost techniques, from staying in Wisconsin over a four year period (1963-1966) in comparison to continuing harvesting crops on a seasonal basis was $5,488.81. During this time period, the data indicated a favorable net return ($1,568.20 on an annual basis) for those Mexican American migrant workers who decided to settle in Wisconsin. While the results indicate favorable

economic performance for Mexican American farm workers who decide to settle in Wisconsin, the small sample size may restrict any broad generalizations. In addition, the favorable findings apply only to migrant workers and consequently an extension of these results may not necessarily apply to Mexican Americans who were not migrant farm workers in origin or farm workers who may have settled at different time periods. Further research is warranted on the economic performance of these individuals.

Summary of Literature Review

A cursory review of the research pertaining to earnings and income among persons of Spanish origin, especially in the Midwest, reveals the following major points: (1) the research is generally of a descriptive and survey nature; (2) the case study approach which emphasizes regional or geographical areas characterized by a large population of Spanish origin persons is most predominant; (3) some of these areas and regions such as South Texas are characterized by adverse socio-economic conditions; (4) virtually no comparative inquiry among the different groups within the Spanish origin population exists; (5) there is no significant employment and earnings research available on the large and broad Spanish origin categories, "Central and South Americans" and "Other Spanish origin;" (6) there is a presence of income differentials among Spanish origin persons in comparison to the majority population with no clear concensus as to the factors influencing these differentials and; (7) there has been limited use of statistical regression techniques to analyze income and earnings.

For Mexican Americans in the Midwest, research findings indicate higher earnings in comparison to other regions and a proportionately large number of workers concentrated in unskilled and semi-skilled jobs. To determine whether there are actual barriers to the skilled and professional categories of employment in the Midwest as reported by several survey studies, requires further inquiry. From the literature review, it tentatively appears that one group of Spanish origin persons, Mexican Americans, who are now declining as the seasonal, agricultural workers of the Midwest, are rapidly becoming factory workers. An inquiry into the earnings of Spanish origin persons in the Midwest also reveals the need for a comparative assessment of economic performance, i.e., Spanish origin population vis-a-vis the white population. By comparing the economic performance of each Spanish origin group to the white population through a comparative earnings framework, considerable knowledge on the factors influencing earnings among Spanish origin persons could be obtained. In addition, more appropriate manpower strategies to achieve economic parity could be adopted as public policy.

FOOTNOTES--CHAPTER II

[1]P.M. Ryscavage and E.F. Mellor, op. cit., pp. 3-9.

[2]Roberta V. McKay, "Employment and Unemployment Among Americans of Spanish Origin," Monthly Labor Review, Vol. 97, No. 4 (April, 1974), 12-16.

[3]Jerolyn R. Lyle, "Factors Affecting the Job Status of Workers With Spanish Surnames," Monthly Labor Review, Vol. 96, No. 4 (April, 1973), 10-16.

[4]Larry Bruce Sawyers, "The Labor Force Participation of the Urban Poor (Ph.D. Dissertation, University of Michigan, 1969).

[5]Ibid., p. 106.

[6]Walter A. Fogel, "The Effect of Education on Low Educational Attainment on Incomes: A Comparative Study of Selected Ethnic Groups," Journal of Human Resources, Vol. 1 (Fall, 1966), 22-40.

[7]Martin T. Katzman, "Opportunity, Subculture and the Economic Performance of Urban Ethnic Groups," American Journal of Economics and Sociology, Vol. 28, No. 4 (October, 1960), 351-366.

[8]Martin T. Katzman, "Discrimination, Subculture, and the Economic Performance of Negroes, Puerto Ricans, and Mexican Americans," American Journal of Economics and Sociology, Vol. 27, No. 4 (October, 1968), 371-376.

[9]Albert W. Niemi, Jr., "Wage Discrimination Against Negroes and Puerto Ricans in the New York SMSA," Social Science Quarterly, Vol. 55, No. 1 (June, 1974), 112-120.

[10]Walter A. Fogel, Education and Income of Mexican Americans in the Southwest, Advance Report #1, 1965, and Mexican Americans in Southwest Labor Markets, Advance Report #10, 1967. Reports submitted to the Mexican American Study Project, Graduate School of Business Administration, University of California at Los Angeles.

[11]Leo Grebler, Joan W. Moore, Ralph C. Guzman, The Mexican American People (New York: Free Press, 1970) specifically chapters 9 and 10.

[12]Walter A. Fogel, Education and Income of Mexican Americans in the Southwest, p. vii.

[13]These findings are best reported in chapters 9 and 10, Grebler, Moore, Guzman, op. cit., pp. 206-207 and 237-246.

[14]J. Allen William, Peter G. Beeson, and David R. Johnson, "Some Factors Associated with Income Among Mexican Americans," Social Science Quarterly, Vol. 53 (March, 1973), 710-715.

[15]Dudley L. Poston and David Alvirez, "On the Cost of Being A Mexican American Worker," Social Science Quarterly, Vol. 53 (March, 1973), 697-709.

[16]Fred H. Schmidt, Spanish Surnamed American Employment in the Southwest (Washington, D.C., U.S. Government Printing Office, no date given), a study prepared for the Colorado Civil Rights Commission under the asupices of the Equal Employment Opportunity Commission.

[17]Phillip M. Blair, Job Discrimination and Education: An Investment Analysis (New York: Praeger Publishers, 1972).

[18]Blair, op. cit., p. 138.

[19]Paul Bullock, "Employment Problems of the Mexican American," Industrial Relations, Vol. 2, No. 3 (May, 1964), 39.

[20]Fred H. Schmidt, "Job Caste in the Southwest," Industrial Relations, Vol. 9, No. 1 (October, 1969), 103.

[21]For some further references on Puerto Ricans see the economic section of Paquita Vivo, Puerto Ricans: An Annotated Bibliography (New York and London: Xerox, 1973).

[22]Andres Torres, "Puerto Rican Employment in New York," New Generation, Vol. 53, No. 4 (Fall, 1971), 17.

[23]Raul Moncarz, "A Study on the Effect of Environmental Change on Human Capital Among Selected Skilled Cubans," (Ph.D. Dissertation, Florida State University, 1969).

[24]For well documented bibliographies on Spanish origin groups in the Midwest see Gilbert Cardenas, La Raza in the Midwest and Great Lake States (Centro de Estudios Chicanos E Investigaciones Sociales, University of Notre Dame, 1974) and Nancy Saldana, op. cit., especially the section on employment report of the Mexican American Study Project.

[25]David I. Verway, op. cit., pp. 3-7.

[26]Charles L. Lebeaux and Gumecindo Salas, Latino Life and Social Needs: A Detroit Survey (Archdiocese of Detroit, 1973).

[27]Julian Samora and Richard A. Lammana, op. cit.

[28]Olen E. Leonard, Changes in the Spanish Speaking Labor Force of Saginaw County, Michigan (Mississippi State University Social Science Research Center Report #22, State College, Mississippi, September, 1968).

[29]Some of the work by these researchers include: Lyle W. Shannon et al., Economic Absorption and Cultural Integration of Immigrant Workers (Iowa City: Department of Sociology and Anthropology, University of Iowa, 1966); Lyle and Magdaline Shannon, Minority Migrants in the Urban Community (Beverly Hills and London: Sage Publications, 1973); and Harvey M. Choldin and Grafton D. Trout, Mexican Americans in Transition: Migration and Employment in Michigan Cities, Department of Sociology and Rural Manpower Center, Michigan State University, 1969.

[30]Lyle and Magdaline Shannon, op. cit., pp. 80-112.

[31]Choldin and Trout, op. cit., pp. 172-221.

[32]Mark Edward Erenburg, "A Study of the Potential Relocation of Texas Michigan Migratory Farm Workers to Wisconsin," (Ph.D. Dissertation, University of Wisconsin, 1969).

CHAPTER III

THEORETICAL CONSIDERATIONS AND THE RESEARCH DESIGN

Introduction

Earnings of Spanish origin persons or any other population group may be influenced by a multitude of social, political, and economic factors. An analysis of earnings, therefore, requires a theoretical understanding of these factors. Without the guide of an appropriate theoretical framework, an analysis of earnings runs the risk of becoming ambiguous and without foundation. Consequently, a study on earnings, regardless of the objectives (e.g., identifying factors which significantly influence earnings, determining why some groups of people earn less or more than others) needs an appropriate theoretical perspective since the earning process is such a complicated and dynamic one. Earning differentials, for example, may reflect among other things productivity differences caused by discrimination and differences in such human capital skills as educational attainment and training.[1] Just as there are a host of factors and conditions influencing earnings, economic theories of earnings also entertain a number of varied themes. Some of the major theoretical considerations which are useful in understanding the

earning process are presented in order to obtain a better framework for analyzing earnings among persons of Spanish origin.[2]

A Theoretical Framework

While a cursory review of economic theories explaining the earnings structure reveals varied themes, a common analytical framework can also be observed. It is apparent that a basic supply and demand analytical framework emphasizing the market conditions for labor constitutes the essence of several economic theories. This theoretical perspective should not create much surprise since earnings, from an economic viewpoint, represent a set of prices influenced by supply and demand conditions.[3] Various research efforts examining the structure of earnings consequently adopt a theoretical perspective based on either supply or demand conditions found in a labor market. Explaining earnings consequently focuses on either the importance of investing in people (labor supply) or the demand conditions present in the labor market as ways to influence earnings. For example, some labor market theorists argue that in the short run demand conditions most certainly influence the earnings for a particular type of labor, especially if the supply of labor is relatively inelastic.[4] However, in the long run, there are at most only a few occupations for which the long run supply is strictly limited since it may be easier to influence supply of labor through education and training programs. Consequently considerable research emphasizes supply conditions as prime factors in influencing earnings.

It is important to understand the effects of adopting a theoretical framework which emphasizes either supply or demand conditions. Recent research into the low earnings of the working poor by Barry Bluestone et al. have vividly indicated the implications and consequences, especially during the last two decades, of adopting either a supply or demand theoretical framework of analysis in the area of earning structures.[5] Bluestone et al. note that in the 1950's, for example, labor market research emphasized the demand or industry side of wage determination. Research efforts focused on explaining wage differentials between comparative industries and regions. The objective was to develop models which could measure the effects of such market structures as unionization, profits, market concentration, and labor/capital ratios on wages. Since there was little attention paid to the human capital skills of labor, efforts to ameliorate differential earnings of workers obviously emphasized modification in the structure or institutional framework of an industry.[6]

In contrast the early 1960's witnessed considerable attention to the supply side of wage and income determination.[7] Prior to this time, the possible effects of human capital investments on earnings had largely been ignored. The development of the human capital school, led by such noted economists as Theodore Schultz and Gary Becker, dramatically spurred research efforts to measure the effects on earnings of such factors as skills, education, health, mobility, and experience.[8] It was therefore quite natural to observe policy

recommendations advocating upgrading of education, health, and skills as a vehicle for increasing income.

More recently the advocates of the importance of economic and institutional conditions in the labor market have suggested the presence of a "tripartite economy" to explain low earnings.[9] The schema of this analysis includes a central or core economy, a peripheral economy and an irregular economy.[10] The central or core economy is characterized by industries with considerable economic and political muscle. The peripheral economy has considerably less power and influence; its other characteristics include small firm size, labor intensity, lack of unionization, and low wages. The irregular economy incudes those activities not visible in national income accounts. While some jobs in the irregular economy are illegal, most of the activities include a wide range of daily contract work such as gardening, cleaning, and non-unionized employment. Levels of earnings in this schema are dependent upon the worker's ability to obtain employment in one of the "tripartite economies."

Researchers, however, who attempt to explain earnings on a strict theoretical model such as the derived demand for labor from the product market, human capital theory, or a "tripartite economy" encounter some real world complications by the presence of such factors as discrimination, monopsony conditions, imperfect mobility of labor, and inadequate labor market information.[11] Of these conditions the issue of discrimination has received considerable attention from researchers as a vehicle for understanding earning differentials. From an economic perspective, discrimination has

traditionally been viewed as an attitude or prejudice which leads employers not to apply the same standards and wage rate for all qualified applicants.[12] Employers are thus deemed to have a taste for discrimination and consequently income differentials arise as a result of different wage rates for the same job.

Another view of discrimination suggests that income differentials arise not from different wage rates for comparable work, but rather from the presence of structural barriers to higher paying jobs.[13] Certain groups in society according to this economic theory are "crowded" into certain industrial and occupational positions which reap comparatively fewer economic benefits.[14] The "crowding theory" focuses on the interaction of social institutions and other processes determining which individual and groups obtain certain jobs. The "crowding theory" thus suggests that within homogeneous industrial and occupational groups, no differences among wage rates for different racial groups should exist.

Discrimination and other theoretical themes are without a doubt quite useful in better understanding the structure of earnings and just as important in developing an appropriate theoretical framework for analyzing earnings among Spanish origin persons in the Midwest. Establishing an adequate insight into the Spanish origin population and also understanding the various theoretical frameworks allow a more discriminating assessment of the factors to be included in an analysis of earnings. Nevertheless, full adoption of the various theoretical themes to explain earnings and their subsequent testing extend beyond the proposed scope of research. Since this

study is an initial effort to analyze earnings of Spanish origin persons in the Midwest, careful consideration must be given to examining the relationship between the supply or human capital characteristics of the population under study to their structure of earnings.

Consequently, the proposed scope of research will adopt a human capital approach in order to emphasize the characteristics of the Midwest Spanish origin population in relation to the earnings process. This choice of theoretical perspective does not evolve from an assessment that other theoretical themes fail to explain earnings adequately. Indeed, the other theoretical perspectives may explain more comprehensively the earning situation for Spanish origin persons and other wage earners. Furthermore, the adoption of a human capital approach as a theoretical framework should not *a priori* indicate the favoring of public policies designed to eliminate low earnings solely through upgrading of skills. Instead the decision to adopt a human capital theoretical framework is premised on the notion that this framework will more adequately permit an initial exploratory assessment of the Spanish origin population's earnings in relation to their supply characteristics. Furthermore, once the exploratory assessment relating the characteristics of the Spanish origin population to its performance in the job economy is concluded, the stage for additional research into other theoretical themes to explain further its structure of earnings is established.

The Human Capital Concept

The concept of human capital emphasizes rates of return on earnings of individuals for particular investments such as additional schooling. The human capital approach underlines a person's investment behavior as a major force in explaining differences in earnings. Theodore Schultz, a leading proponent of human capital theory, conveniently classifies human capital activities into such investments as (1) schooling and higher education, (2) post-school training and learning, (3) pre-school learning activities, (4) migration, (5) health, (6) information, and (7) investment in children (population).[15] A person's total investment in human capital may include many if not all of these types of human capital.

Human capital theory therefore provides an excellent theoretical framework for analyzing earnings among the Spanish origin population in the Midwest. It not only provides an assessment of the population characteristics in relation to their earnings structure but also lends itself to manpower considerations such as the type and combination of skill investments possibly required to achieve greater earnings. Research of this nature should also explore the role of human capital theory in explaining the various elements involved in the earnings process such as labor force participation and occupational attainment. For instance, what is the relationship between education, a form of human capital investment, and earnings and what is its relationship, if any, to occupational attainment, a prime determinant within the earnings process.

In this type of theoretical framework, the research emphasis is not solely on the finding that a human capital investment such as education affects earnings but also addresses the effects of education on the other elements of the earnings process. For example, is the education-earnings relationship a result of occupational screening via education? This particular human capital approach which emphasizes process can be of considerable utility in examining factors associated with earnings. Earnings among persons of Spanish origins can thus be examined not only for the relationship between investments in human capital and earnings, but also on the relationship of human capital investment on other elements of the earnings process such as labor force participation.

A Structure of Earnings

Assessing earnings among Spanish origin persons in the Midwest requires not only an appropriate theoretical framework but also a model specification of the earnings process. Figure 3-1 displays some of the basic elements involved in the earnings process. Earnings within this structure are related among other things to a person's labor force status, type of work, and amount of work available. Obviously, the model is far from being complete in total specification.[16] Nevertheless, even this elementary model can be used for examining the influence of certain human capital elements such as education and health on earnings and also on some of the other components of the earning structure. For example, whether a person enters the labor force or not could be a function of human capital considerations. The same or different human capital considerations

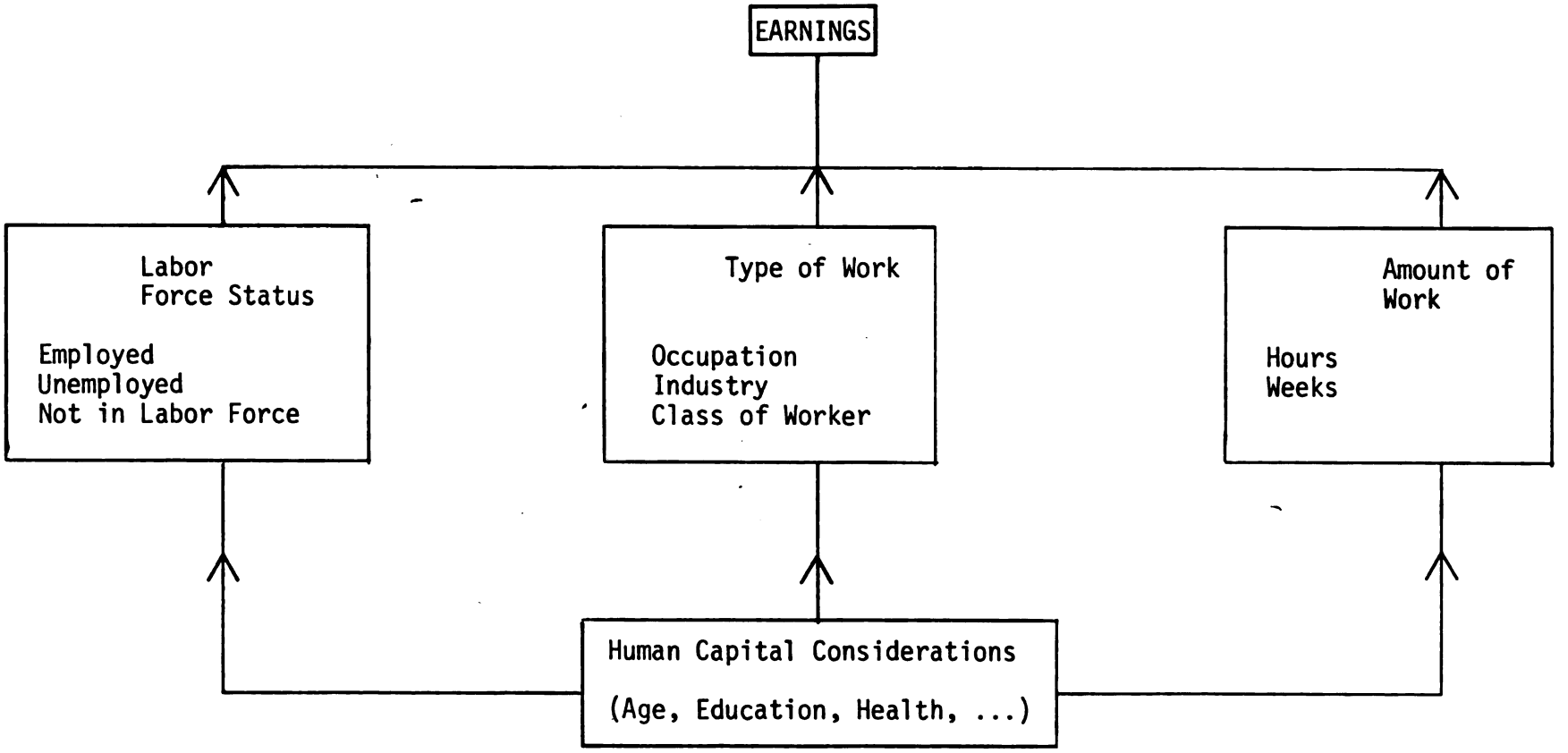

Figure 3-1.--A Structure of Earnings.

might also influence the amount and type of work a person performs, a direct factor related to earnings. An interesting area of inquiry could examine whether the structure of earnings is influenced by the same human capital considerations for each of the Spanish origin groups and their relative comparison to the majority culture, if earnings among whites were also analyzed. Regardless of the area of inquiry the application of human capital theory to a specified earnings structure, especially among Spanish origin groups whose economic performance requires analysis, yields a theoretical framework suitable for certain empirical testing about the earnings process.

Hypotheses to be Tested

A priori, one could predict that certain human capital concepts such as education, work experience, and vocational training statistically influence various elements of the earnings structure. Furthermore, it is plausible that if a sample of whites were selected for relative comparisons that significant differences in the influence of human capital factors on the earnings process could be identified. In addition to expecting some of these associated relationships, it is hypothesized that certain human capital characteristics as experience, education, and vocational training will significantly influence the various components of the earning process. However, the effects of certain variables are expected to be significant for one group of persons but not others. In addition, the relative effect of such human capital considerations as schooling will vary among the groups. Spanish origin persons who are native to the states under study or those who have resided in the Midwest

longer than other individuals are expected to perform better in terms of the earnings components. Among other things, Spanish origin persons born in the Midwest may have received better quality education than those persons born in other parts of the country, and may possibly be more integrated into the community. Persons with more years of residency in the states under study may have the advantage of knowing the labor market better and having more time to adjust to the social and economic conditions in the area. The hypothesis noted above will be empirically tested through a structural framework of earnings (similar in concept to the one specified in Figure 3-1). While these hypotheses focus on the structure of earnings, the descriptive appropriateness of the Census Bureau's classification of all Spanish origin persons into one general category will also be indirectly examined. If considerable heterogeneity is found among the groups, the practice of classifying all Spanish origin persons into one category may be without merit.

The major hypotheses to be empirically tested in the research are thus as follows:

(1) Factors associated with the earnings process will vary both absolutely and relatively for the various groups (Puerto Ricans, Mexican Americans, Cubans, ...) within the broad category, Spanish origin.

(2) Factors associated with the earnings process will vary both absolutely and relatively for the total Spanish origin group and a white comparison group.

(3) Of all the human capital considerations, education expressed as years of schooling will explain earnings the most.

(4) Birthplace of the Spanish origin person is directly associated with earnings. Spanish origin persons born in the Midwest earn more money than persons born elsewhere.

(5) Length of residence in the Midwest is directly associated with earnings.

(6) Incidence and duration of health disabilities among Spanish origin persons are more frequent than in the general population and significantly reduce earnings.

As for the data source and other mechanics of the research to test the above hypotheses, these aspects are explained in the remaining sections of the chapter.

Data Source

In designing a research framework to examine the earnings among Spanish origin groups in the Midwest, one of the basic prerequisites is to identify a suitable data source. Since the costs of gathering data exclusively for this research would be prohibitive, it was decided to explore public sources of data on earnings among Spanish origin groups. Public sources of data on Spanish origin groups have, however, generally been limited. In addition, public sources of data are generally hindered by conceptual problems in adequately defining the population.[17] For example, the U.S. Census Bureau has employed two generic ways of defining the Spanish origin population: (1) a standard criteria, e.g., possessing a Spanish surname, mother's tongue, or parent's birthplace and/or (2) a self identification inquiry, i.e., person classifies himself in a nationality or cultural group. Each of these methods may reveal a different population group since in the former technique a non-Spanish origin person could conceivably have a Spanish surname through

inter-marriage. However, prior to 1970, the U.S. Census Bureau did not employ either of these techniques or, for that matter, make any concerted effort to identify the Spanish origin population of the Midwest. At best, this population could only be estimated by identifying the foreign stock population.[18] However, during the 1970 Census, 5 percent of the households surveyed in the Midwest were asked the following question:

Is this person's origin or descent--

( ) Mexican	( ) Central or South American
( ) Puerto Rican	( ) Other Spanish
( ) Cuban	( ) No, none of these

Using the self-identification technique, 849,616 persons were estimated by the Census Bureau to be of Spanish origin in the five Midwestern states under study (Illinois, Indiana, Michigan, Ohio, Wisconsin).[19]

Since the Public Use Samples of Basic Records from the 1970 Census is an excellent source of research data for individual analysis, the 5 percent, one in a hundred public use sample census files from each of the states under study, were selected as the basic source of data for the research. (Appendix 3-A presents a description of the basic records available from the U.S. Census Bureau.) The initial task was to extract all persons in the one in a hundred public use sample files who identified themselves as of Spanish origin or descent from each of the five states. Since the research emphasizes earnings, only Spanish origin persons 16 years of age and over were included in the initial selection.

