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AN EMPIRICAL ANALYSIS OF EARNINGS DIFFERENCES BY SEX IN
THE STATE OF NEBRASKA

The University of Nebraska - Lincoln

PH.D. 1982

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PREVIEW

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PREVIEW

AN EMPIRICAL ANALYSIS OF
EARNINGS DIFFERENCES BY
SEX IN THE
STATE OF NEBRASKA

by

Wade L. Thomas

A DISSERTATION

Presented to the Faculty of
The Graduate College in the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy

Major: Economics

Under the Supervision of Professor Campbell R. McConnell

Lincoln, Nebraska

May, 1982

TITLE

An Empirical Analysis of Earnings Differences

by Sex in the State of Nebraska

BY

Wade L. Thomas

APPROVED

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CONTENTS

ACKNOWLEDGEMENTS	ii
Chapter	
I. INTRODUCTION: THE LAW AND RELATIVE STATUS BY SEX . . .	1
Introduction	1
The Law	2
Relative Status by Race and Sex	5
II. THE THEORY OF DISCRIMINATION AND PRIOR EMPIRICAL RESEARCH	13
The Theory of Discrimination	13
Becker's Model	13
Criticisms and Contributions	17
Human Capital, Discrimination, and Prior Empirical Work	24
Prior Empirical Work	26
Concluding Comments	49
III. EMPIRICAL EXAMINATION OF EARNINGS DIFFERENCES	51
Introduction	51
Modeling and Empirical Results	51
Data	53
The Model	54
Log-Linear Regression Results for Earnings	63
Analysis: Earnings Ratios by Sex, Occupation, and Marital Status	72
Analysis: Earnings Ratios by Marital Status and Occupation	75
Explaining the Differences	76
Discrimination	76
IV. CONCLUSION	86
Restatement	86
The Findings	86
Future Research	89
APPENDIXES	
A. Race	92
B. Educational Variables	95
C. Job Tenure	99
D. Glejser's Tests for Heteroscedasticity	102

SELECTED BIBLIOGRAPHY	106
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PREVIEW

LIST OF TABLES

1-1. Mean and Median Income and Income Ratios of Persons 14 Years Old and Over, by Occupation and Sex for Nebraska, 1975	6
1-2. Mean and Median Incomes of Persons 14 Years Old and Over, by Work Experience, and Sex for Nebraska, 1975	7
1-3. Mean and Median Incomes of Persons 14 Years Old and Over, by Sex and Race, for Nebraska, 1975	7
1-4. Mean and Median Income Ratios by Educational Attainment and Sex for Nebraska, 1975 (25 Years and Over)	9
1-5. Percentage of Persons in Each Level of Educational Attainment by Sex for Nebraska, 1975 (25 Years and Over)	10
2-1. Summary of the Results of Johnson and Stafford	47
3-1. Variable Code Definitions	55
3-2. Hypotheses of Explanatory Variables--Males	58
3-3. Hypotheses of Explanatory Variables--Females	60
3-4. Log-Linear Regression for Earnings with Sex/Marital/ Occupation Interactions	64
3-5. F-Tests by Sets of Variables	67
3-6. Classifications and Intercept Calculations	68
3-7. F-Tests by Classification	69
3-8. Intercepts by Classification	71
3-9. Estimated Earnings Ratios	71
A-1. Log-Linear Regression for Earnings with Race/Sex/ Marital Status/Occupation Interaction	94
B-1. Log-Linear Regression for Earnings with Sex/Marital Status/Occupation Interactions	97

C-1. Log-Linear Regression for Earnings with Sex/Marital Status/Occupation/Tenure Interactions	101
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PREVIEW

LIST OF ILLUSTRATIONS

Figure

1. Potential Monopsony	21
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PREVIEW

CHAPTER I

INTRODUCTION: THE LAW AND
RELATIVE STATUS BY SEXIntroduction

There is a strong presumption that discrimination on the basis of race and sex, inter alia, is a pervasive problem of varying intensity throughout the United States economy. Furthermore, the prevailing view is that discrimination is a barrier to labor market flexibility and plays an important role in generating inequality in earnings. Consequently, government policy, especially over the last two decades, has been aimed at reducing and eliminating discrimination. Although it remains to be seen as to whether the administration of President Reagan will emphasize antidiscrimination policies, the Carter administration embraced the antidiscrimination efforts of the Equal Employment Opportunity Commission and the Office of Federal Contract Compliance as part of its policy to improve the operation of labor markets.¹ Antidiscrimination legislation and efforts at the federal level have laid the groundwork for similar laws and endeavors at the state level.