A total of 4,965 persons 16 years and older identified themselves as of Spanish origin on the 1970 Public Use 1/100 (5 percent) Sample Census Tapes in the five states under study: Illinois, Indiana, Michigan, Ohio, and Wisconsin. Since the main thrust of analysis focused on the civilian non-institutional Spanish origin population, 25 persons in the military and 33 institutionalized persions (e.g. those residing in correctional, aged, and mental institutions) were eliminated from the sample. In addition, three persons were dropped because of coding errors. The civilian non-institutionalized Spanish origin persons therefore consisted of 4,904 individuals representing a total of 2,620 households. As a final requirements, all persons 65 years of age and over were dropped from the sample selected for the earnings analysis in order to focus more clearly on earnings and labor force participation among the potential work force. Thus, the final Spanish origin sample selected consisted of 4,578 individuals: 2,251 males and 2,327 females.

In addition to the Spanish origin sample, a white control group of 3,000 persons who were non-Spanish in origin was randomly selected for comparative purposes from the Census files. Sampling was proportional to the number of Spanish origin persons selected from each of the states under study. Seventy-one persons who were by definition not in the civilian non-institutional population were subsequently deleted. In addition, five persons were excluded because the head of the household was identified as of Spanish origin. Another person was excluded since the head of the household

was not white. After individuals 65 years of age and over were excluded, the size of the white non-institutionalized civilian control group selected for comparative purposes was thus 1,211 white males and 1,305 white females, a total of 2,516 individuals.

Selection of Variables

The selection of variables for analyzing the earnings among Spanish origin persons and the comparative white group was dependent upon the constraints of the data available and research relevancy.[20] Therefore, the selection of variables was based largely upon human capital concepts considered statistically associated with earnings such as education, marital status, work experience and training, and health. For instance, in the selection of marital status, it is postulated that marriage reflects to the employer a "stability" index for an employee. Marriage is also generally associated with a need to work.

Table 3-1 arrays the selected data, which were taken from the basic records of the public use sample tapes in order to analyze earnings among Spanish origin persons. Since the U.S. Census information was collected in 1970, it contains earnings data from 1969 and some labor force data from 1970. The data is categorized into three major groups: (1) earnings data, (2) employment data, and (3) other data. The selection of the data for inquiry into the earnings of Spanish origin persons was based upon its informational capacity to yield both a comprehensive socio-economic description of the population under study and a statistical analysis of their earnings.

Table 3-1.--Selected Data for Study on Spanish Origin Persons.*

Earnings Data
1969 Annual Earnings (Increments of $100)
Types of Earnings: Earnings (1969) from wages, salary, commissions, bonuses, tips, from all jobs.
Earnings (1969), non-farm business, professional practice, partnership.
Earnings (1969) own farm

Employment Data
LABOR FORCE CHARACTERISTICS
Employment status (employed, unemployed, not in the labor force), 1970 Survey Week
Hours worked, 1970 Survey Week
Weeks worked, 1969
Current industry classification
Current occupation classification
Type of worker (government, self-employed ...)
WORK RELATED EXPERIENCE
Worked last year (yes/no)
Working at job or business, five years ago (yes/no)

Other Data
DEMOGRAPHIC CHARACTERISTICS
Sex
Race
Age
Marital Status
Number of Children
Household Type
EDUCATION/TRAINING
Highest grade attended
Vocational training (yes/no)
Main field of vocational training
SPANISH ORIGIN DIMENSIONS
Type of Spanish origin (Mexican American, Cuban ...)
U.S.A. Citizenship (yes/no)
Place of Birth (state, country)

Table 3-1.--Continued.

GEOGRAPHIC CONSIDERATIONS
Current State of Residence
Urban/Rural
Metro/Non-Metro
Central/Non-Central City
State of Residence, Five Years Ago
HEALTH STATUS
Disability which limits work (yes/no)
Disability which prevents any work (yes/no)

*Source of Data: 1970 U.S. Census Basic Records (5 percent) (1/100) Public Use Sample of the states under study.

Analytical Framework

Data on the groups under study are analyzed initially, specifically in Chapter IV, by describing and comparing the earnings related characteristics of the Spanish origin sample with the white comparison group. In Chapter V, a more detailed and in-depth analysis of certain selected earnings related dependent variables for the groups under study is performed through a step-wise deletion multiple regression program.[21] A series of equations comprise the analytical framework in this research. The basic type of statistical analysis is specified below in the following equation:

$$LFS = \alpha + \beta_1 ED + \beta_2 AGE + \beta_3 VOC + \ldots \beta_n + \varepsilon \qquad (A)$$

where

LFS = labor force status (0=not in labor force, 1=in labor force)
ED = education (years of schooling)
AGE = age (years)
VOC = vocational training (yes=1) (no=0)

N = Nth independent variable (see Table 5-1 for specification of variables)
ε = Error term

In equation (a), labor force status is a binary dependent variable and the effects of the human capital considerations on labor force can be examined.

This same type of analysis could be performed for other components of the earnings process such as employment status, occupational level, hours worked, weeks worked, and finally earnings. Each of these elements of the earnings process could be treated as a dependent variable and together as a series of equations could constitute an analysis of earnings. Due to cost constraints, however, five of what were considered the most important components of the earnings process were selected. Table 3-2 presents these selected dependent variables and their operational definitions.

It should be noted that the earnings related dependent variables do not all pertain to the same time period. For example, since Census data is collected in 1970, labor force characteristics were determined on the basis of status in the survey week. Annual earnings data were, however, obtained for 1969. Consequently, comparability of these two general employment and earnings characteristics is reduced and stratifies the earnings analysis into two distinct time periods. In addition, comparability may be reduced because the number of observations in the multiple regression equation will vary depending on the nature of the dependent variable. For instance, only those individuals who had earnings in 1969 will

Table 3-2.--Operational Definitions of Selected Dependent Variables.

Labor Force Status
In Civilian Labor Force--All persons employed or unemployed. Excluded members of the armed forces. Ascertained for persons 16 years of age or over during the reference week of 1970.
Not in Civilian Labor Force--All persons excluding military who were not employed or unemployed during the 1970 reference week.
Occupational Status
Occupational Level in 1969--Occupational hierarchy determined by the mean earnings of the experienced national civilian labor force, who worked 50-52 weeks in 1969 in a particular occupation, controlling for sex. Mean national earnings were assigned to a person's respective occupation based on their reported occupation during the 1970 reference week or last reported occupation.
Occupational Earnings Ratio--Total earnings in 1969 of an individual divided by the national mean earnings attributed to the individual's occupation.
Amount of Work
Weeks Worked--Ascertained for persons 16 years or older who worked at all during 1969. The number of weeks worked was categorized by the Census into the following time categories: 13 weeks or less, 14-26 weeks, 27-39 weeks, 40-47 weeks, 48-49 weeks, and 50-52 weeks. The midpoint for each of the ranges within the categories was utilized.
Earnings 1969
Total Annual Earnings--Ascertained for persons 16 years of age or older who reported income in 1969 from the following sources: (1) wages, salary, commissions, bonuses, tips from all jobs, (2) non farm business, professional practice, partnership, and (3) own farm. The sum of these three different sources constitute total annual earnings in 1969. The U.S. Census Bureau categorizes earning data in increments of $100.00. The midpoint for each of these incremental ranges is utilized as the income value for analysis. The highest earning categories used by the Census Bureau includes persons earning more than $50,000. These individuals were assigned the value of $50,000.

be considered in examining the total earnings variable. The same restriction would apply when occupational level is considered.

Nevertheless, if each element of the earnings process is viewed as a distinct activity, a comparative assessment of the influence of certain human capital considerations on various elements in the earnings process, such as labor force status, can be examined. The influence of certain independent variables from the data available on the selected earnings related dependent variables can thus be analyzed. These independent variables will be selected from the public use sample basic records on the following criteria: (1) its relationship to human capital theory and (2) its applicability to Spanish origin characteristics. Independent variables selected on human capital considerations for their influences on various elements in the earnings process of Spanish origin persons include: education, vocational training, marital status, health status and work experience. These variables can be considered as indicative of a person's productive capacity or productive stability. In addition, certain other independent variables such as age, race, citizenship status, state of residency, previous residency, and place of birth may have special applicability or influence on earnings of Spanish origin persons. For example, citizenship status, place of birth, and previous residency may serve as proxy variables for mobility and labor market information of Spanish origin persons. In the proposed study on earnings, the final independent variables selected on human capital consideration and Spanish origin

applicability and earnings related dependent variables are presented in detailed specification in Table 5-1 of Chapter V.

The selected data on Spanish origin persons from the basic records of U.S. Census public use sample will thus be assessed at two levels of analysis. In the descriptive level of analysis, each of the Spanish origin groups will be assessed separately in terms of their earnings characteristics. Male and female differences in relation to earnings characteristics will be noted. Furthermore, each of the Spanish origin groups and the entire Spanish origin sample will be compared relative to the white control group. In the second level of analysis, the influence of the specified independent variables will be comparatively examined for certain groups under study through the use of step wise deletion multiple regression on earnings related dependent variables. In the statistical regression analysis, the emphasis, as a result of costs and data management involved in the research, will focus on all Spanish origin persons, the Mexican American group separately, and the white group. The equations will also be analyzed separately by sex.

As a summary, Figure 3-2 diagrams the research approach and data source which will be utilized in analyzing the earnings among persons of Spanish origin in the Midwest. If this type of analysis is performed, the independent variables based upon human capital theory which are statistically associated with the various elements in the earnings process will be identified. Furthermore, a comparative assessment of the earnings process will be available not only for the Spanish origin groups but also in relation to a comparative

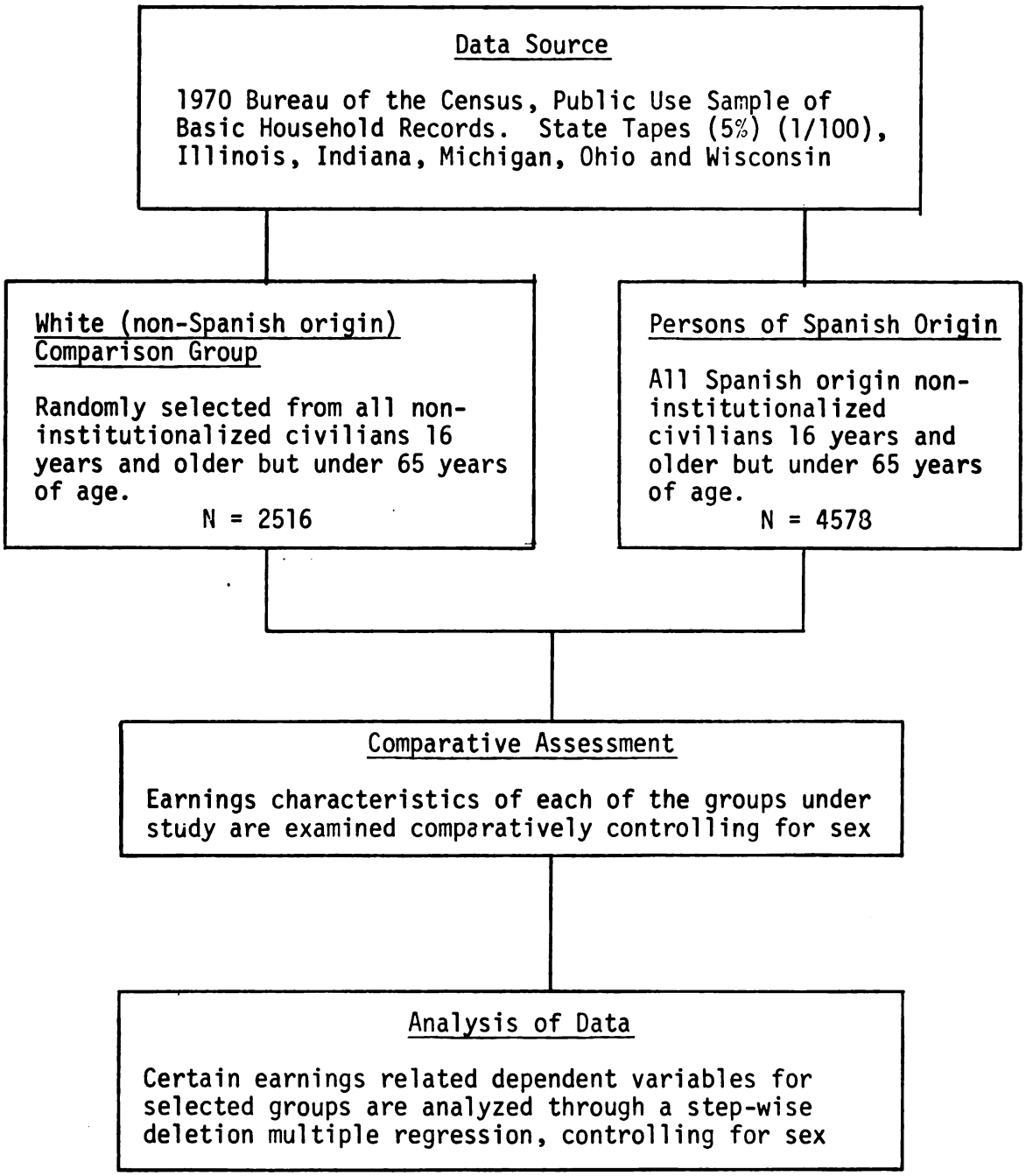

Figure 3-2.--A Summary of the Research Framework.

white group. This proposed research framework should yield considerable and long overdue information about the economic performance of Spanish origin groups in a highly industrialized environment, especially in the following areas:

(a) factors statistically associated with the earnings process among persons of Spanish origin;

(b) differences, if any, between the various groups of Spanish origin and the factors associated with their earnings;

(c) differences, if any, between the factors associated with the earnings process for the Spanish origin group and a randomly selected comparative white non-Spanish origin group.

Limitations of the Study

Assessing earnings among persons of Spanish origin in the Midwest by utilizing the research procedures and the data source described in this chapter necessitates that apparent limitations reducing the ability to generalize about the findings be clearly specified. Obviously, the most "fixed" limitation is on the variables available for study since the data source is a given one. Consequently, examination of the earnings process is limited by the availability and utility of earnings related data. In addition, earnings related data (e.g., labor force status, annual earnings) were collected for difference time periods and thus reduce comparability. Therefore, generalizations about the data results must clearly reflect this limiation. Consequently, one could discover

that a human capital consideration such as formal education significantly affects labor force participation, occupational attainment, and earnings. However, since the data are for different time periods and the population under study may not necessarily be identical for each element of the earnings process, the exact additive effects of education cannot be identified within the specified earnings process.

Another limitation of the study concerns two issues regarding the reliability of the data. The first issue centers on the representativeness of the sample of the population under study. In other words, is the data for Spanish origin persons in the Midwest available from the public use sample tapes representative of the Spanish origin population in the Midwest? Considerable debate, especially between the Census Bureau and the U.S. Civil Rights Commission, exists over whether there were a significant number of Spanish origin persons not counted, or more importantly, not properly identified as Spanish origin persons.[22] (Appendix 3-B contains a letter of transmittal from the U.S. Civil Rights Commission summarizing its findings on the reliability of Census data on the Spanish origin population.) The controversy is not one which this research can fully address. At best one can only say that if a bias exists, the techniques utilized by the U.S. Census Bureau in counting Spanish origin persons favor those who are able to read and answer English Census questionnaires and who are residentially located in a manner to be found by mailed questionnaires. If these attributes

influence earnings in a positive manner, the findings may overestimate the effects of human capital considerations on earnings.

The other issue influencing the reliability of data pertains to existing economic conditions at the time of data collection. The time period under study extends from 1969 to 1970. Economic conditions may alter the influence of human capital considerations on earnings. According to the Manpower Report of the President, (1971), unemployment for 1969 was 3.5 percent and in April 1970, the Census month, was 4.3 percent.[23] It is therefore warranted to assume that the time period under study from an employment perspective was a prosperous one. Findings on the influence of human capital considerations on the earning process must take into account the effects on employment and earnings by the level of aggregate demand present during this time period.

FOOTNOTES--CHAPTER III

[1]A discussion of these earning differentials is presented by Albert Rees, The Economics of Work and Pay, especially Chapter 12, "Wage Differentials by Race and Sex" (New York: Harper and Row, 1973), pp. 178-191.

[2]The theoretical overview section of this chapter draws considerably from Barry Bluestone, William M. Murphy and Mary Stevenson, Low Wages and the Working Poor (Ann Arbor, Michigan: Institute of Labor and Industrial Relations, University of Michigan and Wayne State University), 1973, pp. 18-32.

[3]Harold Lydall, The Structure of Earnings (Londong: Oxford University Press), 1968, p. 7.

[4]Lydall, op. cit., pp. 7-8 and Rees, op. cit., p. 166.

[5]The theoretical implications of adopting a supply or demand framework are found in Bluestone, Murphy, and Stevenson, op. cit., pp. 18-32.

[6]Ibid., p. 19.

[7]Ibid., p. 20.

[8]Gary Becker, "Investments in Human Capital: A Theoretic Analysis," Journal of Political Economy 70, 5 Part 2 (October, 1962) and T.W. Schultz, "Investments in Human Capital," American Economic Review (March, 1961), 1-17.

[9]Robert T. Averitt, The Dual Economy: The Dynamics of American Industry Structure (New York: W.W. Norton and Company), 1968 and Louis A. Ferman, "The Irregular Economy," (Ann Arbor: Institute of Labor and Industrial Relations, Research Division, University of Michigan, Wayne State University), 1969, Mimeo.

[10]The description of the "tripartite economy" is found in Bluestone, Murphy and Stevenson, op. cit., pp. 28-30.

[11]Ibid., p. 3.

[12]The economic concept of discrimination is presented in Gary S. Becker, The Economics of Discrimination (Chicago: University Chicago Press), 1957.

[13]B.R. Bergmann, "The Effect on White Income of Discrimination in Employment," Journal of Political Economy, Vol. 79, No. 2 (March-April 1971), 294-313; F.Y. Edgeworth, "Equal Pay to Men and Women for Equal Work," Economic Journal, Vol. 32 (December, 1922), 431-457; and R.P. Strauss, "Industrial Patterns of Male Negro Employment," Journal of Human Resources, Vol. 7, No. 1 (Winter, 1972), 111-118.

[14]The summary of the crowding theory is taken from the conceptual overview of discrimination presented in Robert P. Strauss and Francis W. Horvath, "Analyzing Economic Discrimination Against Blacks and Women with the Public Use Samples," Public Data Use, Vol. 1 (Winter, 1972), 111-118.

[15]Theodore W. Schultz, "Human Capital: Policy Issues and Research Opportunities," Human Resources, National Bureau of Economic Research, Colloquim VI, New York, 1972, pp. 3-5.

[16]An economic performance model for several ethnic groups is described in two articles by Martin Katzman, "Discrimination, Subculture, and the Economic Performance of Negroes, Puerto Ricans and Mexican Americans," pp. 371-376, and "Opportunity, Subculture and the Economic Performance of Urban Ethnic Groups," pp. 351-366.

[17]A full description of Census techniques for identifying the Spanish origin population and conceptual problems are described in Jose Hernadez, Leo Estrada, David Alvirez, "Census Data and the Problem of Conceptually Defining the Mexican American Population," Social Science Quarterly, Vol. 53 (March, 1973) 671-687. An evolution of Census techniques for identifying the Spanish population is presented by Roberta V. McKay, op. cit., pp. 12-16.

[18]Identification through foreign stock population was used by Julian Samora and Richard A. Lammana, op. cit., p. 3.

[19]U.S. Bureau of the Census, Census of Population: 1970 Subject Reports, Final Report PC(2)-1C, Persons of Spanish origin (Washington, D.C.: U.S. Government Printing Office), 1973, p. 1.

[20]For a description of the data available, refer to U.S. Department of Commerce, Public Use Sample of Basic Records from the 1970 Census: Description and Technical Documentation (Washington, D.C.: Bureau of the Census), April 1972.

[21]A step wise deletion multiple regression program developed at Michigan State University, Computer Institute for Social Science Research (CISSR) was utilized in the statistical analysis.

[22]The debate is documented in a Report of the U.S. Commission on Civil Rights, Counting the Forgotten: The 1970 Census Count of Persons of Spanish Speaking Background in the United States (Washington, D.C., U.S. Commission on Civil Rights), 1974.

[23]U.S. Bureau of the Census, Statistical Abstract of the United States: 1970 (91st edition), Washington, D.C., 1970, p. 213.

CHAPTER IV

DESCRIPTION OF THE SAMPLE GROUPS

Introduction

A total of 4,578 civilian non-institutionalized persons, between the ages of 16 and 64 years, who had identified themselves as of Spanish origin were found on the 1970 Public Use 1/100 (5 percent) Sample Census Tapes in the five states under study: 2,251 males and 2,327 females.[1] Table 4-1 presents a general profile by state of the Spanish origin sample by descent and sex. Illinois, by far, had the largest Spanish origin population of the five states, with 48 percent of the entire sample residing in that state. The largest Spanish origin group fell within the broad category entitled Central and South American, comprising approximately 39 percent of the sample. However, nearly 34 percent of the sample classified themselves of Mexican origin. Puerto Ricans, Cubans, and other Spanish respectively comprise 15 percent, 4 percent, and 8 percent of the Spanish origin sample. Within the Spanish origin categories, males outnumbered females only in the Puerto Rican and Mexican origin groups.

In addition to the Spanish origin sample, a white control group which was non-Spanish in origin was randomly selected for comparative purposes from the 1970 Public Use 1/100 (5 percent)

Table 4-1.--The Civilian Non-Institutional Spanish Origin Sample in the Midwest by Descent and Sex.

State		DESCENT					TOTAL	
		Mexican American	Puerto Rican	Cuban	Central & South American	Other	Number	%
Illinois	Male:	455	236	68	266	55	1080	
	Female:	428	243	77	320	52	1120	
							2200	48.1
Indiana	Male:	94	23	7	152	17	293	
	Female:	79	28	6	176	22	311	
							604	13.2
Michigan	Male:	151	28	5	158	46	388	
	Female:	147	13	8	166	56	390	
							778	17.0
Ohio	Male:	54	50	4	156	43	307	
	Female:	50	40	9	192	31	322	
							629	13.7
Wisconsin	Male:	49	17	4	101	12	183	
	Female:	45	12	3	112	12	184	
							367	8.0
Subtotal	Male:	803	354	88	833	173	2251	
	Female:	749	336	103	966	173	2327	
TOTAL	Number:	1552	690	191	1799	346	4578	
	Percent:	33.9	15.1	4.2	39.3	7.6		

Sample Census Tapes in the five states under study. Sampling was proportional to the number of Spanish origin persons selected from each of the states, and the white non-institutional civilian control group between the ages of 16 and 64 years consisted of 2,516 persons: 1,211 males and 1,305 females. With the selection of the groups for study, the purpose of this chapter is to compare (1) geographical origin and citizenship status, (2) demographic characteristics, (3) educational and vocational training skills, (4) labor force status in the 1970 Survey Week, (5) hours worked in the 1970 Survey Week, (6) employment aspects, (7) weeks of work in 1969, and (8) total earnings in 1969 of the Spanish origin groups under study. When appropriate and relevant, characteristics among the Spanish origin groups will be compared to the white reference group.

Geographical Origin and Citizenship Status

In examining the geographic origins of the Spanish origin sample, 64 percent of the sample were born in the United States, with an additional 14 percent of the sample born in a U.S. territorial possession (Puerto Rico in almost all cases). Spanish origin persons born in a foreign country comprise about 22 percent of the sample. While overall nearly 78 percent of the Spanish origin sample were born on U.S. soil, considerable diversity exists among the various Spanish origin groups in terms of birthplace. Table 4-2 shows birthplace for the various Spanish origin groups. As evident from the table, 89 percent of the Puerto Ricans in the five states under study were born in a U.S. territorial possession, presumably

Table 4-2.--Spanish Origin by Place of Birth and Descent.

Place of Birth		DESCENT					
		Mexican American	Puerto Rican	Cuban	Central and South American	Other	Total
U.S. State	Number	997	65	13	1572	283	2930
	Percent	64.2	9.4	6.8	87.4	81.8	64.0
U.S. Possession	Number	1	615	1	1	6	624
	Percent	.1	89.2	.5	.1	1.7	13.6
Foreign Country	Number	554	10	177	226	57	1024
	Percent	35.7	1.4	92.7	12.6	16.5	22.4
TOTAL	Number	1552	690	191	1799	346	4576
	Percent	100.0	--	--	--	--	--

Puerto Rico. Not too surprisingly about 93 percent of the Cubans were born in a foreign country, and this can be readily explained by the Cuban refugee inflow into the country. The Mexican American sample on the other hand, had 64 percent of its group born in a U.S. state, and 36 percent of its persons born in a foreign country.

A more detailed examination, in Table 4-3, regarding place of birth reveals that slightly over 38 percent of the Spanish origin sample gave as their place of birth one of the five states under study. Within these five Midwest states the Central and South American origin had slightly over 62 percent of their group born in one of the five Midwest states. Cuban and Puerto Rican had the least proportion of their population born in the states under study, 6 percent and 4 percent, respectively. Approximately 29 percent of the Mexican American sample listed one of the Midwest states as their place of birth. Moreover, 27 percent of the Mexican Americans listed one state, Texas, as their place of birth. Slightly less than one third of the Mexican Americans in the states under study therefore have their native roots in Texas.

While 22 percent of the overall Spanish origin sample were foreign born, nearly 86 percent of the sample are citizens of the United States. However, of the nearly 15 percent of the Spanish origin sample residing in the United States with an alien status, as evident from Table 4.4, there is considerable diversity within the various Spanish origin categories. For example, only 36 percent of the Cubans were citizens. All of the other Spanish origin groups with the exception of Mexican Americans had well over 90 percent

Table 4-3.--Detailed Place of Birth of Spanish Origin by Descent.

Birthplace		DESCENT Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total
Midwest	#	447	44	7	1117	135	1750
	%	28.8	6.4	3.9	62.1	39.0	38.2
Southwest	#	31	0	1	7	13	52
(ex. Texas)	%	2.0	0	.5	.4	3.8	1.1
Texas	#	419	0	0	10	80	509
	%	27.0	0	0	.6	23.1	11.1
Puerto Rico	#	1	609	1	0	4	615
	%	--	88.3	.5	0	1.2	13.4
Other States	#	81	18	5	421	52	577
	%	5.2	2.6	2.6	23.4	15.0	12.6
States Not	#	22	4	0	18	5	49
Specified	%	1.4	.6	0	1.0	1.4	1.1
Foreign	#	551	15	177	226	57	1026
	%	35.5	2.2	92.7	12.6	16.5	22.4
TOTAL		1552	690	191	1799	346	4578

Table 4-4.--Citizenship Status of Spanish Origin by Descent.

Descent		U.S. Citizen Yes	No	Total
Mexican American	Number	1197	355	1552
	Percent	(77.1)	(22.9)	
Puerto Rican	Number	688	2	690
	Percent	(99.7)	(.3)	
Cuban	Number	69	122	191
	Percent	(36.1)	(63.9)	
Central and	Number	1647	152	1799
South American	Percent	(91.6)	(8.4)	
Cuban	Number	314	32	346
	Percent	(90.8)	(9.2)	
TOTAL	Number	3915	663	4578
	Percent	(85.5)	(14.5)	

of its persons having U.S. citizenship status. The Mexican American group had approximately 77 percent of its persons residing as U.S. citizens in the country.

In terms of mobility, the Midwest Spanish origin sample appeared to be a fairly stable one, since 80 percent of the sample resided in the same state five years ago as they currently reside. Table 4-5 lists the area of residency five years ago for the Spanish origin sample. Only 8 percent of the Spanish origin sample were residing in a foreign area. In examining residency by descent, Table 4-6 notes that at one extreme Central and South Americans had about 87 percent of their group residing in one of the five states under study five years ago. While at the other end, slightly over half of the Cubans listed one of the five states under study as their place of residence five years ago. For Mexican Americans slightly over 7 percent of the sample listed Texas as their place of residency five years ago.

Racially the Spanish origin sample overwhelmingly (92 percent) indicated they were white. For Mexican and Puerto Rican origin slightly over 97 percent of the respondents respectively indicated white as their racial classification. However, nearly 15 percent of the respondents (N = 269) within the Central and South American category classified themselves as Negro as evident in Table 4-7, which presents the racial classifications by Spanish origin descent. An initial explanation to account for the large percentage of Negroes who were of Central and South American origin is that these individuals were from Spanish speaking countries with

Table 4-5.--Spanish Origin by Residency Five Years Ago.

Area of Residency		Spanish Origin
Same State	Number	3662
	Percent	80.0
Different Midwest State	Number	62
	Percent	1.4
Other State	Number	346
	Percent	7.6
Foreign	Number	347
	Percent	7.6
Not Specified	Number	161
	Percent	3.5
TOTAL	Number	4578
	Percent	100.0

Table 4-6.--Detailed Residency Five Years Ago of Spanish Origin by Descent.

Area		DESCENT Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total
Midwest	#	1219	567	100	1562	276	3724
	%	78.5	82.2	52.4	86.8	79.8	81.3
Southwest	#	21	1	0	10	9	41
	%	1.4	.1	0	.6	2.6	.9
Texas	#	113	0	1	9	18	141
	%	7.3	0	.5	.5	5.2	3.1
Other State	#	32	24	14	83	11	164
	%	2.1	3.5	7.3	4.6	3.2	3.6
Foreign	#	118	56	66	85	22	347
	%	7.6	8.1	34.6	4.7	6.4	7.6
Not Specified	#	49	42	10	50	10	161
	%	3.2	6.1	5.2	2.8	2.9	3.5
TOTAL	#	1552	690	191	1799	346	4578

Table 4-7.--Racial Classification of the Spanish Origin by Descent.

Descent		RACE White	Negro	Other Races	Total
Mexican American	#	1511	4	37	1552
	%	97.4	.3	2.4	
Puerto Rican	#	671	4	15	690
	%	97.2	.6	2.1	
Cuban	#	180	6	5	191
	%	94.2	3.1	2.6	
Central & South American	#	1520	269	10	1799
	%	84.5	15.0	.7	
Other	#	322	11	13	346
	%	93.1	3.2	3.8	
TOTAL	#	4204	294	80	4578
	%	91.8	6.4	1.7	100.0

a substantial Negro population. However, only 27 of the 269 Central and South American Negroes were foreign born. Approximately half of the United States born Central and South American Spanish origin Negroes listed a Southern state as their place of birth. Consequently, either a vast number of Central and South American Negroes may actually be American blacks who erroneously classified themselves of Spanish origin or they are Negroes with a bona fide Spanish origin. A lack of additional data prevented any further analysis of this issue.

Comparing the geographic origins of the Spanish sample with the white group, the whites have nearly twice as many people born in states under study as did the Spanish origin group (about 75

percent in comparison to 38 percent). Only about 5 percent of the white sample were born in a foreign country as compared to nearly 22 percent for the Spanish origin group. Consequently less than 2 percent of the white sample is alien in terms of citizenship status. From a geographical mobility aspect, about 92 percent of the white sample resided five years ago in one of the five states under study in comparison to about 80 percent for the Spanish origin group. It appears that both groups have been residents of the Midwest for at least five years. However, this is only tentative since individuals could have moved during the five year period and then returned to one of the states under study.

Demographic Characteristics

Initial comparison of the demographic aspects of the Spanish origin sample and the white group indicates that Spanish origin persons on the average are younger, marry slightly younger, have about the same proportion of the population married, have a greater percentage of persons residing in a central city of a Standard Metropolitan Statistical Area, and have about the same frequencies of health disabilities in comparison to whites. Agewise, nearly 32 percent of civilian non-institutionalized Spanish origin sample and 28 percent of the white sample under study were in the 16-25 years of age range. Moreover, 25 percent and 23 percent of the Spanish origin samples were respectively in the 26-34 years of age and 35-44 years of age categories in comparison to 18 percent and 17 percent for whites in these two age brackets. In the 55-64 years of age category, 16 percent of the whites fell within this

category in contrast to only about 8 percent for the Spanish origin. Among whites, the average age of the sample was 38 years of age. The average age for the entire Spanish origin sample was 34 years. Puerto Rican females represented on the average the youngest population of all the Spanish origin groups, 30 years. Tables 4-8 and 4-9, respectively, present age distribution and mean age for the Spanish origin and whites.

In terms of marital status, Table 4-10 shows that about 67 percent of the Spanish origin sample are currently married and living with their spouse, and 23 percent had never been married. Nearly the same percentages among the white group were married (68 percent) or single (24 percent). While overall both the white group and Spanish origin married for the first time on the average at the same age, some differences among the Spanish origin groups and by sex are noted in Table 4-11.

By household characteristics, both the Spanish origin sample and the white group were predominantly (81 percent respectively) in a husband-wife type of household. Table 4-12 presents a breakdown by household types for the various Spanish origin categories. Female headed households comprise 8 percent and 6 percent of all household types respectively among the Spanish origin and white sample, with nearly 11 percent of the Puerto Rican families headed by a female.

Table 4-13 outlines degree of urbanization on the basis of percentage and number of persons living in an urban area, a Standard Metropolitan Statistical Area (SMSA) and within a central city of a

Table 4-8.--Age Distribution of the White Group and Spanish Origin by Descent.

Descent		AGE GROUP 16-17	18-20	21-25	26-34	35-44	45-54	55-64	Total
Mexican American	#	138	166	236	344	357	203	108	1552
	%	8.9	10.7	15.2	22.2	23.0	13.1	7.0	
Puerto Rican	#	44	83	136	190	152	55	30	690
	%	6.4	12.0	19.7	27.5	22.0	8.0	4.3	
Cuban	#	16	14	17	34	53	36	21	191
	%	8.4	7.3	8.9	17.8	27.7	18.8	11.0	
Central & South American	#	102	121	271	521	391	235	158	1799
	%	5.7	6.7	15.1	29.0	21.7	13.1	8.8	
Other	#	28	33	48	61	77	68	31	346
	%	8.1	9.5	13.9	17.6	22.3	19.7	9.0	
TOTAL Spanish Origin	#	328	417	708	1150	1030	597	348	4578
	%	7.2	9.1	15.5	25.1	22.5	13.0	7.6	100.0
White	#	162	207	324	462	436	519	406	2516
	%	6.4	8.2	12.9	18.4	17.3	20.6	16.1	100.0

Table 4-9.--Mean Age of White Group and Spanish Origin by Descent and Sex.

Descent	Mean Age
Total White	37.6
White Male	37.4
White Female	37.8
Total Spanish Origin (N = 4578)	33.6
Spanish Origin Males (N = 2251)	34.2
Spanish Origin Females (N = 2327)	33.0

	Males	Females
Mexican American	34.1	32.0
Puerto Rican	31.3	30.1
Cuban	36.0	37.0
Central & South American	34.9	33.9
Other	35.6	34.9

Table 4-10.--Marital Status of White Group and Spanish Origin by Descent.

Descent		MARITAL STATUS						
		Married Spouse Present	Married Spouse Absent	Widowed	Divorced	Separated	Never Married	Total
Mexican American	#	937	56	31	46	36	446	1552
	%	60.4	3.6	2.0	3.0	2.3	28.7	
Puerto Rican	#	441	10	18	23	29	169	690
	%	63.9	1.4	2.6	3.3	4.2	24.5	
Cuban	#	135	6	4	8	0	38	191
	%	70.7	3.1	2.1	4.2	0	19.9	
Central & South American	#	1309	17	41	65	38	329	1799
	%	72.8	.9	2.3	3.6	2.1	18.3	
Other	#	221	4	12	9	9	91	346
	%	63.9	1.2	3.5	2.6	2.6	26.3	
TOTAL								
Spanish Origin	#	3043	93	106	151	112	1073	4578
	%	66.5	2.0	2.3	3.3	2.4	23.4	100.0
White	#	1698	23	96	73	34	592	2516
	%	67.5	.9	3.8	2.9	1.4	23.5	100.0

Table 4-11.--Mean Age First Married for White Group and Spanish Origin by Descent and Sex.

Descent	Mean Age
Total White	22.6
White Male	24.0
White Female	21.5
All Spanish Origin	22.0
Spanish Origin Male	23.4
Spanish Origin Female	20.7

	Male	Female
Mexican American	23.5	20.9
Puerto Rican	23.1	20.0
Cuban	25.3	23.9
Central & South American	23.1	20.3
Other	24.4	21.4

Table 4-12.--Type of Household for White Group and Spanish Origin by Descent.

Descent		TYPE OF HOUSEHOLD: Husband-Wife	Other Family with Male Head	Family with Female Head	Male Primary Individual	Female Primary Individual	Group Quarters	Total
Mexican American	#	1239	73	127	67	32	14	1552
	%	79.8	4.7	8.2	4.3	2.1	.9	
Puerto Rican	#	536	33	74	29	8	10	690
	%	77.7	4.8	10.7	4.2	1.2	1.4	
Cuban	#	168	0	15	5	0	3	191
	%	88.0	0	7.9	2.6	0	1.6	
Central & South American	#	1507	32	136	47	62	15	1799
	%	83.8	1.8	7.6	2.6	3.4	.8	
Other	#	277	11	32	15	7	4	346
	%	80.1	3.2	9.2	4.3	2.0	1.2	
TOTAL								
Spanish Origin	#	3727	149	384	163	109	46	4578
	%	81.4	3.3	8.4	3.6	2.4	1.0	100.0
White	#	2042	73	153	83	103	62	2516
	%	81.2	2.9	6.1	3.3	4.1	2.5	100.0

Table 4-13.--Urbanization of White Group and Spanish Origin by Descent.

Descent		DEGREE OF URBANIZATION		
		Reside in Urban Area	Reside in SMSA	Reside in Central City of an SMSA
Mexican American	#	1430	1395	997
	%	(92.1)	(89.9)	(64.2)
Puerto Rican	#	678	674	590
	%	(98.3)	(97.7)	(85.5)
Cuban	#	177	181	127
	%	(92.7)	(94.8)	(66.5)
Central & South American	#	1393	1417	728
	%	(77.4)	(78.8)	(40.5)
Other	#	298	284	138
	%	(86.1)	(82.1)	(39.9)
TOTAL				
Spanish Origin	#	3976	3951	2580
	%	(86.9)	(86.3)	(56.4)
White	#	2065	2017	920
	%	(82.1)	(80.2)	(36.6)

SMSA. Approximately 87 percent of the Spanish origin sample resided in an urban area in comparison to 82 percent for the white group. However, only 37 percent of the white group resided within the central city of a Standard Metropolitan Statistical Area in comparison to over half (56 percent) of the Spanish origin sample. As is evident in Table 4-13, Puerto Ricans are the most urbanized with nearly 98 percent of their population residing in both urban and Standard Metropolitan Statistical Areas. Furthermore, 86 percent of the Puerto Rican sample resided within a central city of a Standard

Metropolitan Statistical Area. The least urbanized Spanish origin group was the Central and South American category, with only 77 percent of its population residing in an urban area and only 41 percent of its population living in the central city of an SMSA.

Demographic data on health status among the groups under study specifically as it relates to employment is presented in Table 4-14. Approximately 10 percent of the Spanish origin persons (N = 433) indicated that they had a health condition or disability limiting the kind or amount of work they could do at a job which was slightly higher than that of the white group, 9 percent. In addition, 3.5 percent of the Spanish origin sample indicated that their health status prevented them from doing any work at all. Among the Spanish origin categories, Puerto Rican males had the greatest percentage (13 percent) of any Spanish origin category with a disability that limited the kind or amount of work. In contrast, Mexican American males and Central and South American females had the lowest percentage, 9 percent and 8 percent, respectively.

Education and Vocational Training

Educationally, males and females in the white sample each had the average highest grade attended, exceeding the 11th grade in comparison to 9.8 years for both Spanish origin males and females. Table 4-15 presents average number of years of schooling attended by descent and sex. Of all the groups under study, Puerto Ricans and Mexican Americans, regardless of sex, had on the average the least years of school attended. Cuban males had the highest

Table 4-14.--Health Disability of White Group[1] and Spanish Origin[2] by Descent and Sex.

	Male		Female	
	Number	Percent	Number	Percent
White	121	10.0	104	8.0
Mexican American	71	8.8	72	9.6
Puerto Rican	47	13.3	37	11.0
Cuban	8	9.1	12	11.7
Central & South American	81	9.7	76	7.9
Other	22	12.7	17	9.8

[1]Total White (number) 225; (percentage) 8.9.

[2]Total Spanish (number) 443; (percentage) 9.7.

Table 4-15.--Mean Highest Grade Attended by White Group and Spanish Origin by Descent and Sex.

Descent	Mean Grade
Total White	11.8
White Male	11.9
White Female	11.7
Total Spanish Origin	9.8
Spanish Origin Males	9.8
Spanish Origin Females	9.8

	Males	Females
Mexican American	8.6	8.8
Puerto Rican	8.3	8.3
Cuban	11.3	10.7
Central & South American	11.0	11.0
Other	10.9	10.3

average number of schooling years attended, 11.3, of the Spanish origin groups.

The distribution of educational attainment as noted in Table 4-16 varies considerably for each of the Spanish origin groups. Educationally, the data indicate that Mexican Americans and Puerto Ricans among all the Spanish origin groups had the lowest number of school years attended. In comparison, the Cuban, Central and South American, and "other" category had nearly the same type of educational distribution as the white group. For example, overall 20 percent of the Spanish origin males and 17 percent of the females indicated the sixth or lower grade as their highest grade attended during their educational preparation. However, only 6 percent of the Central and South American males and 3 percent of the white males attended only a sixth or lesser grade of schooling. In contrast, slightly over 32 percent of the Mexican American males and 29 percent of Puerto Rican males indicated the sixth or lower as their highest grade attended. Mexican American and Puerto Rican females also had the highest percentage of persons indicating sixth or less as their highest educational level attained, 28 percent and 34 percent respectively.

Using attendance of the 12th grade or a higher grade as an index for educational attainment, those data reveal that only 40 percent and 44 percent of the Spanish origin males and females, respectively, fell within this category in comparison to approximately 65 percent for both white males and females. Again, considerable diversity exists among the various Spanish origin groups since Puerto Rican males had only 22 percent of their respondents indicate they

Table 4-16.--Highest Educational Grade Attended Among White Group and Spanish Origin by Descent and Sex.

Highest Grade Level Attended	DESCENT						
	Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total Spanish Origin	Total White
No Schooling	* 32 (4.0)	10 (2.8)	0	8 (1.0)	2 (1.2)	52 (2.3)	5 (.4)
	** 29 (3.9)	21 (6.3)	1 (1.0)	3 (.3)	6 (3.5)	60 (2.6)	1 (.1)
Pre-6th Grade	*226 (28.1)	93 (26.3)	11 (12.5)	42 (5.0)	1 (10.4)	390 (17.3)	29 (2.4)
	**179 (23.9)	93 (27.7)	11 (10.7)	39 (4.0)	18 (10.4)	340 (14.6)	25 (1.9)
7th-8th Grade	*112 (13.9)	75 (21.2)	14 (15.9)	117 (14.0)	23 (13.3)	341 (16.1)	121 (10.0)
	**121 (16.2)	43 (12.8)	27 (26.2)	96 (9.9)	24 (13.9)	311 (13.4)	129 (9.9)
9th-11th	*204 (25.4)	98 (27.7)	15 (17.0)	207 (24.8)	45 (26.0)	569 (25.3)	269 (22.2)
	**176 (23.5)	90 (26.8)	13 (12.6)	271 (28.1)	37 (21.4)	587 (25.2)	280 (21.5)
12th Grade	*157 (19.6)	60 (16.9)	17 (19.3)	296 (35.5)	42 (24.3)	572 (25.4)	427 (35.3)
	**195 (26.0)	64 (19.8)	25 (24.3)	443 (45.9)	61 (35.3)	788 (33.9)	558 (42.2)
1-3 yr. college	* 53 (6.6)	9 (2.5)	15 (17.0)	92 (11.0)	21 (12.1)	190 (8.4)	188 (15.5)
	** 36 (4.8)	15 (4.5)	11 (10.7)	77 (8.0)	18 (10.4)	157 (6.7)	204 (15.6)
4 yrs. college	* 11 (1.4)	6 (1.7)	5 (5.7)	32 (3.6)	7 (4.0)	59 (2.6)	89 (7.3)
	** 7 (.9)	5 (1.5)	7 (6.8)	26 (2.7)	6 (3.5)	51 (2.2)	70 (5.4)
5 yrs. or more (college)	* 8 (1.0)	3 (.8)	11 (12.5)	41 (4.9)	15 (8.7)	78 (3.5)	83 (6.9)
	** 6 (.8)	5 (1.5)	8 (7.8)	11 (1.1)	3 (1.7)	33 (1.4)	38 (2.9)
TOTAL	*803	354	88	833	173	2251	1211
	**749	336	103	966	173	2327	1305

*Male
**Female

achieved this level of education attainment. Mexican American males were close behind this percentage with nearly 29 percent of their males attending beyond the 12th grade.

In terms of college attendance, 15 percent of the Spanish origin males and 10 percent of the Spanish origin females attended college in comparison to 30 percent for white males and 24 percent for white females. Among the Spanish origin groups, about 35 percent of the Cuban males had attended college but only 5 percent of the Puerto Rican males had ever attended. Mexican American males also had a low percentage which have ever attended colleges, only 9 percent. Among white males, over 30 percent had attended college.

The educational data for the various Spanish origins reveals different levels of educational attainment for the groups under study. Unfortunately, it is impossible to measure quality of schooling for the various groups. Furthermore, how does one compare ten years of schooling in the United States to the same number of years obtained in Cuba or Mexico among those persons who immigrated to this country?

As for vocational training, 21 percent of the Spanish origin males and 18 percent of the Spanish origin females, in comparison to 29 percent of the white males and 23 percent of the white females, indicated that they had completed some type of vocational training, as noted on Table 4-17. However, vocational training seemed to be more prevalent for the Cubans, about one-third of both males and females had received some type of vocational training. By contrast only 11 percent of the Puerto Rican males and females had been involved in some vocational training. Of the 462 Spanish origin

Table 4-17.--Vocational Training of White Group and Spanish Origin by Descent and Sex.

Vocational Training		Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total Spanish Origin	Total White
				A. MALES				
Yes	#	118	39	29	224	52	462	361
	%	14.7	11.0	33.0	26.9	30.1	20.5	29.8
No	#	685	315	59	609	121	1789	850
	%	85.3	89.0	67.0	73.1	69.9	79.5	70.2
Total	#	803	354	88	833	173	2251	1211
				B. FEMALES				
Yes	#	106	39	35	205	33	418	305
	%	14.2	11.6	34.0	21.2	19.1	18.0	23.4
No	#	643	297	68	761	140	1909	1000
	%	85.8	88.4	66.0	78.8	80.9	82.0	76.6
Total	#	749	336	103	966	173	2327	1305

males who indicated having some type of vocational training, nearly half (47 percent) indicated that their area of training had been in trades and crafts. Table 4-18 presents areas of vocational training by descent and sex. The category of training second most important for males was in the area of business and office work where approximately 12 percent indicated vocational training. Nearly half of the 419 Spanish origin females who had indicated some type of vocational training had their training in business and office work (45 percent). For females the next largest area of training was in nursing and related health fields, about 17 percent. Among whites, half of the males and females received their training in trades or crafts and business office related work.

Labor Force Status

During the 1970 Survey Week, the white group on the average participated in the labor force slightly more than the Spanish origin sample. The labor force participation rate (L.F.P.R.) among those of Spanish origin was 67 percent in comparison to 68 percent for the whites. Table 4-19 gives the L.F.P.R. and unemployment rate for each of the Spanish origin groups and the white group by sex. As would be expected there is considerable difference between the rates for men and women; white males and females respectively had a rate of 86 percent and 51 percent in comparison to 88 percent and 47 percent, respectively, for the Spanish origin males and females. Spanish origin males, regardless of descent, had approximately the same participation rate or slightly higher than the white males.