The present study is restricted to the examination of earnings differentials among full-time workers in the state of Nebraska. State boundaries are not an arbitrary choice for at least

¹U.S. President, Economic Report of the President (Washington: United States Government Printing Office, 1980), p. 133.

two reasons: 1) state antidiscrimination laws obviously apply and are administered within state boundaries, and 2) government data are usually gathered and classified on the basis of political boundaries. Moreover, the selection of the state of Nebraska is logical since it does have antidiscrimination laws which are enforced by the Nebraska Equal Opportunity Commission. Although it is not intended or expected that an economic model should be the sole indicator of the performance of antidiscrimination policy, it is certainly a useful gauge of the dimensions of the discrimination problem and may carry considerable weight as a social indicator when employed on a comparative basis through time. Given that the institutional character of the state of Nebraska includes antidiscrimination laws, it appears reasonable to apply economic modeling based on accepted economic theory in order to analyze discrimination empirically.

The Law

Institutional factors such as state laws affecting discrimination are of particular interest with respect to earnings differentials. The Nebraska Fair Employment Practice Act of 1965² establishes a policy of equal opportunity in obtaining and holding employment regardless of race, color, religion, sex, disability, or national origin. Specifically, it is an unlawful employment practice for an employer:

²Nebraska Fair Employment Practice Act (NFEP), Legislative Bill 656, effective August 3, 1965. Amended by LB 357, October 23, 1967; LB 718, July 24, 1969; and by LB's 265 and 266, September 2, 1973; LB 161, September 2, 1977; LB 67, August 24, 1979; LB 4, January 27, 1979.

1. To fail or refuse to hire or to discharge any individual with respect to compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, sex, disability, marital status, or national origin; or
2. To limit, advertise, solicit, segregate or classify employees in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect such individual's status as an employee, because of such individual's race, color, sex, disability, marital status, or national origin.³

The act also includes proscribed employment practices for employment agencies, labor organizations, and apprenticeship or training programs.⁴

Nebraska's Equal Pay Act of 1969⁵ was enacted to eliminate discriminatory wage practices based on sex. The act sets forth the following policy:

- (1) The practice of discriminating on the basis of sex by paying wages to employees of one sex at a lesser rate than the rate paid to employees of the opposite sex for comparable work on jobs which have comparable requirements.
 - (a) Unjustly discriminates against the person receiving the lesser rate;
 - (b) Leads to low morale, high turnover, and frequent labor unrest;
 - (c) Discourages workers paid at the lesser wage rates from training for higher level jobs;
 - (d) Curtails employment opportunities, decreases workers' mobility, and increases labor costs;
 - (e) Impairs purchasing power and threatens the maintenance of an adequate standard of living by such workers and their families;

³NFEP, Section 48-1104 (N.R.R., 1978).

⁴NFEP, Secs. 48-1105 to 1107 (N.R.R., 1978).

⁵Equal Pay Act of Nebraska (EPAN), LB 501, effective May 5, 1969.

- (f) Prevents optimum utilization of the state's available labor resources; and
 - (g) Threatens the well-being of citizens of this state, and adversely affects general welfare.
- (2) It is, therefore, declared to be the policy of this state through exercise of its police power to correct and, as rapidly as possible, to eliminate discriminatory wage practices based on sex.⁶

It is apparent from the forgoing excerpts of Nebraska laws that discrimination based on sex and race, which in turn leads to differentials in pay and earnings, is deemed undesirable and illegal. The explicit and implicit social values established in the law are those that condemn discrimination and seek its elimination.

With these features of public policy in mind, it is of interest to economists to analyze earnings differentials in the context of economic theory and modeling. Therefore, it is the purpose of this study to address the following issues:

1. Are there earnings differences that could be attributed to racial and sexual discrimination when objective characteristics such as education, work experience, and hours worked are held constant? This study will provide some general information on the relative status of blacks and women using aggregative measures. It will also attempt to view that status in greater detail with the use of econometric models. Because blacks constitute only a little over three percent of Nebraska's total population, limited

⁶EPAN, Sec. 48-1219 (N.R.R., 1978).

inferences can be made concerning race and greater emphasis will be placed on sex differentials.⁷

2. How much of the white-black and male-female differentials is attributable to differences in human capital, marital status, and occupation?
3. What are the effects of status variables, i.e., male or female, single or married, black or white, and hours worked upon earnings? What are the effects of human capital variables, i.e., education, job tenure, and occupation, upon earnings?

Relative Status by Race and Sex

Tables 1-1 through 1-5 contain aggregate data from the 1976 Survey of Income and Education (SIE).⁸ These tables contain information on income with respect to occupation, educational attainment, and labor force status.

Mean and median incomes and income ratios along with the number of persons in each occupation are presented in Table 1-1. Categories containing no entry (--) are, or approximate, zero. These data depict sizable income differentials between sexes for various occupations. The female to male observed median income ratio (F/M) is usually employed as a simple summary statistic that provides an indication of the differences in income between the

⁸U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 111, "Money Income and Poverty Status in 1975 of Families and Persons in the United States and the North Central Region, by Divisions and States (Spring 1976 Survey of Income and Education)," U.S. Government Printing Office, Washington, DC, 1978.

TABLE 1-1
MEAN AND MEDIAN INCOME AND INCOME RATIOS OF
PERSONS 14 YEARS OLD AND OVER, BY
OCCUPATION AND SEX FOR NEBRASKA, 1975

Occupation Group of Longest Job (Total Money Earnings)	Mean Income in Dollars		Median Income in Dollars		# of Persons in Thousands with Income		Female/Male Mean Income Ratio (%)*		Female/Male Median Income Ratio (%)*	
	Male	Female	Male	Female	Male	Female				
White-collar Workers	14,152	5,285	12,449	4,840	162	198	37.3		38.9	
Professional, technical, and kindred workers	15,650	6,773	12,650	7,333	51	52	43.3		58.0	
Managers and administrators, except farm	15,357	8,375	14,310	7,178	59	18	54.5		50.2	
Sales workers	12,487	2,578	10,740	1,428	32	21	20.6		13.3	
Clerical and kindred workers	9,574	4,572	10,711	4,457	21	106	47.8		41.6	
Blue-collar Workers	8,806	3,843	8,688	3,160	177	32	43.6		36.4	
Operatives, including trans- port	9,303	3,864	8,820	3,736	65	23	41.5		42.4	
Craft and kindred workers	10,159	-----	10,573	-----	79	---	----		----	
Laborers, except farm	4,600	-----	2,886	-----	33	---	----		----	
Service Workers	5,617	2,426	3,762	1,529	39	94	43.2		40.6	
Cleaning service workers	-----	2,412	-----	2,231	---	10	----		----	
Food Service Workers	-----	2,034	-----	1,321	---	36	----		----	
Farm Workers	7,174	1,547	4,700	770	85	13	21.6		16.4	
Total	10,114	4,204	9,288	3,205	462	337	41.6		34.5	

* Calculations are by the author.

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 111, "Money Income and Poverty Status in 1975 of Families and Persons in the United States and the North Central Region, by Divisions and States (Spring 1976 Survey of Income and Education)," U.S. Government Printing Office, Washington, D.C., 1978, Table 15B, pp. 164-166.

TABLE 1-2

MEAN AND MEDIAN INCOMES OF PERSONS 14 YEARS OLD
AND OVER, BY WORK EXPERIENCE, AND SEX
FOR NEBRASKA, 1975

Labor Force Status	Mean Income in Dollars		Median Income in Dollars	
	Male	Female	Male	Female
Total	10,485	4,221	9,004	3,101
Full-time Jobs	12,210	6,127	10,841	5,768
Part-time Jobs	3,765	2,255	1,886	1,648

TABLE 1-3

MEAN AND MEDIAN INCOMES OF PERSONS 14 YEARS OLD
AND OVER, BY SEX AND RACE, FOR NEBRASKA, 1975

Race	Mean Income in Dollars		Median Income in Dollars	
	Male	Female	Male	Female
White	10,585	4,192	9,128	3,079
Black	6,687	5,167	5,045	3,893

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 111, "Money Income and Poverty Status in 1975 of Families and Persons in the United States and the North Central Region, by Divisions and States (Spring 1976 Survey of Income and Education)," U.S. Government Printing Office, Washington DC, 1978, Table 15B, pp. 164-166.

sexes. It can be seen from the data in Table 1 that the median F/M ratios across occupations are rather low. The total median F/M ratio for all occupations in Nebraska is 34.5 percent. This does not compare favorably with SIE data for the United States for the same time period. The observed media F/M ratio for the United States is 42.6 percent.