Table 4-18.--Area of Vocational Training of White Group and Spanish Origin by Sex.

Area of Training		SEX			
		Spanish Origin Male	White Male	Spanish Origin Female	White Female
Business, Office Work	#	57	51	188	140
	%	12.3	14.1	44.9	45.9
Nursing, Other Health Fields	#	20	4	69	43
	%	4.3	1.1	16.5	14.1
Trades & Crafts	#	220	177	66	34
	%	47.6	49.0	15.8	11.1
Engineering or Science Technician, Draftsman	#	53	42	6	3
	%	11.5	11.6	1.4	.9
Agriculture, Home Economics	#	18	8	11	6
	%	3.9	2.2	2.6	2.0
Other Fields	#	25	16	16	12
	%	5.4	4.4	3.8	3.9
Not Reported	#	69	63	63	67
	%	14.9	17.5	15.0	22.0
TOTAL RECEIVING VOCATIONAL TRAINING		462	361	419	305

Table 4-19.--Labor Force Status and Unemployment of White Group and Spanish Origin by Descent and Sex.

Descent	Labor Force Participation Rate		Unemployment Rate	
	Male	Female	Male	Female
Mexican American	87.3	42.6	4.0	7.0
Puerto Rican	86.2	40.8	5.2	13.1
Cuban	87.5	68.0	10.4	11.4
Central & South American	90.4	50.3	3.1	5.1
Other	83.8	49.7	4.1	2.3
Overall Spanish Origin	88.0	47.2	4.1	6.8
White	86.3	51.2	2.3	4.0

Total Spanish Origin L.F.P.R. = 67.3 percent
Total Spanish Origin Unemployment = 5.1 percent
Total White L.F.P.R. = 68.1 percent
Total White Unemployment = 3.0 percent

Central and South Americans had the highest participation rate, 90 percent and the "other" category had the lowest participation rate, 84 percent. All female Spanish origin groups had at least 40 percent of their women in the labor force. Of the females, Cubans have the highest participation rate, 68 percent, and Puerto Ricans the lowest, 40 percent.

Unemployment for the Spanish origin sample for the survey week was 5 percent in comparison to 3 percent for the white group. Among the males, the Spanish origin had an unemployment rate of 4 percent in comparison to 2 percent for the white. Spanish origin females had an unemployment rate of 7 percent while the white women

had a rate of 4 percent. As evident from Table 4-19 Puerto Rican females, Cuban females and Cuban males tended to have the highest unemployment rates, 13 percent, 11 percent, and 10 percent, respectively. It should be noted, however, that only small numbers of persons are involved in these categories. In the total Spanish origin sample, there are only 81 males and 75 females unemployed. The unemployment rates for Puerto Rican and Cubans are based upon only 34 and 16 observations, respectively.

Age appears to affect the labor force participation of the Spanish origin group and the white group but slightly differently as evident in Table 4-20. The spanish origin males had a greater labor force participation than the white group in the 16-17, 21-25 and 55-64 years of age categories. Between the ages of 26 and 54 years, the white males had a slightly higher L.F.P.R. than Spanish origin males. Spanish origin females had lower labor force participation than the white females with the exception of the 26-34 age group. Peak L.F.P.R. occurred bimodally at 18-20 years of age and 45-54 years of age for both Spanish origin and white females. Presumably it is between these years when the burden of child care accounts for the reduced L.F.P.R. among women.

Hours Worked

Among the employed persons, the Spanish origin sample and whites differed only by one hour in the number of hours worked during the 1970 Survey Week; 39 and 38 hours, respectively. Within the Spanish origin groups and in comparison to the white group,

Table 4-20.--Labor Force Participation of White Group and Spanish Origin by Sex and Age.

Age Group	L.F.P.R. (Percentage) MALE Spanish Origin	MALE White	FEMALE Spanish Origin	FEMALE White
16-17 years	39.2	33.8	26.9	41.5
18-20 years	66.3	68.0	52.3	55.8
21-25 years	92.5	86.3	47.5	54.9
26-34 years	95.7	96.1	44.7	41.2
35-44 years	96.1	98.0	49.7	53.1
45-54 years	92.3	95.9	58.5	59.0
55-64 years	89.9	82.1	44.4	48.6

there is very little overall difference in hours worked, except for male and female differences, as indicated in Table 4-21. However, the distribution of hours worked during the survey week in Table 4-22 indicates that both Spanish origin males and females had a higher percentage working a 40 hour week than white males and females. As for full-time workers, i.e., 35 hours or more, about 87 percent and 73 percent of the employed Spanish origin males and females, respectively, were full-time workers in comparison to 85 percent of the employed white males and 65 percent of the white females. While both the employed Spanish origin group and white group tend to be full-time workers, there appears to be a slightly greater percentage of part-time workers among the white females in

Table 4-21.--Average Number of Hours Worked During the 1970 Survey Week of White Group and Spanish Origin by Descent and Sex.*

Descent	Mean Hours
Total White	38.3
White Male	41.0
White Female	34.0
All Employed Spanish Origin (N = 2814)	39.1
Spanish Origin Males (N = 1839)	41.0
Spanish Origin Females (N = 975)	35.6

	Male	Female
Mexican American	40.7	35.6
Puerto Rican	39.8	36.6
Cuban	41.3	37.6
Central & South American	41.9	35.2
Other	40.3	34.8

*Computed only for those individuals who worked one or more hours during the 1970 Survey Week.

Table 4-22.--Hours Worked During 1970 Survey Week of White Group and Spanish Origin by Sex.

Hours		SEX: Spanish Origin Female	White Female	Spanish Origin Male	White Male	Total Spanish Origin	Total White
1-14	#	68	56	47	42	115	98
	%	7.0	9.1	2.6	4.2	4.1	6.1
15-29	#	109	99	64	50	173	149
	%	11.2	16.0	3.5	5.0	6.1	9.2
30-34	#	89	62	129	62	218	124
	%	9.1	10.0	7.0	6.2	7.7	7.7
35-39	#	96	88	77	54	173	142
	%	9.8	14.3	4.2	5.4	6.1	8.8
40	#	513	236	937	428	1450	664
	%	52.6	38.2	51.0	43.1	51.5	41.2
41-48	#	62	50	316	168	378	218
	%	6.4	8.1	17.2	16.9	13.4	13.5
49-59	#	25	14	156	110	181	124
	%	2.6	2.3	8.5	11.1	6.4	7.7
60 or More	#	13	12	113	80	126	92
	%	1.3	1.9	6.1	8.0	4.5	5.7
TOTAL		975	617	1839	994	2814	1611

comparison to the Spanish origin females. For example, about 26 percent of the white women in comparison to 20 percent of the Spanish origin females, worked in the range of 15 to 34 hours. This difference in part-time work may indicate that Spanish origin females enter the labor force more as a result of economic necessity. Economic pressures could thus prevent them from being flexible in hours worked and accepting part-time work.

Employment Aspects

Data were available for both the white and Spanish origin sample on type of employer in their last job (except those who had never worked and those not in the labor force during the survey week who did not report the last year worked or who last worked in 1959 or earlier). Table 4-23 notes that for both the white group and the Spanish origin sample, private companies were the most frequent employers, employing about 69 percent of the white group and 73 percent of the Spanish origin group. Government employment accounted for about 10 percent of the whites and 7 percent of the Spanish origin sample.

Persons in the groups under study were also asked to report the occupation at which they worked the most hours during 1970 Survey Week or their last occupation since 1959. Tables 4-24 and 4-25, respectively, present the occupational distribution for males and females. While nearly half (49 percent) of the Spanish origin males who had worked during the last ten years were employed in two occupational classifications (craftsmen and kindred workers, and

Table 4-23.--Type of Employment of White Group and Spanish Origin.

Type of Employment	SPANISH ORIGIN		WHITE	
	Number	Percent	Number	Percent
Private Company	3326	72.7	1730	68.8
Federal Government	90	2.0	48	1.9
State Government	78	1.7	63	2.5
Local Government	155	3.4	145	5.8
Self-Employed, Not Inc.	109	2.4	106	4.2
Self-Employed, Inc.	16	.3	26	1.0
Working Without Pay	13	.3	13	.5
Not Applicable (Persons who never worked, persons not in labor force, not reporting year last worked, persons not in labor force, who last worked 1959 or earlier)	791	17.3	385	15.3
TOTAL	4578	100.0	2516	100.0

TABLE 4.24.--Last Type of Occupation Reported for White Group and Spanish Origin Males by Descent.

Type of Occupation		DESCENT						
		Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total Spanish	Total White
Professional, Technical and Kindred Workers	#	35	9	14	89	25	172	181
	%	4.6	2.7	16.9	11.2	16.0	8.1	15.7
Managers and Administrators except Farm	#	14	4	7	43	11	79	135
	%	1.8	1.2	8.4	5.4	7.1	3.7	11.7
Sales Work	#	12	8	1	33	7	61	76
	%	1.6	2.4	1.2	4.1	4.5	2.9	6.6
Clerical and Kindred Workers	#	43	24	13	53	8	141	97
	%	5.7	7.1	15.7	6.6	5.1	6.6	8.4
Craftsmen and Kindred Workers	#	134	43	12	157	28	374	244
	%	17.7	12.8	14.5	19.7	17.9	17.6	21.1
Operatives, except Transport	#	267	151	23	186	37	664	163
	%	35.2	44.9	27.7	23.3	23.7	31.2	14.1
Transport Equipment Operatives	#	41	23	1	74	7	146	65
	%	5.4	6.8	1.2	9.3	4.5	6.9	5.6
Laborers, Except Farm	#	125	37	2	80	17	261	69
	%	16.5	11.0	2.4	10.0	10.9	12.2	6.0
Farmers and Farm Managers	#	2	0	0	12	0	14	22
	%	.3	0	0	1.5	0	.7	1.9
Farm Laborers and Farm Foremen	#	15	5	0	5	6	31	5
	%	2.0	1.5	0	.6	3.8	1.5	.4
Service Worker, Exc. Private Household	#	65	32	10	65	10	182	97
	%	8.6	9.5	12.0	8.1	6.4	8.5	8.4
Private Household Workers	#	2	0	0	1	0	3	1
	%	.3	0	0	.1	0	.1	.1
Not Classified	#	3	0	0	0	0	3	0
	%	.4	0	0	0	0	.1	0
COLUMN TOTAL		758	336	83	798	156	2131	1155

*Excludes the experienced unemployed who last worked more than ten years ago; N = 120, Spanish; N = 56, White.

TABLE 4-25.--Last Type of Occupation Reported for White Group and Spanish Origin Females by Descent.*

Type of Occupation		DESCENT Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total Spanish	Total White
Professional, Technical and Kindred Workers	#	27	18	11	60	17	133	128
	%	5.4	8.7	12.9	8.2	12.6	8.0	13.1
Managers and Administrators except Farm	#	4	2	0	16	2	24	3
	%	.8	1.0	0	2.2	1.5	1.4	3.1
Sales Work	#	31	12	2	51	11	107	73
	%	6.3	5.8	2.4	7.0	8.1	6.5	7.5
Clerical and Kindred Workers	#	130	38	21	257	42	488	409
	%	26.2	18.3	24.7	35.1	31.1	29.5	41.9
Craftsmen and Kindred Workers	#	13	4	2	22	6	47	18
	%	2.6	1.9	2.4	3.0	4.4	2.8	1.8
Operatives, except Transport	#	183	103	35	143	31	495	147
	%	36.9	49.5	41.2	19.5	23.0	29.9	15.1
Transport Equipment Operatives	#	1	0	0	1	1	3	3
	%	.2	0	0	.1	.7	.2	.3
Laborers, Except Farm	#	10	2	2	6	3	23	6
	%	2.0	1.0	2.4	.8	2.2	1.4	.6
Farmers and Farm Managers	#	0	0	0	0	0	0	1
	%	0	0	0	0	0	0	.1
Farm Laborers and Farm Foremen	#	9	0	0	2	1	12	6
	%	1.8	0	0	.3	.7	.7	.6
Service Workers, Exc. Private Household	#	80	23	9	155	18	285	140
	%	16.1	11.1	10.6	21.2	13.3	17.2	4.3
Private Household Workers	#	6	2	2	18	3	31	3
	%	1.2	1.0	2.4	2.5	2.2	1.9	1.3
Not Classified	#	2	4	1	1	0	8	2
	%	.4	1.9	1.2	.1	0	.5	.2
COLUMN TOTAL		496	208	85	732	135	1656	976

*Excludes the experienced unemployed who last worked more than ten years ago, N = 797, Spanish; N = 329, White.

operative workers except transportation), white males had only 35 percent of their workers in these two occupational classifications. Examining the occupational distribution by Spanish origin group, Puerto Ricans and Mexican Americans had over half of their males employed in the craftsmen and operative occupational classifications. However, it should be pointed out that these are broad occupational classifications and include considerable number of occupations. For example, within the craftsmen and kindred workers classification one can find such occupationas as telephone linemen and repairmen, sign painters, shoe repairmen, automobile body repairmen, and electricians to name a few occupations. In the laborer category Spanish origin males had twice the representation as the white males (12 percent to 6 percent). Within the Spanish origin groups, Mexican American males had the greatest concentration of laborers, 17 percent. The number of Spanish origin males employed as farm labor and foremen was low, 1.5 percent for the entire sample.

The white group was represented by a greater percentage in the professional, technical, and kindred occupations than the Spanish origin group. The white males had about 16 percent of their workers employed in professional, technical, and kindred occupations in comparison to 8 percent for the Spanish origin males. Among the Spanish origin male groups, the distribution within the professional categories was more varied, ranging from a low of 3 percent for the Puerto Ricans to 17 percent for the Cubans. In fact, all of the Spanish origin males with the exception of

Mexican Americans (5 percent) and Puerto Ricans (3 percent) had at least 11 percent of their individuals working in a professional, technical and kindred classification. The large percentage of Cubans in the professions may be explained by the fact that many of the Cuban refugees who fled Cuba were professionals.

Females had a contrasting distribution from the males as noted in Table 4-25. Sixty percent of the Spanish origin females are employed in two occupational classiciations: clerical and kindred, and operative occupations. White females had nearly the same percentages (57 percent) as the Spanish origin females employed as clerical and kindred workers and operatives, except transportation. Within these two occupational classifications, distribution differences existed among the Spanish origin females. Mexican, Cuban, and Puerto Rican origin females were more represented in operative occupations in comparison to either white females or the other Spanish origin female groups. In the clerical and kindred occupations, all the Spanish origin female groups lagged behind the white female in representation. Only the Central and South American females approach the distribution of the white clerical work. The Spanish origin females may face employment and discrimination barriers in clerical work as a result of the social skills and public interaction required in these occupations. The proportion of Spanish origin women employed in the professional category ranged from 5 percent for Mexican origin to 13 percent for both the Cuban and "other" category. Among white females, the professional distribution was 13 percent.

As a further assessment of occupational distribution among the groups under study, the occupations were assigned the mean earnings of the experienced national civilian labor force who worked 50-52 weeks in the respective occupation in 1969 in order to create an occupational hierarchy based upon average annual earnings in an occupation.[2] Table 4-26 presents the average occupational level in terms of earnings for the Spanish origin and white groups by sex. White males were in occupations which averaged earnings of $9,379 in comparison to $8,157 for the Spanish origin males. However, considerable diversity was apparent among the Spanish origin male groups. Puerto Rican and Mexican origin males were in occupations with the lowest average earnings, $7,347 and $7,607, respectively. While Mexican origin and Puerto Rican males lagged about $2,000 less than the white occupational level, Cuban and "other" Spanish origin were within $200 of the white occupational level. Central and South Americans origin were on the average in occupations paying $675 less than whites.

There was less of a spread in occupational level for the women. White females were in occupations which averaged earnings of $4,889 as compared to $4,570 for the Spanish origin female. Cuban females with occupational earnings of $4,864 approached the white occupational earning level most closely of all the Spanish origin female groups. Mexican origin females were in occupations with the lowest average annual earnings of the Spanish origin groups, but still only $442 less than the white female occupational level.

Table 4-26.--Mean National Occupational Earnings Level of White Group and Spanish Origin by Descent and Sex.*

	SEX	
	Male	Female
Total White	$9,378.98	$4,898.92
Total Spanish Origin (N = 3775)	8,157.36	4,569.81
Mexican American	7,606.97	4,456.97
Puerto Rican	7,346.65	4.684.19
Cuban	9,145.66	4,863.68
Central & South American	8,704.36	4,564.60
Other	9,243.40	4,655.20

*A person's occupation was assigned the national average earning in that occupation based on Census data from the experienced national civilian labor force who worked 50-52 weeks in 1969.

Regarding the industrial distribution of the groups under study, excluding those who last worked more than ten years earlier, the data in Tables 4-27 and 4-28 reveal that more than half (54 percent) of the Spanish origin males were employed in manufacturing as compared to 39 percent of the white males. Among the Spanish origin males, Puerto Ricans had the largest percentage (67 percent) of employment in manufacturing, followed by Mexican origin males (61 percent). Cuban males had nearly the same percentage as the white males employed in manufacturing. Wholesale and retail trade generated 15 percent of the employment for Spanish origin males and 17 percent for the white males. Among Cuban males, wholesale and retail trade provided 21 percent of their employment. Professional

TABLE 4.27.--Last Industry Reported for White Group and Spanish Origin Males by Descent.*

Type of Industry		DESCENT Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total Spanish	Total White
Agriculture, Forestry and Fisheries	#	23	7	0	21	7	58	33
	%	3.0	2.1	0	2.6	4.5	2.7	2.9
Mining	#	3	0	1	4	1	9	7
	%	.4	0	1.2	4.5	.6	.4	.6
Construction	#	46	5	3	61	9	124	87
	%	6.1	1.5	3.6	7.6	5.8	5.8	7.5
Manufacturing	#	459	226	33	363	69	1150	449
	%	60.6	67.3	39.8	45.5	44.2	54.0	38.9
Transportation, Communication and other utilities	#	46	14	2	65	9	136	81
	%	6.1	4.2	2.4	8.1	5.8	6.4	7.0
Wholesale & Retail Trade	#	102	46	17	136	28	329	200
	%	13.5	13.7	20.5	17.0	17.9	15.4	17.3
Finance, Insurance and Real Estate	#	5	2	3	17	3	30	54
	%	.7	.6	3.6	2.1	1.9	1.4	4.7
Business and Repair Services	#	7	10	3	16	1	37	52
	%	.9	3.0	3.6	2.0	.6	1.7	4.5
Personal Services	#	19	5	2	18	0	44	28
	%	2.5	1.5	2.4	2.3	0	2.1	2.4
Entertainment and Recreation Services	#	5	2	0	8	1	16	6
	%	.7	.6	0	1.0	.6	.8	.5
Professional and Related Services	#	31	16	16	64	23	150	106
	%	4.1	4.8	19.3	8.0	14.7	7.0	9.2
Public Administration	#	9	3	3	25	5	45	52
	%	1.2	.9	3.6	3.1	3.2	2.1	4.5
Not Classified	#	3	--	--	--	--	3	0
	%	.4	--	--	--	--	.1	0
COLUMN TOTAL		758	336	83	798	156	2131	1155

*Excludes the experienced unemployed who last worked more than ten years ago.

TABLE 4-28.--Last Industry Reported for White Group and Spanish Origin Females by Descent.*

Type of Industry		DESCENT Mexican American	Puerto Rican	Cuban	Central & South American	Other	Total Spanish	Total White
Agriculture, Forestry and Fisheries	#	10	0	0	4	1	15	9
	%	2.0	0	0	4.5	.7	.9	.9
Mining	#	0	0	0	0	0	0	1
	%	0	0	0	0	0	0	.1
Construction	#	5	0	0	8	2	15	13
	%	1.0	0	0	1.1	1.5	.9	1.3
Manufacturing	#	208	111	40	198	50	607	239
	%	41.9	53.4	47.1	27.0	37.0	36.7	24.5
Transportation, Communication and other utilities	#	15	2	4	15	1	37	44
	%	3.0	1.0	4.7	2.0	.7	2.2	4.5
Wholesale & Retail Trade	#	99	43	13	185	35	375	245
	%	20.0	20.7	15.3	25.3	25.9	22.6	25.1
Finance, Insurance and Real Estate	#	21	3	3	55	6	88	72
	%	4.2	1.4	3.5	7.5	4.4	2.3	7.4
Business and Repair Services	#	16	3	3	15	1	38	28
	%	3.2	1.4	3.5	2.0	.7	2.3	2.9
Personal Services	#	29	11	4	65	6	115	46
	%	5.8	5.3	4.7	8.9	4.4	6.9	4.7
Entertainment and Recreation Services	#	2	0	0	5	0	7	7
	%	.4	0	0	.7	0	.4	.7
Professional and Related Services	#	82	26	16	164	28	316	243
	%	16.5	12.5	18.8	22.4	20.7	1	24.9
Public Administration	#	7	5	1	17	5	35	27
	%	1.4	2.4	1.2	2.3	3.7	1	2.8
Not Classified	#	2	4	1	1	0	8	2
	%	.4	1.9	1.2	.1	0	.5	.2
COLUMN TOTAL		496	208	85	732	135	1656	976

*Excludes the experienced unemployed who last worked more than ten years ago.

and related services was another industry that provided considerable employment (19 percent) for Cuban males but not for the other male groups (except "other" Spanish origin males).[3] Finally, less than 2 percent of the Puerto Rican and Mexican origin males were employed in a public administration capacity as compared to 4 percent for Cubans and 5 percent for white males.

Manufacturing also played a large role in generating employment for Spanish origin females, accounting for 37 percent of total employment as compared to 25 percent for whites. Within the Spanish origin groups manufacturing accounted respectively for 42 percent, 47 percent, and 53 percent of employment for Mexican origin, Cubans, and Puerto Rican females. About 25 percent and 22 percent, respectively, of the employment for the white and Central and South American origin groups was in professional and related services which includes employment in offices of physicians and dentists, hospitals, and other social organizations. Among Mexican and Puerto Rican females, professional and related services accounted respectively for 17 percent and 13 percent of employment. The comparative under-representation in this industry by Mexican and Puerto Rican females may be explained by the nature of the jobs in this industry. While jobs in dentists' and physicians' offices, libraries, and hospitals require certain minimal educational requirements, they also require certain social skills and public interaction. Even though Mexican and Puerto Rican females have the lowest educational attainment of any of the groups under study,

these two groups may not be employed because of the social and public interaction required in this industry.

Weeks Worked in 1969

Differences among the Spanish origin sample and the white group in terms of percentage of each group who worked in 1969 and the number of weeks worked were minimal except for differences by sex. A near equal percentage of the white males (92 percent) and the Spanish origin males (91 percent) indicated they worked for at least a few days in 1969. Among the females, 59 percent of the whites and 55 percent of the Spanish origin worked that year. Puerto Rican females had the lowest percentage (46 percent) of any of the groups working in 1969. Table 4-29 presents the number and percentage of each group who worked in 1969.

Overall, the Spanish origin and the white groups worked about the same number of weeks in 1969, 46 for males and 38 for females. Table 4-30 presents the average number of weeks worked for the groups by sex. Of those who worked in 1969, Central and South Americans averaged the most weeks worked among the males, 47 weeks. Among the females, Cuban averaged the least weeks worked, 43 weeks.

Total Earnings in 1969

Total earned income for a person in 1969 was computed from three different sources: (1) earnings from all jobs attributed to wages, salaries, commissions, bonuses and tips; (2) earnings attributed to self employment such as non-farm business, professional practice, or partnership; and (3) earnings from farm ownership.

Table 4-29.--Worked in 1969 Among White Group and Spanish Origin by Descent and Sex.

Descent		WORKED IN 1969				Total
		Yes		No		
		Male	Female	Male	Female	
Mexican American	#	726	388	77	361	1552
	%	(90.4)	(51.8)	(9.6)	(48.2)	
Puerto Rican	#	315	153	39	183	690
	%	(89.0)	(45.5)	(11.0)	(54.5)	
Cuban	#	82	70	6	33	191
	%	(93.2)	(68.0)	(6.8)	(32.0)	
Central and South American	#	775	575	58	391	1799
	%	(93.0)	(59.5)	(7.0)	(40.5)	
Other	#	150	104	23	69	346
	%	(86.7)	(60.1)	(13.3)	(39.9)	
TOTAL						
Spanish Origin	#	2048	1290	203	1037	4578
	%	(91.0)	(55.4)	(9.0)	(44.6)	
White	#	1114	770	97	535	2516
	%	(92.0)	(59.0)	(8.0)	(41.0)	

Table 4-30.--Average Number of Weeks Worked in 1969 of White Group and Spanish Origin by Descent and Sex.*

Descent	Mean Weeks
Total White	43.0
White Males	46.0
White Females	38.7
Spanish Origin (N = 3338)	42.6
Spanish Origin Males (N = 2048)	45.5
Spanish Origin Females (N = 1290)	38.1

	Males	Females
Mexican American	44.8	36.9
Puerto Rican	45.5	38.0
Cuban	44.0	42.9
Central & South American	46.6	38.2
Other	44.1	38.3

*Computed only for those individuals who actually worked one or more weeks in 1969.

Persons who worked without pay or had no income in any of these sources were excluded. Table 4-31 presents the number and percentages of persons who worked in 1969 by source of earned income. About 97 percent of both the Spanish origin males and females who worked in 1969 had earned income attributable to wage, salaries, commissions, bonuses, and tips in comparison to 94 percent for white males and 96 percent for white females. Self employment generated earnings for about 8 percent of the white males and 5 percents of the Spanish origin females. Farm ownership provided earnings for less than

TABLE 4-31.--Sources of Earnings of White Group and Spanish Origin by Descent and Sex.

		SOURCES OF EARNINGS*				
		Number Worked in 1969	Job	Self Employment	Farm Ownership	Total Earnings Income**
				MALES		
White Male	#	1114	1048	88	35	1112
	%	(100)	(94.1)	(7.9)	(3.1)	(99.8)
All Spanish Origin	#	2048	1979	109	30	2040
	%	(100)	(96.6)	(5.3)	(1.5)	(99.6)
Mexican American	#	726	713	17	2	724
	%	(100)	(98.2)	(2.3)	(.2)	(99.7)
Puerto Rican	#	315	307	13	0	313
	%	(100)	(97.5)	(4.2)	(0)	(99.4)
Cuban	#	82	77	9	0	81
	%	(100)	(94.0)	(11.0)	(0)	(98.8)
Central & So. American	#	775	738	57	28	773
	%	(100)	(95.2)	(7.4)	(3.6)	(99.7)
Other	#	150	144	13	0	149
	%	(100)	(96.0)	(8.7)	(0)	(99.3)
				FEMALES		
White Female	#	770	741	21	1	760
	%	(100)	(96.2)	(2.7)	(.1)	(98.7)
All Spanish Origin	#	1290	1263	40	4	1281
	%	(100)	(98.0)	(3.1)	(.3)	(99.3)
Mexican American	#	388	384	8	0	385
	%	(100)	(99.0)	(2.1)	(0)	(99.2)
Puerto Rican	#	153	150	3	0	152
	%	(100)	(98.0)	(2.0)	(0)	(99.3)
Cuban	#	70	70	2	0	70
	%	(100)	(100)	(2.9)	(0)	(100)
Central & So. American	#	575	557	25	4	571
	%	(100)	(96.9)	(4.3)	(.6)	(99.3)
Other	#	104	102	2	0	103
	%	(100)	(98.0)	(1.9)	(0)	(99.0

*Percentage distribution of sources of earnings may exceed 100 percent since individuals may have had more than one source of earnings.

**Number of persons in Total Earnings income may not equal those who worked in 1969 since some workers may be unpaid family workers.

4 percent for both white and Central and South American males but was relatively insignificant for the other Spanish groups. Wages, salary, commissions, bonuses, and tips from a job were thus the predominant sources of earnings for the groups under study.

In 1969, the average total earned income from the three sources, and excluding those without any earnings, was $9,144 for white males and $7,174 for all Spanish origin males, a 22 percent difference in earnings. Table 4-32 presents average total earned income in 1969 by group and sex. Among the Spanish origin males, Cubans, Central and South Americans, and the "other" category had higher earnings of $6,681 and $5,773. Mexican origin and Puerto Rican males earned 27 percent and 37 percent less on the average, respectively, than white males.

In comparing the average total earned income of females who worked in 1969, white females earned $3,768 as compared to $3,308 for the Spanish origin females, about a 12 percent difference in earnings. Within the Spanish origin females, Cubans ($4,257) and "other" Spanish origin ($3,823) averaged higher total earnings than white females. Puerto Rican and Mexican American females averaged the lowest earnings among all females, $3,098 and $3,124, respectively. White females earned on the average about 17 percent more than either Puerto Rican or Mexican American females.

Table 4-33 summarizes and compares the distribution of total earned income in 1969 of the Spanish origin sample and the white group by sex. Spanish origin males had greater representation than white males in all income categories below $9,000; while in all

Table 4-32.--Mean Total Earned Income in 1969 of White Group and Spanish Origin by Descent and Sex.

Descent	Mean Total Earned Income
Total White	$6,961.14
White Males	9,143.53
White Females	3,767.96
Spanish Origin (N = 3321)	5,683.20
Spanish Origin Male (N = 2040)	7,174.58
Spanish Origin Female (N = 1281)	3,308.16

	Male	Female
Mexican American	$6,680.59	3,124.16
Puerto Rican	5,773.16	3,098.36
Cuban	7,428.40	4,257.14
Central & South American	7,912.48	3,278.81
Other	8,552.68	3,823.30

No Income (N=1257)(27.5 percent)
Spanish Origin

No Income (N=644) (25.6 percent)
White

Table 4-33.--Distribution of Total Earned Income in 1969 for White Group and Spanish Origin by Sex.

Total Earned Income*	SEX			
	Male		Female	
	White (Percent)	Spanish Origin (Percent)	White (Percent)	Spanish Origin (Percent)
Under $2,999**	15.7	16.5	43.6	47.2
3,000-4,999	7.8	12.3	23.9	27.5
5,000-6,999	11.4	19.5	18.8	17.5
7,000-8,999	18.3	22.7	7.0	5.5
9,000-10,999	17.5	15.8	4.2	1.6
11,000-12,999	12.0	6.3	1.8	.3
13,000-14,999	5.1	3.1	.4	.2
15,000-16,999	3.3	1.4	.1	.2
Over $17,000	8.5	2.4	.1	.2

*Total Earned Income is the sum of (1) earnings from all jobs attributed to wages, salaries, commissions, bonuses, and tips; (2) earnings attributed to self-employment such as non-farm business, professional practice or partnership; (3) earnings from farm ownership. Persons who worked without pay or had no income in 1969 were excluded.

**Category includes negative incomes, i.e. persons who lost income in 1969. A total of two white persons and one Spanish origin person had negative total earned income.

earnings classes above $9,000, white males outrepresented the Spanish origin males in terms of total earned income. Nearly 9 percent of the white males earned over $17,000 in comparison to only 2 percent for Spanish origin males.

Likewise, white females outrepresented for the most part the Spanish origin women in every income category above $5,000. The percentage difference is more evident above the $9,000 income

bracket. About 7 percent of the white females earned over $9,000 in comparison to only 3 percent for Spanish origin females. White females and Spanish origin females were, however, similarly disadvantaged in terms of earnings differences when compared to their male counterparts.

Summary

The data presented in this chapter reveal substantial differences in the total earnings of the Spanish origin and white groups, even though differences are not uniform either by descent or sex among all the groups under study. Despite these earnings differences, overall labor force participation for both groups, for example, were nearly identical; 68 percent for the white group and 67 percent for the Spanish origin. Both groups worked virtually the same number of hours in a given week and were employed nearly the same number of weeks in 1969. While the Spanish origin and whites contributed the same amount of work effort in the labor market, the remuneration for work was not the same. Among males who worked in 1969, the Spanish origin earned 22 percent less than the whites. Spanish origin females earned about 12 percent less than white females.

Structurally, the occupational distribution for males indicates the Spanish origin as compared to whites over-represented in the laborer, craftsmen and kindred, and operatives categories and under-represented in the professional, technical and kindred occupations. As for females, the whites had nearly 42 percent of their group employed in clerical and kindred workers in comparison

to 30 percent for Spanish origin. Manufacturing provided more jobs for both Spanish origin males and females than whites.

Numerous differences in earnings characteristics were also noted among Spanish origin groups. Among both males and females, those of Puerto Rican and Mexican origin earned the least. Occupationally, among the males, Puerto Rican and Mexican origin persons were more concentrated in both craftsmen and kindred workers and operative occupations than the other groups. Manufacturing generates proportionally more employment for both Puerto Rican and Mexican origin persons.

The data presented in this chapter also indicates substantial differences among human capital characteristics both within the Spanish origin groups and between whites. For instance, average investment in schooling ranged from eight years among the Mexican origin to nearly 12 years for whites. Certain groups such as Cubans and Mexicans had a greater percentage of foreign born and aliens than other groups. However, persons of Spanish origin are not recent settlers to the Midwest States. Nearly 80 percent of all groups under study, except Cubans, resided in the states five years ago. In the next chapter, a more detailed analysis of the earnings process is presented in order to obtain a better understanding of the earning characteristics of the Spanish origin persons. Major emphasis is stressed on comparing the influence of certain human capital considerations on the earnings process for all Spanish origin groups together, Mexican origin persons studied separately, and the white group.

FOOTNOTES--CHAPTER IV

[1]Appendix 3-A presents a description of the basic records available from the U.S. Census Bureau.

[2]I express my appreciation to Dr. Einar Hardin and Dr. Steve Director, faculty members at Michigan State University, School of Labor and Industrial Relations, for their original assistance in my efforts to create an occupational earnings level.

[3]The large percentage of Cuban males in wholesale and retail trade, and professional and related services, is not readily explained. It may be that Cubans who fled the country were concentrated in these industries. It should also be noted that the percentage figures for Cuban males is derived from only 17 observations in wholesale and retail trade and 16 observations in professional and related services.

CHAPTER V

ANALYSIS OF THE EARNINGS DATA

Introduction

In this chapter, an econometric earnings model assesses the effects of certain human capital characteristics and other independent variables on total earnings and other related dependent variables for the Spanish origin sample. In order to have a comparative reference, the data of a randomly selected white control group were also analyzed utilizing the same type of econometric model. Table 5-1 lists the earnings related dependent variables and independent variables of the econometric earnings model.

The earnings related dependent variables or components of the earnings model selected for a more refined assessment include: (1) labor force participation during the 1970 survey week, (2) weeks worked in 1969, (3) total earnings in 1969, (4) occupational level of those who worked in 1969, and (5) occupational earnings ratio in 1969. These five major components were selected for presentation in this chapter for their overall relationship to the total earnings process of an individual. Information was also available on employment status in 1970, hours worked in 1970, and whether one worked in 1969. However, it was decided to focus on the five components of the earnings process just discussed because of computer cost and data

Table 5-1.--An Econometric Earnings Model.

Earnings Related Dependent Variables[a]

1. Labor Force Participation, 1970 Survey Week (0=No; 1=Yes)
2. Weeks Worked in 1969 (actual number)
3. Total Earnings in 1969 (dollar amount)
4. Occupational Level in 1969--(Occupational hierarchy determined by the mean earnings of the experienced national civilian labor force in a particular occupation who worked 50-52 weeks in 1969).
5. Occupational Earnings Ratio--(Total Earnings in 1969 of an individual divided by the national mean earnings attributed to the individual's occupation).

Each of these dependent variables are analyzed using the following independent variables:

INDEPENDENT VARIABLES

Race

6. White (0=No; 1=Yes)

Age

7. Age (Years)
8. Age Squared

Education

9. Grade (highest school year attended)
10. Grade squared

Vocational Training

11. Completed Vocational Training (0=No; 1=Yes)
12. Grade x Vocational Training (Variable 9 times Variable 11) (Grade x VocTr)[c]

Marital Status

13. Single[b]
14. Once Married (widowed, divorced, separated) (0=No; 1=Yes)
15. Married, Spouse Present (0=No; 1=Yes)

Children

16. Number of children ever born (females only) (children #)[c]

Work Experience

17. No Job Five Years Ago[b]
18. Yes Job Five Years Ago (0=No; 1=Yes) (Job five Yes)[c]
19. Missing Data on Job Five Years Ago (0=No; 1=Yes) (Job Five Missing)[c]

Table 5-1.--Continued.

Health Status

20. Disability which limits or prevents work (0=No; 1=Yes) (Disabled)[c]

Urban Residency

21. Metro--Resides in Standard Metropolitan Statistical Area (SMSA) (0=No; 1=Yes)
22. Central City--Resides in central city of SMSA (0=No; 1=Yes)

State of Residency

23. Resides Illinois[b]
24. Resides Michigan (0=No; 1=Yes)
25. Resides Ohio (0=No; 1=Yes)
26. Resides Indiana (0=No; 1=Yes)
27. Resides Wisconsin (0=No; 1=Yes)

Place of Birth

28. Born in Midwest state[b]
29. Born in a Southwest state (0=No; 1=Yes) (Born Southwest)[c]
30. Born in Other State (0=No; 1=Yes) (Born other State)[c]
31. Born in Puerto Rico (0=No; 1=Yes) (Born Puerto Rico)[c]
32. Born Abroad (0=No; 1=Yes)

Citizenship Status

33. Native[b]
34. Naturalized (0=No; 1=Yes)
35. Alien (0=No; 1=Yes)

Residency Five Years Ago

36. Resided in Midwest[b]
37. Resided in other U.S. state (0=No; 1=Yes) (Resided Five Other State)[c]
38. Resided in Foreign Country (0=No; 1=Yes) (Resided Five Foreign)[c]
39. Resided Missing Data (0=No; 1=Yes) (Resided Five Missing)[c]

[a]The number of observations in each of the dependent variable will vary since labor force participation examines all the civilian non-institutional population but Weeks Worked in 1969 and Total Earnings examines only those persons who worked in 1969 and persons with earnings, respectively.

[b]This characteristic enters the intercept value.

[c]Independent variable inside brackets indicates abbreviated variable name used in regression Tables 5-2 to 5-13.

management considerations. The selection of these five dependent variables, however, maximizes the amount of information about the earnings process. It enables careful scrutiny of labor force participation, amount of work (weeks), type of work (occupational level), and annual earnings.

The effects of the independent variables noted in Table 5-1 on the five components of the earnings model were examined comparatively for the groups under study. The influence of the independent variables on the earnings related dependent variables were analyzed through a step-wise deletion process using a Computer Institute for Social Science Research Statistics Program written at Michigan State University. The step-wise deletion process used a significance level of $P \leq .05$ as the inclusion rule. All variables could initially be deleted if their significance level exceed .05 and then added if they reached significance levels of $P \leq .05$ once all other nonsignificant variables had been deleted.

The initial statistical step-wise deletion regression analysis focused separately on the earnings data of the randomly selected white group and all Spanish origin persons regardless of descent. In addition, the persons of Mexican origin were isolated and assessed separately utilizing the same econometric model. Persons of Mexican origin were analyzed separately because they are the largest of the Spanish origin groups in the nation and also because of their low socioeconomic status relative to the other Spanish origin groups. Of the various Spanish origin groups only Puerto Ricans appear to have similar socioeconomic status conditions as Mexican Americans.

In addition, persons of Mexican origin have been receiving increasing attention in the five states under study, and it was felt that it would be worthwhile to examine their economic performance separately.

The analysis of the earnings data will, therefore, focus on three major groups: a randomly selected white group, the Spanish origin sample including persons of Mexican origin, and finally persons of Mexican origin analyzed separately. Each of the three major groups will be further divided by sex. Consequently, all males in the white group, all Spanish origin group, and Mexican origin group are analyzed and compared respectively. The same type of earnings analysis is also performed for females who are white, Spanish origin, and Mexican origin.

In summary, a total of five regression equations comprise the econometric earnings model and are analyzed separately for a total of six subgroups: Males--(1) white control group, (2) all Spanish origin, (3) Mexican origin; Females--(4) white control group, (5) all Spanish origin, and (6) Mexican origin. At the initial level of analysis, the emphasis is on the difference in the earnings process, if any, between whites and all Spanish origin persons. The second level of analysis focuses on the difference between the white and Mexican origin groups and compares this to the difference between the white and all Spanish origin groups. The statistical results of this regression analysis are detailed in this chapter. The reasons for and implications of these statistical findings are discussed in the next chapter.

Labor Force Participation in 1970 Survey Week

Average labor force participation rates (LFPR) for males under 65 years of age were 86.3 percent for the white control group, 88 percent for the Spanish origin group and 87.3 percent for the Mexican group. Table 5-2 presents the final equations on labor force participation for each of the groups under study. The labor force participation equation was found statistically significant as a whole for each of these three male groups under study. It explained about 28 percent of the total variation in labor force participation for the white males and approximately 24 percent for both Spanish origin males and Mexican origin males. According to the results, labor force participation is maximized at 38 years of age for the white group in comparison to 40 years for all Spanish origin males. For Mexican males, labor force participation is maximized at 41 years of age.[1]

Each of the following variables was found significant at $P \leq .05$ level for all of the three male groups: having a job five years ago, the presence of a physical disability, being married, age, and age squared. Having a job five years ago had a large positive coefficient in each of the final equations as one would expect. Also as was expected, having a disability that either limited or prevented type and amount of work one could perform significantly lowered labor force participation. Marriage increased the likelihood of participation in the labor force for all three male groups under study. The size of the coefficient for being married was nearly the same for the white males and the Spanish

Table 5-2.--Final Equation for Male Labor Force Participation by Descent in 1970 Survey Week.

Independent Variables[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant (regression coefficient) (standard error of regression coefficient)	-.0234 (.0829)	.2238 (.0535)	.1565 (.0892)
Age	.0296 (.0048)	.0271 (.0034)	.0334 (.0056)
Age Squared	-.0004 (.0001)	-.0003 (.0001)	-.0004 (.0001)
Grade	.0098 (.0034)		
Vocational Training	.2036 (.0852)		
Grade X Voc Tr	-.0138 (.0069)		
Married	.1532 (.0230)	.1057 (.0161)	.0551 (.0274)
Job 5 Yes	.1753 (.0255)	.1706 (.0173)	.1652 (.0296)
Disabled	-.1013 (.0286)	-.1473 (.0201)	-.1472 (.0371)
Metro	.0676 (.0211)		
Central City			-.0484 (.0261)
Alien			.0727 (.0248)

[a]White--N=1211; $\bar{R}^2$=.2814; S.E.E.=.2917; df=9 and 1201; F=53.64.

[b]Spanish Origin--N=2251; $\bar{R}^2$=,2413; S.E.E.=.2831; df=5 and 2245; F=144.11.

[c]Mexican Origin--N=803; $\bar{R}^2$=.2325; S.E.E.=.2919; df=7 and 795; F=35.70.

[d]Variables listed above are significant at $P \leq .05$.

origin males (.15 and .11, respectively), but was nearly twice the coefficient for Mexican origin males (.06).

Education and training appear to increase the labor force participation for white males but it was not found to be significant among either all Spanish origin males or the Mexican origin males. Grade, participation in vocational training program, and the interaction of grade and vocational training were statistically significant in the equation for the white males; they were not significant at the $P \leq .05$ level for either the Spanish origin males or the Mexican origin males. For white males additional education led to a higher LFPR for those without vocational training. Vocational training led to higher LFPR also, though its impact declined as the person's education increased.

Living in a Standard Metropolitan Statistical Area (SMSA) was found to be significantly associated with increasing labor force participation of the white males, but not for the Spanish origin males or the Mexican origin males. Living in the Central City of an SMSA, however, decreased the labor force participation for Mexican origin males. Interestingly enough, having alien citizenship status increased the probability of labor force participation for Mexican origin males but not for the other two groups under study. This situation of alien citizenship status may arise from having to show positive employment possibilities before entry into the country is permitted.

Among the females 65 years of age and under, the whites reported an average labor force participation of 51.2 percent during

the survey week in 1970. As a whole, Spanish origin females had a lower participation rate than the whites, 47.2 percent and the Mexican females had an even lower labor force participation rate, 42.5 percent. Table 5-3 presents the final labor force participation equation for each of the female groups under study. The equation explained about 23 percent of the total variation in labor force participation for the white females and approximately 22 percent for both the Spanish origin females and Mexican origin females. Age, and age squared, were found to be significant for each of the female groups in determining labor force participation, maximizing at 42 years of age for both the white females and Mexican origin females, and 45 years for the Spanish origin females.

In addition to finding that age was significant in determining the likelihood of labor force participation for all female groups under study, having a job five years ago, the presence of a health or physical disability, and marriage were found statistically significant in determining labor force participation for all of the female groups. As was true for the males, having a job five years ago yielded a large positive regression coefficient for the female groups. The presence of a physical or health disability likewise decreased the probability of being in the labor force for each of the female groups. Marriage, on the other hand, also decreased labor force participation for the female groups in contrast to the males, where marriage increased their likelihood of participation. Number of children ever born decreased the probability of being in the labor force for the white female, but it was not

Table 5-3.--Final Equation for Female Labor Force Participation by Descent in 1970 Survey Week.

Independent Variables[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	.0497 (.1090)	-.0587 (.0844)	-.0690 (.1349)
Age	.0278 (.0066)	.0223 (.0047)	.0309 (.0083)
Age Squared	-.0003 (.0001)	-.0003 (.0001)	-.0004 (.0001)
Grade		.0202 (.0029)	
Grade Squared			.0012 (.003)
Vocational Training	.0658 (.0291)	.0911 (.0245)	
Married	-.2499 (.0302)	-.2373 (.0217)	-.2428 (.0387)
Children #	-.0302 (.0075)		
Job 5 Yes	.3729 (.0267)	.3664 (.0208)	.3755 (.0387)
Disabled	-.1601 (.0464)	-.1725 (.0325)	-.1386 (.0551)
Metro	.0643 (.0307)		
Central City		-.0376 (.0191)	-.1076 (.0347)
Reside Michigan		-.0857 (.0253)	-.0931 (.0413)
Reside Ohio		-.0860 (.0270)	
Resided 5 Missing		.1151 (.0478)	

[a]White--N=1305; $\bar{R}^2$=.2260; S.E.E.=.4399; df=8 and 1296; F=48.5933.

[b]Spanish Origin--N=2328; $\bar{R}^2$=.2224; S.E.E.=.4403; df=11 and 2316; F=61.5013.

[c]Mexican Origin--N=750; $\bar{R}^2$=.2132; S.E.E.=.4388; df=8 and 741; F=26.3698.

[d]Variables listed above are significant at $P \leq .05$.

statistically significant for either Spanish origin females or the Mexican origin females in determining labor force participation.

Education and vocational training affected labor force participation differently for each of the female groups under study. Among the Spanish origin and Mexican origin females, additional years of schooling increased labor force participation. However, neither grade nor grade squared were found significant in determining labor force participation for the white females. On the other hand, completion of a vocational training program did increase the probability of participating in the labor force for both white females and Spanish origin females, but it was not significant for the Mexican origin females.

Residing in an SMSA was positively related to LFPR for white women but not for the other two groups. Living in a Central City of a Standard Metropolitan Statistical Area, however, was associated with a decreased probability of labor force participation for Spanish origin females and Mexican origin females but was not statistically significant for the white females. Spanish origin residents of Michigan and Ohio had lower labor force participation than other residents as did Mexican origin females in Michigan.

Weeks Worked in 1969

Among the male groups under study, approximately 92 percent of the white, 91 percent of the Spanish origin, and 90 percent of the Mexican origin indicated that they worked for at least one week in 1969. Both white and Spanish origin males who worked in 1969

averaged 46 weeks of work and Mexican origin males averaged 45 weeks. Table 5-4 presents the final equations on the number of weeks worked in 1969 for each of the three male groups. As a whole, each of the equations was statistically significant. They explained 33 percent of the total variation in the number of weeks worked in 1969 for white males, 26 percent for the Spanish origin males, and 27 percent for the Mexican origin males. Only the following independent variables were found statistically significant at $P \leq .05$ and common in the final equations for the groups under study: age, age squared, having a job five years ago, and residing in a Standard Metropolitan Statistical Area. As expected, the number of weeks worked increased with age, reaching its maximum at 44 years for the white males and 42 years for both the entire Spanish origin group and the Mexican origin group. Having a job five years ago increased the number of weeks worked in 1969 by three weeks for whites, five weeks for Spanish origin, and nearly seven weeks for Mexican origin.

Married white and Spanish origin males both had five more weeks worked in 1969 when compared with single men. However, marital status did not affect significantly the number of weeks worked for Mexican origin males. The presence of a physical disability decreased the number of weeks worked by approximately three weeks for both white and Spanish origin males. Other independent variables which affected the number of weeks worked pertained to birthplace and place of residency five years ago. Among the Mexican origin males, a foreign birthplace (overwhelmingly Mexico) increased the number of weeks worked by nearly three weeks. However, if a

TABLE 5.4.--Final Equation for Number of Weeks Worked for Males in 1969 by Descent.

Independent Variable[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	7.9446 (2.6646)	10.4087 (2.3980)	1.9206 (3.6498)
Age	1.6147 (.1604)	1.2053 (.1313)	1.6480 (.2047)
Age Squared	-.0185 (.0019)	-.0144 (.0016)	-.0196 (.0026)
Grade		.1594 (.0600)	.3906 (.1100)
Married	5.1715 (.7601)	5.0045 (.6753)	
Once Married		3.8054 (1.1880)	
Job 5 Yes	3.2547 (.8570)	5.3550 (.7048)	6.6540 (1.1740)
Job 5 Missing		4.5182 (1.1559)	5.6255 (2.2016)
Disabled	-2.6433 (.9856)	-3.1902 (.7538)	
White		1.6212 (.7876)	
Metro	1.7358 (.7123)	2.6209 (.6233)	2.8762 (1.2308)
Reside Michigan		-1.3865 (.5762)	
Born Other State	-1.7770 (.7720)		
Born Southwest		-1.3813 (.6594)	
Born Abroad			2.9461 (.8666)
Resided 5 Foreign		-2.2540 (.8023)	-3.2456 (1.4790)
Resided 5 Missing			5.8585 (2.4612)

[a]White--N=1114; $\bar{R}^2$=.3330; S.E.E.=9.2266; df=7 and 1106; F=80.3680.

[b]Spanish Origin--N=2048; $\bar{R}^2$=.2621; S.E.E.=9.6811; df=13 and 2034; F=56.9244.

[c]Mexican Origin--N=726; $\bar{R}^2$=.2772; S.E.E.=10.0222; df=9 and 716; F=31.8930.

[d]Variables listed above are significant at $P \leq .05$.

Mexican origin male resided in a foreign country five years ago, it decreased weeks worked by three. Foreign born Mexican origin males who were not recent immigrants, (i.e. immigrated more than five years ago), worked more weeks, all other variables held constant than native born Mexican origin males.

Surprisingly, neither education nor vocational training greatly influenced the number of weeks worked for males. Among whites, years of school attended and vocational training were not statistically significant in explaining weeks worked. Grade, i.e., years of schooling attended, was significant for both Spanish origin and Mexican origin males. For a Spanish origin male, an additional year of schooling increased the number of weeks worked in 1969, all other things held constant, by .16 weeks. For a Mexican origin male an additional year of schooling increased the weeks worked by .39 weeks. For the whites, education does not increase the weeks worked and it may be that higher education among whites is transmitted into additional leisure time, i.e. longer vacation periods. Vocational training was not significant for any of the groups.

Among the female groups 59 percent of the whites worked at least one week in 1969 as compared to 55 percent for the Spanish origin and 52 percent for the Mexican origin. Of the working females, whites averaged 39 weeks of work in 1969 in comparison to 38 weeks for Spanish origin and 37 weeks for Mexican origin. Table 5-5 presents the final equation on weeks worked in 1969 for each of the groups under study. Each of the equations was statistically significant as a whole and explained about 20 percent, 19 percent and

Table 5-5.--Final Equation for Number of Weeks Worked for Females in 1969 by Descent.

Independent Variable[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	13.8745 (4.1835)	10.7554 (3.5219)	3.6187 (5.9850)
Age	1.0036 (.2567)	1.4560 (.2210)	1.7599 (.3906)
Age Squared	-.0104 (.0032)	-.0150 (.0029)	-.0198 (.0054)
Vocational Training		1.9876 (.9172)	4.8026 (1.7729)
Married	-3.1533 (1.0948)	-4.9895 (.8485)	-6.9644 (1.5200)
Children #		-.8984 (.2004)	
Job 5 Yes	10.0103 (1.1536)	6.4948 (.8431)	8.2021 (1.5035)
Job 5 Missing	5.0892 (2.1259)		
Disabled		-3.5397 (1.4819)	
Reside Michigan		-2.6598 (1.0375)	

[a]White--N = 770; $\bar{R}^2$ = .2025; S.E.E. = 13.4481; df = 5 and 764; F = 40.0412.

[b]Spanish Origin--N = 1290; $\bar{R}^2$ = .1924; S.E.E. = 13.5813; df = 8 and 1281; F = 39.3950.

[c]Mexican Origin--N = 388; $\bar{R}^2$ = .2401; S.E.E. = 13.374; df = 5 and 382; F = 25.4599.

[d]Variables listed above are significant at $P \leq .05$.

24 percent, respectively, of total variation in the weeks worked for white, Spanish origin, and Mexican origin females. Age, age squared, being married and having a job five years ago all statistically influenced the weeks worked for each of the groups under study. The number of weeks worked increased with age until 48 years of age for both whites and Spanish origin females and 44 years for Mexican origin. Married females, regardless of descent, had fewer weeks worked than other women ranging from three weeks for white females to nearly seven weeks for Mexican origin. The variable, number of children ever born, was statistically significant only for the Spanish origin female, reducing weeks worked by .89 for every child born.

Having a job five years ago increased the number of weeks worked for all females, ten weeks for whites, six weeks for Spanish origin, and eight weeks for Mexican origin. Education was not significant in explaining the number of weeks worked for any of the female groups under study. However, the completion of vocational training significantly increased the number of weeks worked for both Spanish origin and Mexican origin females. Vocational training increased weeks worked by about two for Spanish origin and nearly five for Mexican origin. The relatively insignificant influence of education in explaining weeks worked in 1969 lends support to the argument that weeks worked may be a function of household considerations. While in general the number of children ever born was not a powerful influence on weeks worked, other important and related considerations such as a spouse's income and ages of children may

explain weeks worked in 1969 more adequately for females. However, this type of data was unfortunately not in the model because of cost and data management considerations.

Total Earnings in 1969

Total earnings in 1969 averaged $9,143.53 for white males who worked in that year and who were under 65 years of age, $7,174.58 for the Spanish origin group, and $6,680.59 for the Mexican origin group. Spanish and Mexican origin males earned 22 percent and 27 percent less than whites, respectively. Regression analysis on total earnings in 1969 yielded the results in Table 5-6. As evident from the table, the final equation results were statistically significant as a whole; equations for the white and Spanish origin males who had earnings explained about 30 percent of the total variation in earnings and the final equation for Mexican origin males explained 34 percent of the total variation in earnings.

Age and age squared were found statistically significant in explaining earnings in 1969 for the three male groups under study. Earnings are maximized at 48 years of age for the white group, 43 years of age for the Spanish origin group and 44 years of age for the Mexican origin group. Other independent variables found statistically significant in explaining earnings for all of the three male groups under study were: having a job five years ago, being married, residing in a central city of an SMSA, and residing in a Standard Metropolitan Statistical Area. All increased the earnings in 1969

TABLE 5.6.--Final Equation for Total Earnings in 1969 of Males by Descent.

Independent Variable[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	-12,057.70 (1775.64)	-7834.00 (1090.73)	-9783.94 (1253.60)
Age	696.16 (104.54)	590.40 (57.32)	593.58 (72.86)
Age Squared	-7.21 (1.27)	-6.83 (.72)	-6.70 (.91)
Grade		-299.72 (95.68)	
Grade Squared	22.79 (2.66)	33.51 (4.99)	18.82 (2.34)
Vocational Training			3113.28 (1293.80)
Grade x Voc Tr		48.20 (20.73)	-325.10 (117.44)
Married	2370.24 (497.15)	1652.89 (260.28)	1083.09 (335.89)
Job 5 Yes	1422.81 (553.98)	1337.66 (288.43)	1741.21 (378.68)
Disabled	-1669.00 (635.89)	-1272.79 (339.49)	
Metro	1917.42 (520.74)	1464.08 (308.44)	1562.38 (466.75)
Central City	-1473.40 (404.14)	-1176.61 (218.72)	-646.86 (297.51)
Reside Indiana	-1630.75 (581.98)		879.68 (411.75)
Reside Michigan			685.60 (338.27)
Reside Ohio	-1786.45 (535.67)		
Reside Wisconsin	-1469.90 (701.42)		
Born Abroad		1636.87 (343.08)	
Alien		-1484.59 (419.02)	
Resided 5 Foreign		-1702.87 (403.44)	

[a]White--N=1112; $\bar{R}^2$=.3020; S.E.E.=5995.38; df=11 and 1100; F=44.6981.

[b]Spanish Origin--N=2040; $\bar{R}^2$=.3031; S.E.E.=4309.82; df=13 and 2026; F=69.2225.

[c]Mexican Origin--N=724; $\bar{R}^2$=.3446; S.E.E.=3409.98; df=11 and 712; F=35.5659.

[d]Variables listed above are significant at $P \leq .05$.

for each of these three male groups except residing in a Central City which reduced total earnings in 1969 for each of the male groups under study.

The presence of a physical or health disability that prevented or limited the amount or type of work a person could perform significantly decreased total 1969 earnings for the white origin group and Spanish origin group. Disability was not found to be significant for the Mexican origin males in explaining total earnings for that group.

In examining the effects of education and vocational training on total earnings in 1969, some interesting and different results were obtained for the male groups under study. As noted in Table 5-6 grade and grade squared are significantly associated with earnings among persons of Spanish origin. The signs of the coefficients of grade and grade squared for Spanish origin males indicate that an additional year of school attended was associated with decreasing total earnings until 4.4 years of schooling for those without vocational training and 3.7 years for those with vocational training and then increasing positively with additional years of schooling. For the white males, only grade squared is significantly associated with total earnings. Each additional year of schooling increases total earning at an increasing rate. For the Mexican origin males additional education also increased earnings at an increasing rate for those without vocational training. For those who had completed vocational training, more education led to decreased earnings up to 8.6 years of schooling and then education was associated with

higher earnings. Completion of a vocational training program was found significant in increasing earnings in the case of Spanish origin males and Mexican origin males with less than 9.6 years of education. It was not significant for white males.

Residing in the states of Indiana, Ohio and Wisconsin were associated with decreased earnings for white males as compared with residents of Illinois and Michigan. In contrast, Mexican origin males residing in Indiana and Michigan had positive earnings associated with residency in these states. Among Spanish origin males, no significant association with state of residency and earnings was found.

For Spanish origin males only, it was found that being born in a foreign country increased total earnings in 1969, all other variables being held constant. However, if a Spanish origin male was residing in a foreign country five years ago, it reduced earnings in comparison to persons who were residing in the United States five years ago. In addition, if a Spanish origin male was an alien it accounted for a further reduction in comparison to those with U.S. citizenship status.

Females who earned an income in 1969 and were 65 years of age and under, earned considerably less than the males regardless of descent. In 1969, earnings for white females averaged $3,767.96, Spanish origin females earned $3,308.16 and Mexican origin females earned $3,124.16. Table 5-7 presents the respective final equations for total earnings for each of the female groups under study. The equation explained about 33 percent of the variation in total earnings

TABLE 5.7.--Final Equation for Total Earnings in 1969 of Females by Descent.

Independent Variables[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	-1643.22 (1333.88)	-1929.11 (697.85)	-4867.96 (1055.88)
Age	212.99 (47.56)	279.92 (36.91)	377.71 (64.87)
Age Squared	-2.32 (.60)	-3.15 (.48)	-4.61 (.88)
Grade	-430.63 (175.14)	-194.85 (71.89)	
Grade Squared	31.49 (7.32)	15.91 (3.70)	8.45 (2.15)
Vocational Training	3596.36 (1039.47)		
Grade x Voc Tr	-301.11 (84.15)	33.73 (13.00)	72.73 (26.52)
Married		-442.94 (140.05)	
Once Married	770.23 (248.00)		1188.29 (374.72)
Children #	-180.14 (56.45)	-175.51 (34.54)	-115.31 (55.90)
Job 5 Yes	2161.07 (213.64)	1273.12 (139.33)	1041.91 (264.89)
Job 5 Missing	1225.13 (397.31)		1304.26 (576.51)
Metro	720.95 (233.62)		
Reside Indiana		-531.40 (185.29)	
Reside Ohio	-550.80 (259.19)		
Reside Wisconsin			-1044.06 (441.87)
Born Southwest	2223.91 (820.05)		
Born Abroad		803.12 (262.26)	
Alien		-905.84 (305.88)	

[a]White--N=760; $\bar{R}^2$=.3283; S.E.E.=2423.18; df=13 and 746; F=29.5315.

[b]Spanish Origin--N=1281; $\bar{R}^2$=.2361; S.E.E.=2226.28; df=11 and 1269; F=36.9606.

[c]Mexican Origin--N=385; $\bar{R}^2$=.2519; S.E.E.=2228.98; df=9 and 375; F=15.3638.

[d]Variables listed above are significant at $P \leq .05$.

for the white females, 24 percent for the Spanish origin females and 25 percent of the variation for Mexican origin females. All of the equations were statistically significant.

The following independent variables were found common and statistically significant in the three final equations for the females under study: age, age squared, grade squared, interaction of grade and vocational training, number of children, and having a job five years ago. Age and age squared were found statistically significant and the data indicates all other things being held constant, that white females maximized their earnings at 46 years of age, Spanish origin females at about 44 years, and Mexican origin females at 41 years.

Education and vocational training were found statistically significant for the white females. However, the educational relationship appears to yield decreasing earnings from 0 years of schooling to 6.8 years of schooling for those without vocational training. At this educational level, additional years of schooling begin to yield positive increments in earnings. For those completing vocational training the minimum was reached at 11.6 years. This same relationship was found for the Spanish origin females with increasing earnings coming after 6.1 years of schooling for those without the vocational training and 5.1 years for those with vocational training. The Mexican origin females had only grade squared significant at the $P \leq .05$ level in explaining earnings. Additional years of schooling gave increasing returns to earnings at an increasing rate.

Vocational training was found to significantly increase earnings for the white females with less than 12 years schooling. Completion of a vocational training program was also found to significantly increase the earnings for all the Spanish origin females and the Mexican origin females. For both of these groups vocational training had greater impact as the education of the person increased.

While marriage appeared to increase earnings for the males, it was not the case for the female groups under study. Both white females and Mexican origin females who were widowed, divorced or separated were found to have higher earnings in comparison to females who were either married or single. For the Spanish origin females, being married yields a decrease in earnings when compared to the single and once married groups. It appears that once the male spouse has left the household, economic pressures tend to accelerate the woman's earnings in the labor market as evident by the positive regression coefficient in the final equation for white females and Mexican origin females.

For all the female groups under study, the number of children ever born was associated with decreased earnings. For each child born, it reduced earnings by $180.14 for white females, $175.51 for Spanish origin females and $115.31 for Mexican origin females.

Finally, residing in the states of Indiana, Ohio, and Wisconsin were associated with decreased earnings for white, Spanish origin and Mexican origin families, respectively. Residing in an SMSA was only associated with increased earnings for white females.

Birthplace influenced earnings for Spanish origin females. Being born in a foreign country was associated with an increase in earnings ($803.12) for Spanish origin females as was the case for Spanish origin males. However, if Spanish origin females were aliens, they earned less than those with U.S. citizenship. Among Mexican origin females, birthplace was not found statistically significant even though it was originally hypothesized that Mexican origin females born in the Midwest would earn more than those who came from the Southwest. Birthplace surprisingly did affect earnings of the small number of white females (n = 9) born in the Southwest, earning about $2,224 more than white females born elsewhere.

Occupational Level in 1969

Persons who worked in 1969 were assigned the national average earnings of that occupation in which they were engaged in that year. The national average earnings were obtained from the earnings data reported for the experienced national civilian labor force who worked 50-52 weeks in 1969. Thus, an occupational level or hierarchy based on earnings was created. Among the males, the whites were, on the average, in an occupation which yielded $9,426.10 in comparison to all Spanish origin males who were in occupations which yielded an average of $8,215.65. When the Mexican origin males were isolated, they were, on the average, in occupations which yielded $7,651.46. By assigning the national average earnings to a person's occupation it was hoped to analyze the effects of certain human capital characteristics and other related characteristics on obtaining occupations based on earnings levels.

The final equations on occupational level in 1969 for each of the three male groups under study are presented in Table 5-8. All of the equations on occupational level were statistically significant as a whole with the final equations for both the white male and all Spanish origin males explaining about 32 percent of the total variation in occupational level. However, in isolating the Mexican origin males, the final equation only explains approximately 17 percent of the total variation in occupational level.

Age, age squared, grade and grade squared were the only independent variables which were statistically significant in the final equation on occupational level for all of the three male groups under study. Spanish origin males maximize their occupational level at about 46 years of age in comparison to 44 years of age for both white and Mexican origin males.

Education for all the male groups yields increasing returns to occupational level beyond a minimal grade level. For the white and Mexican origin males, increasing returns from additional years of schooling appear after 5.4 years of schooling and 4.8 years of schooling, respectively. For the Spanish origin males minima are reached at 5.7 and 4.5 years for those without and with vocational training, respectively. Completion of a vocational training program was found to significantly affect occupational level only for Spanish origin males. After about the ninth grade, Spanish origin males who complete a vocational training program realize an increase in the level of an occupation.

Table 5-8.--Final Equation on Occupational Level for Males by Descent.[e]

Independent Variable[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	3025.38 (1167.20)	4038.74 (621.13)	3260.27 (720.71)
Age	219.37 (46.55)	186.59 (31.71)	214.38 (36.21)
Age Squared	-2.40 (.56)	-2.03 (.41)	-2.45 (.48)
Grade	-399.57 (141.39)	-540.40 (57.54)	-238.85 (72.40)
Grade Squared	36.71 (5.83)	47.14 (3.05)	25.01 (4.23)
Vocational Training		-1051.54 (530.57)	
Grade x Voc Tr		113.28 (45.28)	
Married	1033.07 (219.78)	477.05 (153.69)	
Job 5 Yes	782.90 (247.86)		
Disabled		-518.17 (204.72)	
Reside Indiana		346.10 (170.45)	493.12 (234.83)
Born Abroad		1052.39 (204.49)	640.30 (228.39)
Alien		-1024.06 (243.15)	-636.43 (251.66)
Resided 5 Foreign			-707.78 (295.94)

[a]White--N=112; $\bar{R}^2$=.3110; S.E.E.=2658.59; df=6 and 1105; F = 84.5760.

[b]Spanish Origin--N=2039; $\bar{R}^2$=.3214; S.E.E.=2594.46; df=11 and 2027; F = 88.7404.

[c]Mexican Origin--N=724; $\bar{R}^2$=.1741; S.E.E.=2014.89; df=8 and 715; F = 20.0513.

[d]Variables listed above are significant at $P \leq .05$.

[e]Occupational level assigned only to persons who worked in 1969.

Other independent variables having a significant effect on occupational level among the males include: having a job five years ago, being married, born abroad, alien, and place of residence five years ago. However, the effects were not uniform for all the male groups. Having a job five years ago, for example, increased the occupational level only for the whites and not for either the Spanish or Mexican origin males. The results indicate that job experience may not be significant in explaining occupational level among Spanish and Mexican origin males. In addition, the Spanish origin males and Mexican origin males had variables pertaining to birthplace and residency five years ago which were significant in explaining occupational level. For both Spanish origin males and Mexican origin males having a foreign birthplace was associated with an increase in occupational level. Spanish origin males born in a foreign country increased their occupational level earnings by $1,052.39 in comparison to only $640.30 for foreign born Mexican origin males. Next to Cubans, persons of Mexican origin had the highest number of foreign births which would indicate that these two groups account for the large positive coefficient among Spanish origin males.

If a foreign born Spanish origin or Mexican origin male had alien citizenship status, it decreased occupational level earnings by an amount nearly equal to the positive influence of foreign birth. In addition, only among the Mexican origin males was occupational level decreased if a person resided in a foreign country five years ago.

Finally, it is difficult to explain with any degree of precision why the variables fail to explain more completely the variation in occupational levels for Mexican origin males in comparison to other males. Nevertheless, it raises the possibility that Mexican origin males may be facing an occupational caste system, i.e., occupational discrimination which limits them to certain types of jobs regardless of their investment in human capital. Moreover, one set of human capital variables for a major part of occupational level for certain groups, but not for Mexican origin males.

The regression analysis on occupational level was also performed on the female groups. With regard to occupational level as defined by the national average earnings attributed to an individual's occupation, white females were in occupations averaging approximately $4,950.66 in contrast to Spanish origin females averaging $4,625.75 and Mexican origin females in occupations which averaged $4,521.48. Table 5-9 presents the final equations on occupational levels for each of the female groups under study. In each case the final equation was statistically significant as a whole. It explained about 29 percent of the total variation in occupational level for white females, 22 percent for Spanish origin females, and only about 19 percent of total variation for Mexican origin females.

Only age, age squared, and grade squared were statistically significant and common to the three final equations for the three female groups under study. White females, based upon the regression results, maximized their occupational earning level at age 40 years

TABLE 5-9.--Final Equation on Occupational Level for Females by Descent.[e]

Independent Variables[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	3819.11 (653.62)	2964.79 (362.34)	1626.45 (459.63)
Age	59.88 (21.82)	60.72 (16.51)	143.57 (27.15)
Age Squared	-.74 (.28)	-.83 (.22)	-2.00 (.38)
Grade	-324.59 (88.66)	-170.86 (36.54)	
Grade Squared	25.73 (3.67)	17.10 (1.88)	6.66 (.92)
Vocational Training	2229.48 (523.37)		
Grade x Voc Tr	-162.53 (42.42)	16.26 (6.60)	
White		266.35 (111.11)	
Job 5 Yes	351.91 (102.18)	312.05 (69.79)	
Reside Indiana		-196.64 (94.80)	
Reside Michigan	-337.06 (123.04)		
Reside Ohio	-273.81 (133.40)	-222.61 (94.00)	
Reside Wisconsin	-592.45 (170.88)		
Born Puerto Rico		313.30 (104.92)	
Alien	-676.09 (326.07)		-364.82 (142.42)

[a]White--N=759; $\bar{R}^2$=.2883; S.E.E.=1225.49; df=11 and 747; F=28.9129.

[b]Spanish Origin--N=1279; $\bar{R}^2$=.2221; S.E.E.=1134.16; df=10 and 1268; F=37.4920.

[c]Mexican Origin--N=384; $\bar{R}^2$=.1912; S.E.E.=1022.4851; df=4 and 379; F=23.6299.

[d]Variables listed above are significant at $P \leq .05$.

[e]Occupational level assigned only to persons who worked in 1969.

in comparison to 36 years of age for both the Spanish origin and Mexican origin females. Education influenced the occupational level for all female groups under study, but differently. For white and Spanish origin females, education yielded increasing returns to occupational level after 6.3 years of schooling and 5.0 years, respectively, for those without vocational training. For those with vocational training minima were reached at about 9.4 and 4.5 years of schooling, respectively, for white and Spanish origin females. For Mexican origin females education increased occupational level earnings for all.

Completion of a vocational training program increased the occupational level for white females with less than 13.7 years of school and for all Spanish origin women. Having a job five years ago increased the occupational level for both white and Spanish origin females but not Mexican origin. Spanish origin females who were not racially classified as white experienced a decrease of occupational level compared to the nearly 91 percent of Spanish origin females who were white. White females residing in the states of Michigan, Ohio and Wisconsin experienced a reduction in occupational level. Spanish origin females residing in Indiana and-Ohio also experienced a reduction. Residency did not influence earnings for the Mexican origin females.

Birthplace influenced occupational level for Spanish origin females. Spanish origin females who were born in Puerto Rico earned more in terms of occupational earnings level than Spanish origin females who were born elsewhere. Finally, citizenship status

influenced the occupational level of Mexican origin and white females. Mexican origin females who were aliens had reduced occupational earnings levels. Nearly 17 percent of Mexican origin females were alien. The 2 percent of white females who were aliens in the country, also experienced a reduction in occupational earnings level.

Occupational Earnings Ratio

Since the national mean occupational earnings was assigned to a person's particular occupation, dividing a person's total earnings in 1969 by the national average earnings attributed to that individual's occupation constructs an occupational earnings ratio. The ratio would indicate how a person's total income in a given occupation fared against the national average earnings in that occupation. Since the mean national earnings for the various occupations was based upon earnings from persons who worked 50-52 weeks in these occupations, it resulted in average occupational earnings ratios of less than one for the groups under study. For example, white males who worked in 1969 earned on the average about .95 of the national earnings within a particular occupation. In contrast, the occupational earnings ratio reported for all Spanish origin males and also the Mexican origin males was .88. In isolating the effects of the variables under study on occupational earnings ratios, the final equations for each of the male groups are presented in Table 5-10. Each of the equations on occupational earnings ratio were statistically significant as a whole and explained about 25 percent of the total variation in the ratio for both white and

TABLE 5.10.--Final Equation on Occupational Earnings Ratio for Males by Descent.[e]

Independent Variables[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	-1.1593 (.2366)	-.5365 (.0942)	-.7833 (.1596)
Age	.0676 (.0088)	.0595 (.0057)	.0650 (.0092)
Age Squared	-.0007 (.0001)	-.0007 (.0001)	-.0008 (.0001)
Grade	.0644 (.0290)		.0210 (.0050)
Grade Squared	-.0023 (.0012)		
Vocational Training	.0779 (.0360)		.4019 (.1630)
Grade x Voc Tr			-.0426 (.0147)
Married	.2229 (.0447)	.1933 (.0262)	.1624 (.0427)
Disabled	-.1435 (.0579)	-.0997 (.0342)	
Job 5 Yes		.1525 (.0289)	.2023 (.0477)
Metro	.1735 (.0452)	.1525 (.0309)	
Central City	-.0939 (.0368)	-.1172 (.0217)	
Reside Ohio	-.1170 (.0476)		
Resided 5 Other States		-.0759 (.0371)	-.1121 (.0549)
Resided 5 Foreign		-.1550 (.0359)	

[a]White--N=1112; $\bar{R}^2$=.2469; S.E.E.=.5421; df=10 and 1101; F=37.4172.

[b]Spanish Origin--N=2039; $\bar{R}^2$=.2483; S.E.E.=.4328; df=9 and 2029; F=75.8041.

[c]Mexican Origin--N=724; $\bar{R}^2$=.2740; S.E.E.=.4334; df=8 and 715; F=35.1108.

[d]Variables listed above are significant at $P \leq .05$.

[e]Occupational earnings ratio computed only for persons with earnings in 1969.

Spanish origin males. Among Mexican origin males, it explained about 27% of total variation in the ratio.

Age, age squared and being married were the only common and statistically significant independent variables associated with occupational earnings ratios for the three male groups under study. From the regression results obtained in Table 5-10, white males maximize the ratio of total earned income to national average earning in an occupation at 48 years of age in comparison to 42 and 43 years, respectively, for Spanish origin and Mexican origin males. Marriage increased the occupational earnings ratio by .22 and .19 for white and Spanish origin males. However, being married increased the ratio by only .16 for the Mexican origin male.

Education and vocational training influenced the occupational earnings ratio for white males. Years of schooling increased the ratio at a decreasing rate until about two years of college had been attained. Vocational training led to a higher ratio for white males. Neither education or vocational training was significant in explaining the ratio for Spanish origin males. Finally, education increased the ratio of occupational earnings for Mexican origin males who had no vocational training and decreased it for those completing it. Completion of a vocational training program significantly increased the ratio for Mexican origin males with less than 9.4 years of school and decreased it for those with more education.

Having a job five years ago was significant in explaining the ratio only for Spanish origin and Mexican origin males. A job five years ago increased the ratio by .15 for the Spanish origin

and .20 for the Mexican origin males. The presence of a disability decreased the ratio both for white and Spanish origin groups of males.

Residing in an SMSA increased the ratio for both white and Spanish origin males. If either a white or Spanish origin male resided in the central city of an SMSA, the ratio was decreased by .09 and .11 respectively. SMSA residency was not significant for the Mexican origin group. If a Spanish origin or Mexican origin male resided five years ago in states outside those under study, they earned .07 and .11 less, respectively, in terms of their occupational earnings ratios. Further, if a Spanish origin male resided in a foreign country five years ago, the ratio was decreased by .15.

In examining the occupational earnings ratio, total earnings in 1969 divided by the national average earnings of that occupation, among white females who worked in 1969 an earnings ratio of .74 was obtained. The respective statistics obtained for Spanish origin females was .72, and .69 for Mexican origin females. Table 5-11 presents the final equations which were statistically significant as a whole on occupational earning ratios for each of the respective female groups. Among white females the equation explained 29 percent of the total variation in occupational earnings ratios but only 19 percent and 17 percent of the total variation for Spanish origin females and Mexican origin females, respectively.

Age, age squared, having a jobe five years ago and number of children ever born were the only independent variables both statistically significant and common to the three final equations on

Table 5-11.--Final Equation on Occupational Earnings Ratio for Females by Descent.[e]

Independent Variables[d]	White[a]	Spanish Origin[b]	Mexican Origin[c]
Constant	-.3062 (.1411)	-.3328 (.1288)	-.6108 (.2260)
Age	.0400 (.0084)	.0544 (.0081)	.0673 (.0144)
Age Squared	-.0004 (.0001)	-.0006 (.0001)	-.0008 (.0002)
Grade x Voc Tr			.0152 (.0057)
Married		-.1040 (.0308)	
Once Married	.1693 (.0445)		.2922 (.0828)
Children #	-.0361 (.0100)	-.0340 (.0074)	-.0325 (.0118)
Job 5 Yes	.3841 (.0385)	.2359 (.0307)	.1735 (.0575)
Job 5 Missing	.2825 (.0698)		
Central City	.1179 (.0332)		
Reside Indiana		-.0964 (.0409)	
Born Southwest	.3970 (.1474)		
Born Abroad		.1792 (.0577)	
Alien		-.1377 (.0677)	

[a]White--N=759; $\bar{R}^2$=.2908; S.E.E.=.4370; df=8 and 750; F=39.8583.

[b]Spanish Origin--N=1279; $\bar{R}^2$=.1768; S.E.E.=.4921; df=8 and 1270; F=35.3061.

[c]Mexican Origin--N=384; $\bar{R}^2$=.1934; S.E.E.=.4938; df=6 and 377; F=16.3044.

[d]Variables listed above are significant at $P \leq .05$.

[e]Occupational earnings ratio computed only for persons with earnings in 1969.

occupational earnings ratio. White females maximized their occupational earnings ratios at age 50 in comparison to 47 years for the Spanish origin female. Mexican origin females maximized their ratio at an earlier age, 43 years. Having a job five years ago increased the ratio for all female groups under study with the most influence on whites and least on Mexican origin females. Women who were either widowed, separated, or divorced in the case of white and Mexican origin females appeared to increase their occupational earnings ratios in comparison to married and single women. Among the Spanish origin females, those married were worse off than either those single or previously married. All the women under study who had children experienced a reduction in their ratio by a nearly equal amount.

White females who resided in a central city of an SMSA had a significant increase in the occupational ratio. Of the various earnings equations under study, it is the only case where a positive coefficient is associated with this variable. Residency in an SMSA or central city did not influence the ratio for either Spanish origin or Mexican origin females. However, place of birth did influence the ratio among Spanish origin females. For example, Spanish origin females born in a foreign country increased their occupational earnings ratio by .18 in comparison to Spanish origin females born elsewhere. Again citizenship status for foreign born plays an important role because if a person had alien citizenship status it decreased her occupational earnings ratio by .14. Neither place of birth nor citizenship status was significant in explaining the ratio for Mexican origin females. The small number of white females born

in the Southwest (N = 9) also had a positive association with the occupational earnings ratio. Finally, only among the Mexican origin group did education and training influence the earnings ratio; both were positively related to the earnings ratio.

Summary of Results

While the regression analysis of the earnings data reveals that certain variables are statistically associated with various components (e.g., labor force participation, weeks worked, total earnings, ...) of the earnings process for whites, Spanish origin and Mexican origin, the results also indicate that not all the independent variables affect the groups in the same manner. Tables 5-12 and 5-13 summarize the final regression results by coefficient sign for selected variables for the respective male and female groups under study. Education is statistically associated with influencing labor force participation among white males positively for those without and negatively for those with vocational training. Neither education nor completion of vocational training was statistically associated with the labor force participation of either all Spanish origin or Mexican origin males. Years of schooling, however, influenced the number of weeks worked in 1969 for both the Spanish origin and Mexican origin males, but was not significant for the white males. As for the effect of education on total earnings in 1969 and occupational level, it was positive for all the male groups under study although only after a minimum level for some groups. Education also influences the occupational earnings ratio (total

TABLE 5-12.--Summary of Selected Regression Results by Coefficient Sign for Males.

Independent Variable[a]	DEPENDENT VARIABLE: Labor Force Participation (1)	Weeks Worked (2)	Total Earnings (3)	Occupational Level (4)	Occupational Ratio (5)
Grade					
White	+			-	+
Spanish		+	-	-	
Mexican		+		-	+
Grade Squared					
White			+	+	-
Spanish			+	+	
Mexican			+	+	
Vocational Training					
White	+				+
Spanish				-	
Mexican			+		+
Grade x Voc Tr					
White	-				
Spanish			+	+	
Mexican					-
Married					
White	+	+	+	+	+
Spanish	+	+	+	+	+
Mexican	+	+	+		+
Job 5 Yes					
White	+	+	+	+	
Spanish	+	+	+		+
Mexican	+	+	+		+
Disabled					
White	-	-			-
Spanish	-	-	-	-	-
Mexican	-				
Born Abroad					
White					
Spanish			+	+	
Mexican		+		+	
Alien					
White					
Spanish			-	-	
Mexican	+			-	
Resided 5 Foreign					
White					
Spanish		-	-	-	-
Mexican		-			

[a]Variables listed above are significant at $P \leq .05$.

TABLE 5.13.--Summary of Selected Regression Results by Coefficient Sign for Females.

Independent Variable[a]	DEPENDENT VARIABLE: Labor Force Participation (1)	Weeks Worked (2)	Total Earnings (3)	Occupational Level (4)	Occupational Ratio (5)
Grade					
White			-	-	
Spanish	+		-	-	
Mexican					
Grade Squared					
White			+	+	
Spanish			+	+	
Mexican	+		+	+	
Vocational Training					
White	+		+	+	
Spanish	+	+			
Mexican		+			
Grade x Voc Tr					
White			-	-	
Spanish			+	+	
Mexican			+		+
Married					
White	-	-			
Spanish	-	-	-		-
Mexican	-	-			
Once Married					
White			+		+
Spanish					
Mexican			+		+
Children #					
White	-		-		-
Spanish		-	-		-
Mexican			-		-
Job 5 Yes					
White	+	+	+	+	+
Spanish	+	+	+	+	+
Mexican	+	+	+		+
Disabled					
White	-				
Spanish	-	-			
Mexican	-				
Born Abroad					
White					
Spanish			+		+
Mexican					
Alien					
White				-	
Spanish			-		-
Mexican				-	
Resided 5 Foreign					
White					
Spanish					
Mexican					

[a]Variables listed above are significant at $P \leq .05$.

earnings/mean occupational earnings) for white and Mexican origin males.

Additional years of schooling, therefore, appears important in increasing earnings and occupational level among all the male groups under study. However, it does not statistically have an effect on increasing the labor force participation among either all Spanish origin or Mexican origin males. The high labor force participation among the Spanish origin and Mexican origin males may be influenced more by economic and demand conditions in the labor market. The influence of years of schooling attended on 1969 earnings of the Spanish origin and Mexican origin males appears to be through the weeks worked in 1969 and through occupational level.

The influence of vocational training on the components of the earnings process vary for the male groups. Vocational training was positively associated with labor force participation only for white males, but the influence was diminished by increased education. Completion of vocational training was not influential in affecting total earnings or occupational levels among whites, but was associated with increasing their occupational earnings ratio. Vocational training influenced various components of the earnings for Spanish origin and Mexican origin males, depending on their levels of education.

Vocational training for example increased total earnings in 1969 of Spanish origin males, but among Mexican origin males increased education diminished the influence of vocational training. Completion of vocational training increased the occupational level of

Spanish origin males after a minimal level of education. It also increased the occupational earnings ratio of Mexican origin males but increased education diminished this influence.

As expected, marriage increased each component of the earnings process for all the male groups, with the exception of occupational level in the case of Mexican American males. Similarly, having a job five years ago affected positively each element of the earnings process for all male groups, except for occupational level in the case of all Spanish origin and Mexican origin males and occupational earnings ratio in the case of white males. These results suggest that the occupation a Spanish origin or Mexican origin male obtains is not influenced by previous experience, if it is assumed that the variable "job 5 yes" is a proxy for experience. Job experience for the Spanish origin and Mexican origin male may not translate into upward occupational mobility, i.e., occupations with higher levels of earnings.

Among all the male groups, the presence of a physical disability decreased labor force participation. Disability also decreased the weeks worked among white and Spanish origin males and total earnings for Spanish origin males only. The major influence of physical disability appears to be on whether a person participates in the labor force and relatively less on earnings and occupational level for those who enter the labor force and work.

Finally, the results indicate that the geographic origins of the Spanish and Mexican origin males influence the earnings process. Spanish origin males born in a foreign country earned more money and

obtained occupations with higher earnings than native born males. Also, Mexican origin males born in Mexico worked more weeks and obtained occupations with higher earnings than the native born. However, if these individuals had not obtained U.S. citizenship or resided in a foreign country five years prior to the taking of the Census, the positive influence of being born abroad on the various components of the earnings process diminished. The positive influence of being born abroad on the earnings process suggests that the immigrants who arrive in the United States possess qualities enabling them to perform better in the labor market than the native born. However, the immigrants must also have the attributes which are required to meet U.S. citizenship qualifications and to have been in the country the last five years. Otherwise, the influence of foreign birth place is for the most part negated.

Different results from the males were obtained for the female groups under study for some of the final equations. While education increased labor force participation for white males but not for Spanish or Mexican origin males, the reverse was true for the female groups. Years of schooling increased labor force participation for Spanish and Mexican origin females but not for white females. Education, however, was not statistically significant in explaining weeks worked in 1969 or the occupational earnings ratio for any of the female groups under study. These results suggest that education plays a major role in influencing earnings by affecting the labor force participation among the Spanish and Mexican origin females. Among white females, other considerations affect the decision to

participate in the labor force more than years of schooling completed. Once the decision to enter the labor force is made, however, education positively influences total earnings and occupational level for all the female groups.

Completion of a vocational training program increased labor force participation for white and Spanish origin females. It also increased weeks worked in 1969 for Spanish origin and Mexican origin females. Vocational training increased total earnings for all the female groups, but increased education diminished the influence of vocational training among white females. The completion of a training program also influenced occupational level for Spanish origin and white females, even though increased education diminished the training influence for the latter group. Vocational training was found significant in increasing the occupational earnings ratio only in the case of Mexican origin females.

Marriage was associated with a decrease in labor force participation and weeks worked for all the female groups under study. White and Mexican origin females who were divorced, widowed or separated (once married) increased total earnings and occupational earnings ratio relative to single or married women. The number of children ever born, however, decreased total earnings and occupational earnings ratio for all the female groups. The number of children ever born was statistically associated with decreasing labor force participation only among white females and not Spanish origin or Mexican origin females. This finding suggests that the decision to enter the labor force is influenced by number of children among

white females but that economic necessity may eliminate the influence or consideration of this variable among Spanish and Mexican origin females.

Having a job five years ago positively influenced all components of the earnings process for all the female groups, except for Mexican origin in the case of occupational level. This situation was similar to the Mexican origin males which lends support to the hypothesis that experience does not enhance the occupational level of Mexican origin persons regardless of sex. Another variable, the presence of a physical disability, also negatively influenced the labor force participation for the female groups as it did for the male groups. Disability thus played its major role in the decision to enter the labor market rather than on total earnings for both male and female groups.

While foreign birth place influenced positively some of the components of the earnings process among Spanish and Mexican origin males, it was significant only for Spanish origin females in the case of total earnings and occupational earnings ratio. Foreign born Spanish origin females, however, who were not able to obtain U.S. citizenship experienced a decrease in total earnings and occupational earnings ratio. The place of residency five years ago was not found significant in influencing the earnings process for any of the female groups under study.

FOOTNOTES--CHAPTER V

[1]Age for maximum labor force participation is based on original results which are based on more than four decimal points rather than the rounded data in Table 5-2.

CHAPTER VI

DISCUSSION OF RESULTS AND CONCLUSIONS

Introduction

The purpose of analyzing earnings among persons of Spanish origin has been to (a) identify factors which are statistically associated with various components of the earnings process, (b) identify and compare differences between the factors associated with the earnings process for the entire Spanish origin groups, the Mexican origin group, and a randomly selected comparative white non-Spanish origin group, and (c) suggest from the analysis manpower strategies to improve the economic performance among Spanish origin persons in the Midwest. The economic performance of the various groups under study were gauged through a specified econometric earnings model which included several components of the earnings process; labor force participation, weeks worked, total earnings, occupational level, and occupational earnings ratio. Using concepts of human capital theory, the influence of various independent variables was analyzed with a step-wise deletion multiple regression technique to assess their effect on the components of the earnings process for each of the groups under study.

In explaining total earnings in 1969, the results of the data analysis suggest that the economic performance of the groups

under study can, for analytical purposes, be separated into two major components of the earnings model: (1) the decision to participate in the labor force during the 1970 survey week and (2) the amount and type of work in the labor market, which is best measured by weeks worked and occupational level in 1969. Since the earnings components are not all based in the same time period, it is unfortunately not statistically possible to isolate the additive effects on total earnings by the various components of the earnings model. However, it is possible to observe the influence of the various independent variables on each of the earnings components of the model.

Using these findings from the data analysis, total earnings of the groups under study can be examined and compared. Depending on the adequacy of the econometric earnings model, differences in total earnings between the groups under study can be explained. In order to integrate and synthesize the various findings obtained from analyzing the earnings among persons of Spanish origin in the Midwest, this chapter will review the following themes: (1) the adequacy of the earnings profile model, (2) a comparison of total earnings, (3) a review of the major hypotheses, (4) an assessment of the manpower implications from the results obtained, and (5) a presentation of some final notes on further research into the earnings among persons of Spanish origin.

The Earnings Profile Model

The earnings profile model specified in the analysis of earnings consisted of five components or dependent variables:

(1) total earnings, 1969; (2) labor force participation, 1970 survey week; (3) weeks worked in 1969; (4) occupational level, 1970 survey week; and (5) occupational earnings ratio. Given these components of the earnings model, total earnings for the groups under study can be regarded as a function of the other four variables. In addition, the influence of the selected independent variables on each of the components of the earnings model can be examined and compared.

As a whole, the independent variables determined to be statistically significant in explaining each of the components of the earnings model ranged from a high of 34 percent to a low of 17 percent. The highest and lowest coefficients of multiple determination adjusted for degrees of freedom in the earnings model were obtained respectively for total earnings and occupational level in the case of Mexican origin males. Table 6-1 presents the adjusted coefficients of multiple determination for all the components of the earnings model for each of the male and female groups.[1] Among the males, the earnings model explained over 30 percent of the variation in total earnings. It also explained about the same amount of variation for occupational level, except as noted for Mexican origin males. For white males, the model explained more of the decision to enter the labor force and of the number of weeks worked than for either Spanish origin or Mexican origin males.

For females, the model did not yield as good an explanation of total variation in the earnings process as it did for males. Only in the case of total earnings among white females did the explanatory

Table 6-1.--Adjusted Coefficients of Determination for the Earnings Model by Descent and Sex.

Dependent Variable	Male	Female
Labor Force Participation		
White	.28	.23
Spanish Origin	.24	.22
Mexican Origin	.23	.21
Weeks Worked		
White	.33	.20
Spanish Origin	.26	.19
Mexican Origin	.28	.24
Total Earnings		
White	.30	.33
Spanish Origin	.30	.24
Mexican Origin	.34	.25
Occupational Level		
White	.31	.29
Spanish Origin	.32	.22
Mexican Origin	.17	.19
Occupational Ratio		
White	.25	.29
Spanish Origin	.25	.18
Mexican Origin	.27	.19

power exceed 30 percent. For Spanish origin and Mexican origin females, the final equation on total earnings explained less than 25 percent of total variation. As in the case of Mexican origin males, the final equation on occupational level explained the least variation for Mexican origin females.

The earnings profile model specified in this research suggests that human capital theory in the case of males serves better to explain earnings and occupational levels (except Mexican origin) than

other components of the earnings model such as labor force participation, weeks worked and occupational earnings ratio. Nevertheless, the explanatory power of the final equation of the other earning components still accounted for at least 23 percent of the variation. Among the females, the lower explanatory power, as one would expect, suggests that other variables need to be included to increase the explanatory power of the model.

Comparison of Total Earnings

In another use of the model, total earnings are estimated using specified values of the independent variables for the groups under study. Using the total earnings component of the model, the performance of whites, Spanish origin, and Mexican origin are compared. Estimated 1969 total earnings based on the final equations for the male groups are computed for a 37 year old male who had a job five years ago, attended 12 years of school, was married and resided in an SMSA in Illinois. A white male with these characteristics, according to the final equation on total earnings, would earn $12,822 in comparison to $10,343 for a Spanish origin male with the same characteristics, or 19 percent more. A Mexican origin male with the same characteristics could expect to earn only $10,103, approximately 21 percent less than the white male.

The earnings model clearly indicates that Spanish origin and Mexican origin males can expect to earn approximately one-fifth of what a white male earns, despite having the similar characteristics noted. Furthermore, the total earnings differentials is not accounted for by differences in the decision to enter the labor

force or differences in the number of weeks worked between the male groups. According to the labor force participation and weeks worked equations the three male groups with the earlier characteristics had nearly the same probability to participate in the labor force and would work about the same number of weeks in 1969. The Spanish origin and Mexican origin groups with these characteristics were estimated to work 50 weeks each in comparison to 52 weeks for the whites.

The differentials in total earnings among the male group thus cannot be explained by labor force participation or weeks worked in 1969. However, type of work i.e., type of occupation, may account for a large portion of the earnings differentials. According to the equation for the occupational level of the earnings component, a 37 year old married male with 12 years of schooling and residing in an SMSA in Illinois can expect to work in an occupation for which average 1969 earnings were $10,027 if white and $8,943 if Spanish origin and $8,574 if Mexican origin. Spanish origin males and Mexican origin males are thus working in occupations which pay 11 percent and 15 percent less, respectively, than whites. Differentials in total earnings in 1969 for the Spanish origin and Mexican origin may be explained more by type of occupation held and less by labor force participation or amount of work performed.

In contrast to the males, total earnings differentials are considerably less between the female groups under study. According to the total earnings component of the model, a 36 year old married woman, 12 years of schooling, with two children, having a job five

years ago, and residing in an SMSA in Illinois is estimated to earn $4,906 in 1969 if white, $4,498 if Spanish origin and $4,783 if Mexican origin. Spanish origin and Mexican origin females with the characteristics noted earn, respectively, 8 percent and 3 percent less than white females.

The relatively small earnings differentials among the females is much more difficult to explain in terms of the other components of the earnings model than that for the males. Given the characteristics noted, differences in the various components of the earnings model for the female groups are not that varied. For example, the probability of participation in the labor force and number of weeks worked in 1969 do not vary greatly between the female groups. Furthermore, white females are in occupations paying $5,185 in contrast to $4,799 for Spanish origin females and $5,162 for Mexican origin females. Even though there are substantial differentials in earnings between males and females in the groups under study, the total earnings and other components of earnings model indicate somewhat similar performance for the female groups. Consequently, earnings differentials for the female groups under study may thus be more readily explained by differences in the characteristics of the three groups rather than differential impacts of the independent variables specified in this study.

Review of Hypotheses

One of the major underlying hypotheses arising from the specification of the earnings profile model was that the factors

statistically associated with the components of the earnings process would vary absolutely and relatively among the Spanish origin groups and between these groups and the white group. The analysis focused only on differences among white, all Spanish origin and Mexican origin groups. A complete earnings assessment of the other Spanish origin groups, (i.e., Puerto Rican, Cuban, Central and South American and others) was not undertaken. However, the comparison of the earnings-associated factors did reveal some factors which were significant in explaining certain components of the earnings process for some groups but not others. Furthermore, the strength of certain variables in explaining earnings components for the groups were not always uniform. Unfortunately, an appropriate test of significance for comparing significant variables was not suitable because of problems associated with comparing regression equations having different variables.[2] Therefore, comparison of significant differences between coefficients can only be approximate, except where one variable significantly influences the equation for one group and not another.[3]

The regression results revealed that age affected all components of the earnings model for the groups under study. Total earnings did increase with age for all the groups under study. The increase was nearly the same for both Spanish and Mexican origin males but considerably less than that for whites. From the effect of age on total earnings in the final regression equation, a white male, all other variables held constant, earned $3,775 more at age 44 than when 25 years of age. In the case of Spanish and Mexican

origin males, they experienced an increase of $2,263 and $2,494, respectively. Among the females within the same age span, whites experienced an increase of $1,005 in comparison to $1,189 for Spanish origin and $1,133 for Mexican origin.

Years of schooling was hypothesized to significantly affect all components of earnings and account for most of the variation in the earnings model. From the regression results, education was significant in explaining some components of the earnings model but not all. It affected labor force participation among white males but not among Spanish or Mexican origin males. Among the females, it explained labor force participation only in the case of Spanish and Mexican origin. Education, however, affected total earnings and occupational level for all groups under study. Its effects on weeks worked and the occupational earnings ratio were not uniform among the groups.

As expected, the role of experience, measured by the proxy variable having a job five years ago, influenced all components of the earnings model except occupational level. Among males, having a job five years ago did not statistically influence occupational level in the case of both all Spanish and Mexican origin males. It influenced all the dependent variables among females except Mexican origin occupational level.

Having a disability which prevented or limited work was hypothesized to negatively influence all aspects of the earnings model. In addition, it was believed to more adversely affect the Spanish and Mexican origin groups. Disability was found more

influential in explaining labor force participation than other components of the earnings process among all groups. Furthermore, the size of the disability coefficient for labor force participation indicated greater effects for the Spanish and Mexican origin males (-.15 for both groups) in comparison to white males (-.10). Among females, the three groups had more similar coefficients, .16 and .17, respectively, for white and Spanish origin and .14 for Mexican origin.

Finally, it was hypothesized that Spanish origin persons, regardless of descent or sex, who were born in the states under study or resided five years ago in these states would perform better in terms of the earnings model than either those born elsewhere or than recent arrivals to the states. The positive influence of geographical origin on the earning components was premised, all other things equal, on the following: persons who were born in the Midwest would be familiar with the labor market, should have received better education in Midwest schools, should possibly be more integrated within the community than those born elsewhere, and should have had more time to adjust to the economic and social conditions in the states under study. As a whole, birth place in the Midwest or length of Midwest residency did not significantly influence the various earnings components directly for any of the groups under study.[4]

However, geographical origin from a different perspective was found significant in explaining some components of the earnings model for certain groups. Spanish and Mexican origin males who were

born in a foreign country did better in terms of total earnings and weeks worked in 1969, respectively, than the native born all other variables held constant. Foreign born Spanish origin and Mexican origin males also performed better in terms of occupational level. Spanish origin females born in a foreign country were associated with both an increase in total earnings and in occupational earnings ratio. However, the foreign birth influence was negated for the most part if a person had not acquired U.S. citizenship, or if the person resided in a foreign country five years ago.

Manpower Implications

One of the objectives of examining earnings among persons of Spanish origin was to seek ways in which their economic performance in the labor market could be improved from the relatively poorer performance indicated by the earnings model. From the results of the study, it is clear that certain types of investments in human capital undertaken by the groups under study can positively influence total earnings, the decision to participate in the labor force, amount of weeks worked, and type of occupation. These investments in human capital among others may include additional years of schooling, vocational training, job related experience, and improved health.

In the case of males, education had a greater effect on earnings among whites. Among white males, all other variables held constant, completion of 12 years of schooling rather than eight years yielded $1,823 in higher earnings in comparison to $1,482

for all Spanish origin and $1,506 for Mexican origin without vocational training. In the case of females without vocational training, completion of 12 years of schooling in comparison to eight years of schooling yielded $797 to total earnings as compared to $493 for all Spanish origin and $676 for Mexican origin. Thus, additional years of schooling, for example, can substantially increase total earnings for all the groups under study, even though the effects of education vary among the groups.

While additional years of schooling increased total earnings for all the groups under study, it did not statistically influence the decision to participate in the labor force for either all Spanish origin or Mexican origin male groups. It did, however, influence labor force participation for the white males. Among females, additional years of schooling influenced the decision to enter the labor force for Spanish origin and Mexican origin but not for the white group. Once in the labor force, additional schooling increased the number of weeks worked only for Spanish origin and Mexican origin males.

Education affects the type of occupation a person obtains for all the groups under study. Among males without vocational training completion of 12 years of schooling in comparison to eight years of schooling contributed $1,339 to the average earnings of the occupations held by whites as compared to $1,610 for Spanish origin and $1,045 for Mexican origin.

Education similarly influenced the occupational earnings level for the female groups. It thus appears that additional years of schooling will have more of an influence on total earnings and

type of occupation obtained for all Spanish origin and Mexican origin, regardless of sex, and less on the decision to enter the labor force and number of weeks worked. For instance, increased education influenced labor participation only for Spanish origin and Mexican origin females while education affected weeks worked only for Spanish origin and Mexican origin males.

Another method to increase earnings for Spanish origin and Mexican origin persons is through vocational training. In the earnings model, completion of vocational training positively influenced total earnings for all Spanish origin males and Mexican origin males with less than ten years of school. Vocational training also increased total earnings for Spanish origin and Mexican origin females, leading to higher earnings with each additional year of schooling attended. For the males, completion of a vocational training program did not influence any other component of the earnings model, except occupational level in the case of Spanish origin males. For the Spanish origin and Mexican origin females, vocational training increased the weeks worked in 1969. Only among all Spanish origin females did completion of vocational training influence the decision to participate in the labor force and also the type of occupation obtained.

In addition to increased education and participation in a vocational training program, earnings of all Spanish origin and Mexican origin groups can be affected by occupational experience. Job experience, i.e., having a job five years ago, influenced all components of the earnings model except occupational level in the

case of Spanish origin males and Mexican origin males and females. The relatively insignificance of experience on occupational earnings level for these groups indicates that previous job experience among these groups may not translate into upward occupational mobility. Specifically, it means that among the Spanish origin population the influence of past labor market experience on obtaining an occupation with higher earnings is significant for whites but not necessarily so for Spanish origin males or Mexican origin males and females. Spanish origin and Mexican origin persons may be clustering at certain occupational levels and may require improved occupational counseling or affirmative action programs to assure upward mobility.

Moreover, since job experience (having a job five years ago) is influential on all components of the earnings process except for occupational level among Spanish origin males and Mexican origin males and females, it is desirable to focus on increasing the probability of a positive labor market experience among persons from these groups who initially enter the labor force. The role of job counseling and obtaining the first job can be quite important for both Spanish and Mexican origin persons. Emphasis should be on career information, ways to apply for a job, and other job search related aspects.

In addition to investments in human capital such as education, vocational training, and occupational experience, improved health status can influence various components of the earnings model. In particular, health programs to improve physical disabilities can contribute to greater labor force participation for all the groups

under study. From the regression results, the presence of a physical disability significantly accounts more for the decision to enter the labor than the other components of the earnings model, regardless of particular group or sex.

In summarizing the manpower implications from investments in human capital, the results obtained on earnings among persons of Spanish origin suggest that additional investment in such areas as schooling, vocational training, job experience and improved health status can influence the various components of earnings. To be sure, increased education and other investments in human capital can definitely improve the economic performance among Spanish origin and Mexican origin persons. Given the less than ten years of schooling attended for Spanish origin and Mexican origin persons, considerable public attention should be devoted to increasing their educational opportunities.

Despite the optimism for improving the economic performance of the groups under study through additional investment in human capital, it must, nevertheless, be noted that these investments have different economic returns. Moreover, even when similar characteristics were assigned to the groups under study, total earnings varied between the groups. Among males assigned similar characteristics, the Spanish origin and Mexican origin groups earned as much as one-fifth less than the white group earned. Since the male group in particular did not vary substantially in labor force participation or weeks worked, this unexplained differentials in earnings may be accounted for by discrimination in either wages paid

to Spanish origin or Mexican origin males or type of occupation held by these groups. Based upon the insignificant influence of having a job five years ago on occupational level for Spanish origin males and both Mexican origin males and females, and the low explanatory power of the final equation for occupational level among Mexican origin persons, the indication is that discrimination in the type of occupation obtained by these groups exists.

If Spanish origin and Mexican origin persons are facing discrimination in obtaining certain types of occupations, manpower efforts to improve their economic situation through additional investments in skills will need to be coupled with strong affirmative actions insuring equal employment opportunities. In adopting a manpower policy to improve the economic performance of all Spanish origin persons in the Midwest, governmental actions must pay close attention to the following: (a) maintaining favorable labor market conditions, (b) providing manpower opportunities in the area of education, vocational training, and labor market information and, (c) pursuing strong affirmative action policies in creating employment opportunities in certain types of occupations.

Finally, the manpower implications of the surprising results obtained from the insignificant influence of being born in one of the states under study or residing in these states five years ago on the components of the earnings model raises more questions than it answers. It is not clear as whether recent Spanish origin settlers to the states under study perform as well as native Spanish origin settlers or whether native settlers simply do not advance

economically as length of residence increases. Despite the inconclusive results of birthplace and length of residence in the states under study, the positive statistical influence of foreign Spanish and Mexican origin persons, provided they are not aliens, on some of the earning components does raise some interesting issues. Are these individuals better qualified to participate and perform in the labor market than native born persons because of their motivation to immigrate, or is it that these individuals are significantly different from the native born group? If so, do the foreign born Spanish origin and Mexican origin persons deserve different types of manpower policies than the native born? Unfortunately, the answers to this type of question extend beyond the design and data capability of the study. However, some of the issues can still be examined with the data and results of the study.

For example, the Cuban and Mexican origin groups have the largest percentages of persons born in a foreign country and this accounts for most of the positive influence associated with foreign born Spanish origin. However, this influence on earning components is generally discounted if the person did not have U.S. citizenship status or was not a resident in the United States five years ago. These results for Cubans suggest and support the notion that Cuban refugees, especially those trained in professions which require U.S. citizenship as a condition for practice, are hindered considerably if they cannot obtain citizenship. The citizenship dilemma, especially among Cuban professionals, is one that requires further study by the federal government in the process of granting U.S.

citizenship and/or modifying citizenship requirements as a condition of employment.[5]

While the results of the study are not able to render definitive manpower implications for foreign born Spanish origin and Mexican origin persons, it is also clear that more research is needed on the economic performance on foreign born persons before immigration policies can be adequately developed. For example, among Mexican origin persons, special attention should focus on the issue of economic performance between native born and foreign born. Are the migration patterns or characteristics of persons born in Mexico into such urban areas as Chicago different from those who immigrate into the Southwest? What is the job competition, if any, between the native born and foreign born? It would be worthwhile to study why foreign born Mexican origin persons with U.S. citizenship status worked more weeks and obtained better occupations than the native-born and also why Mexican aliens participated in the labor force more than those with U.S. citizenship.

Final Notes

From the analysis of earnings, it is apparent that Spanish origin persons in the Midwest do not perform economically as well as whites. In order to improve the economic situation of Spanish origin persons, it is evident that additional investments in human capital can significantly affect not only total earnings but also influence other components of the earnings model. However, the results of the study also indicate a portion of unexplained earnings even after it

is accounted by human capital considerations. This unexplained earnings differentials between all Spanish origin groups, Mexican origin group and the white group indicates that discrimination is a factor contributing to the economic performance of the Spanish origin groups under study. Remedial efforts to improve the economic situation of Spanish origin persons in the Midwest must, therefore, reflect not only additional investments in human capital but also greater equal employment opportunities for the groups under study.

The results also indicate the need for further study on the economic performance of Spanish origin persons. With nearly half of the Spanish origin males occupied within two occupational classifications as craftsmen and kindred workers and operatives (except transportation) and slightly over half employed in the manufacturing industry in comparison to 36 percent of white males in the two occupational classifications and 38 percent in manufacturing, more attention should be devoted to the occupational structure of the labor market for Spanish origin persons. For example, what are the labor market factors that attract Spanish origin persons to their jobs and what are their manpower implications? Why is it that occupational experience (having a job five years ago) among both Spanish origin and Mexican origin males and Mexican origin females fails to increase their occupational level of earnings? The insignificant influence of experience suggest further research into the possible existence of a separate labor market for Spanish origin persons. According to the dual labor market theory, job experience

is an essential component of the internal labor market and accounts for wage differentials in the primary labor market.[6] If Spanish origin persons are not employed in the primary market where job experience in the internal labor market is crucial to earnings, experience would not contribute to their occupational level of earnings. Since the data indicates that job experience had no influence on occupational level for Spanish origin persons, it does suggest that the dual labor market theory may explain a portion of the earnings differential among persons of Spanish origin.

The labor market situation among all Spanish origin women also requires further study. The Spanish origin female, contrary to the situation in the Southwest, participates in the labor force nearly as much as the white female. More information on such factors as husband's income and school age children and their relation to the various components of the earning process is needed. Specifically, more micro data is needed on the Spanish origin worker regardless of sex in terms of a person's behavior and performance in the labor market. Of considerable interest to manpower researchers is the issue of job search among Spanish origin persons.

In addition, the results from the analysis of earnings must be viewed in the context of the 1969 employment situation and current labor market conditions in the states under study. Changes in the labor market may alter the results obtained in the analysis of earnings during this time period. The economic performance of Spanish origin persons thus has to be evaluated with the recognition that unemployment was at a low level in that year and considerable

economic activity, especially in the Midwest states, was devoted to manufacturing. Since manufacturing generated over half of the employment for Spanish origin persons, it would be appropriate to inquire further into how much the economic performance of the Spanish origin persons is solely a function of the auto industry? With adverse employment conditions facing the auto industry in the 70s, it would be worthwhile to investigate how Spanish origin persons have fared in the labor market.

Finally, utilization of the public use Census sample tapes as a data source to analyze earnings among Spanish origin persons in the states under study does permit some comment on the adequacy of the data and its reliability. While the self identification technique does have its merit in identifying Spanish origin persons, it may be misleading and misunderstoody by various persons. For example, a large number of blacks born in U.S. Southern states identified themselves in the Central and South American origin category, possibly interpreting the question to mean their geographical origin, i.e., the southern part of North America.[7] On the other hand, it could have been an accurate Spanish origin response. One possible way to avoid misinterpretation of a Spanish origin response would be to have alternative questions in the same Census questionnaire to validate Spanish origin.

From a manpower perspective, the U.S. Census Bureau should also consider conducting a longitudinal study of Spanish origin persons included in the 1970 public use sample tapes and devising a technique to identify them in the 1980 public use samples in order

to allow comparative analysis. This would permit a more in-depth assessment of the earnings situation among Spanish origin persons. The development of an adequate and valid public source of data on Spanish origin persons is an essential prerequisite to the establishment of effective efforts to ameliorate the economic performance of all Spanish origin persons in the labor market.

FOOTNOTES--CHAPTER VI

[1]For a review on the empirical performance of the human capital approach see Jacob Mincer, "The Distribution of Labor Incomes: A Survey," Journal of Economic Literature, Vol. VIII, No. 1 (March, 1970), 1-25.

[2]A Chow test of equality between coefficients in identical models and based on different data sets can be performed. However, since a step-wise deletion multiple regression was performed on the data, there were different variables in the equations. For a description of the Chow test, see Gregory C. Chow, "Tests of Equality Between Sets of Coefficients in Two Linear Regressions," Econometrica, Vol. 28 (July, 1960), 591-605.

[3]Even in this case where one variable significantly influences the equation for one group and not another, there may not be a significant difference between the equations. The significant difference is thus only an approximation because: (a) with any step-wise regression procedure, the significance levels are approximate and not actual and (b) a variable may be included in an equation at the .0499 level of significance and excluded from another equation at the .0501 level of significance.

[4]For place of birth and residency five years ago, born in Midwest state and resided in Midwest were base variables which entered the intercept value. There were other categories used (e.g., born Southwest, born other states, resided in other states, resided in foreign...), to test influence of place of birth and residency five years ago. Since a step-wise procedure was used, all categories of variables would have to significantly influence the equation in order to obtain a direct influence of birth place and residency on the equation.

[5]For a study on Cubans and their resettlement problems see Raul Moncarz, "A Study on the Effects of Environmental Change on Human Capital Among Selected Skilled Cubans," (Ph.D. Dissertation, Florida State University, 1969).

[6]The dual labor market theory and the concept of an internal labor market has been developed by Peter B. Doeringer and Michael J. Piore, Internal Labor Markets and Manpower Analysis (Lexington, Mass.: Health-Lexington Books, 1971).

[7]This possible explanation for the large number of Central and South American origin blacks was brought to the researcher's attention by Dr. Einar Hardin, Michigan State University, School of Labor and Industrial Relations.

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APPENDICES

APPENDIX 3-A

PUBLIC USE SAMPLES OF BASIC RECORDS FROM THE 1970 CENSUS

Each 1970 public use sample is a representative sample of the records from the 1970 Census sample questionnaires. The primary sample size is one-in-a-hundred, or one sample unit (household, vacant unit, or person in group quarters) for every one hundred such units in the population. For each household, information is provided about the housing unit itself as well as the characteristics of each person therein. The samples are self-weighting; that is, each person or household is assigned a weight of 100. In order to estimate the frequency of a particular characteristic for the entire population, a user multiplies his tabulations of public use sample records by 100.

No names, addresses, or detailed geographic information appear in the samples in order to avoid indentifying any individual or household. Geographic areas identified in public use samples are sufficiently large (250,000 persons or more) to avoid disclosure of information for specific individuals.

Two long form Census questionnaires were used in the 1970 Census of Population and Housing: one for a 15 percent sample, the other for a 5 percent sample of the population. Public use samples of 15 percent and 5 percent data are created separately, since the two questionnaire forms contain many different questions. Because the 1/100 sample size represents a fraction of the total population, each 1/100 sample actually contains either one-fifteenth of all 15 percent basic records or one-fifth of all 5 percent basic records, representing slightly over 2 million persons in either case.

The six different 1970 public use samples, as well as one public use sample of basic records from the 1960 Census are portrayed in Figure 1. Of the 1970 samples, three one-in-a-hundred samples are drawn from the 15 percent sample data, and three from the 5 percent sample data, one each for the three options for geographic information: (1) County Groups, (2) States, and (3) Geographic divisions with neighborhood characteristics. Any one sample contains only one of these types of information. The 1960 public use sample is documented elsewhere (Technical Document 100).

Files within primary samples. Each of the six one-in-a-hundred samples is contained on 30-33 tapes. Each sample is subdivided geographically into a series of convenient units of "files," usually consisting of a single tape, though a few may be as large as six or seven tapes. All sampled records within an identified geographic area are consecutively arranged within a particular file. The files within each 1-in-100 sample are listed in Table 3, pages 14-15.

Geographic Options

Three types of geographic identifications are made available on public use samples because of the different kinds of data needs they are designed to meet.

A. State Public Use Samples. The first series of public use samples identifies the most common statistical unit: each State, regardless of size. No geographic subdivisions of the States are identified, though residence in particular types of areas is indicated on individual records in most states. Urban or rural residence is indicated in item H9 (see page 22) except for records from Alaska, Delaware, Hawaii, Nevada, Rhode Island, Utah, Vermont and Wyoming where there are less than 250,000 people in one or the other category. Further, if the urban population is identified it may be subdivided, with item H10, into an urban metropolitan part (inside SMSA's) and an urban non-metropolitan part (outside SMSA's) within a State, provided both parts meet the aforesaid minimum population. Similarly, a distinction may be made between rural areas inside SMSA's and rural areas outside SMSA's if criteria are met. So specific SMSA's are identified, only metropolitan area within a State in general. Finally, item H11 distinguishes between areas inside central cities and the remainders of many States.

(Since this scheme of geographic identification is oriented toward giving the greatest type-of-area detail for each State and therefore identifies for one State what it may not for another, it is not well suited for regional tabulations by type of area. Neighborhood characteristics samples, on the other hand, identify type of area (rural, urban, urbanized area, or central city residence) in all cases through the country.)

The 33 tapes comprising either the 15 percent data State sample or the 5 percent data State sample are organized into 21 files, listed in Table 3, page 14.

B. County Group Public Use Samples.

C. Geographic Division Public Use Sample with Neighborhood Characteristics.

SOURCE: Description extracted and reproduced from U.S. Department of Commerce, Public Use Sample of Basic Records from the 1970 Census: Description and Technical Documentation. (Washington, D.C.: Bureau of the Census) April, 1972, pp. 2, 4.

APPENDIX 3-B

LETTER OF TRANSMITTAL, U.S. COMMISSION ON CIVIL RIGHTS

U.S. Commission on Civil Rights
Washington, D.C. 20425
April 1974

The President
The President of the Senate
The Speaker of the House of
Representatives

Sirs:

The Commission on Civil Rights presents this report to you pursuant to Public Law 85-315, as amended. This report evaluates the adequacy of the efforts of the Bureau of the Census to enumerate the Spanish speaking background population in the United States in the 1970 Census. It is based on interviews with officials from the Bureau of the Census and other Federal agencies with statistical responsibilities and with social demographers expert in the field of data collection on persons of Spanish speaking background. A draft of this report was submitted to the Bureau of the Census for review and comment prior to publication.

We found that the Bureau's procedures have been insensitive to the Spanish speaking background population. In the 1970 Census, the Bureau did not use a uniform measure to identify all persons of Spanish speaking background in this country, but rather relied upon a variety of indices administered on a sample basis. Further, the Bureau provided inadequate assistance to Spanish speaking households for them to respond accurately to the Census questionnaire. Although instruction sheets and sample questionnaires were available in Spanish at data collection centers, sample Spanish questionnaires were not mailed to respondents; Spanish instruction sheets were only mailed to respondents in selected areas. There was an insufficient number of bilingual census takers and the Bureau's community education program was on a scale too small to reach persons of Spanish speaking background. The Bureau's severe underemployment of persons of Spanish speaking background contributed to its inability to enumerate effectively persons of Spanish speaking background.

As a result, persons of Spanish speaking background were probably undercounted by appreciably more than 7.7 percent--the percent of the black population which the Bureau acknowledges was missed in the 1970 Census. If the Bureau does not make its programs and procedures for the 1980 Census more responsive to the need for accurate and detailed information on the Nation's second largest minority population, this minority group will continue to remain uncounted and forgotten.

We urge your consideration of the facts presented and ask for your leadership in helping to effect the necessary changes to enable persons of Spanish speaking background to participate fully in the Census enumeration process.

Respectfully,

Arthur S. Flemming, Chairman
Stephen Horn, Vice Chairman
Frankie M. Freeman
Robert S. Rankin
Manuel Ruiz, Jr.

John A. Buggs, Staff Director

SOURCE: Letter extracted from U.S. Commission on Civil Rights, Counting the Forgotten: The 1970 Census Count of Persons of Spanish Speaking Background in the United States (Washington, D.C.: U.S. Commission on Civil Rights), 1974, pp. iii-iv.