Table 1-2 contains mean and median incomes according to sex and work experience. Large mean and median differentials exist between males and females, although the difference is much less pronounced for part-time jobs.

Table 1-3 delineates mean and median incomes of persons by sex and race. Examination of the data in Table 1-3 reveals that black males as a group have markedly lower mean and median incomes. However, the difference between men and women is considerably smaller than that of their white counterparts. Moreover, black women as a group have higher mean and median incomes than white women.

Table 1-4 shows income by educational attainment and sex. Once again sizable mean and median differences in income exist between males and females by educational levels. Analysis of the median F/M reveals that this ratio is higher for the college level of educational attainment. The data in Table 1-4 are of particular interest when viewed in conjunction with Table 1-5 which provides a breakdown of the percentage of persons by educational attainment and sex. These data reveal that employed women with income as a group in Nebraska possess approximately the same amount of education as men;

TABLE 1-4
MEAN AND MEDIAN INCOME AND INCOME RATIOS BY EDUCATIONAL ATTAINMENT AND SEX
FOR NEBRASKA, 1975 (25 YEARS AND OVER)

Educational Attainment	Mean Income in Dollars		Median Income in Dollars		# of Persons in Thousands with Income		Female/Male Mean Income Ratio (%)*		Female/Male Median Income Ratio (%)*	
	Male	Female	Male	Female	Male	Female				
Elementary:										
Total	8,341	3,135	6,350	2,433	74	62	37.6		38.3	
8 Years	8,859	3,237	6,893	2,446	54	46	36.5		35.5	
High School:										
Total	11,725	4,483	11,120	3,595	187	166	38.2		32.3	
4 Years	12,097	4,732	11,606	3,854	142	125	39.1		33.2	
College:										
Total	16,375	6,389	13,513	5,573	139	106	39.0		41.2	
4 Years or More	18,334	8,036	14,597	8,140	75	47	43.8		55.8	
25 Years and Over	12,715	4,839	11,178	3,609	400	334	38.1		32.3	

* Calculations are by the author

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 111, "Money Income and Poverty Status in 1975 of Families and Persons in the United States and the North Central Region, by Divisions and States (Spring 1976 Survey of Income and Education)," U.S. Government Printing Office, Washington, D.C., 1978, Table 15B, pp. 164-166.

TABLE 1-5

PERCENTAGE OF PERSONS IN EACH LEVEL OF
EDUCATIONAL ATTAINMENT BY SEX FOR
NEBRASKA, 1975 (25 YEARS AND OVER)

Educational Attainment	Percentage of Persons with Income	
	Male	Female
Elementary:		
Total	18.50	18.56
8 Years	13.50	13.77
High School:		
Total	46.75	49.70
4 Years	35.50	37.43
College:		
Total	34.75	31.74
4 Years or More	18.75	14.07

Source: U.S. Bureau of the Census, Current Population Reports, Series P-60, No. 111, "Money Income and Poverty Status in 1975 of Families and Persons in the United States and the North Central Region, by Divisions and States (Spring 1976 Survey of Income and Education)," U.S. Government Printing Office, Washington DC, 1978, Table 15B, pp. 164-166.

slightly more at the elementary and high school levels and slightly less at the college level. This suggests at the outset that differences in income between men and women are not readily attributable to differences in years of education. But caution must be exercised with this interpretation. Earnings are contingent upon the type as well as the number of years of education. A man might opt for a curriculum in engineering or management, while a woman might choose elementary education or home economics.

In summary, it is quite clear that substantial differences in income exist between males and females in Nebraska. SIE aggregate data provide an insight into the inferior position of women in terms of income. At this juncture it is not readily apparent from the data presented that lower incomes for females can be explained by educational and occupational differences.

It is somewhat less obvious from the preceding tables that blacks are in an equally inferior position. The uncertainty in determining the relative status of blacks is a consequence of weaknesses in the SIE data. Unfortunately, the SIE does not expand income data to account for race in the occupational and educational categories. Moreover, the small black population of Nebraska is concentrated in the Standard Metropolitan Statistical Areas of Lincoln and Omaha. The low percentage of blacks in Nebraska coupled with the lack of geographical dispersion introduces sampling difficulties that tend to reduce statistical reliability. Nevertheless, the information contained in Table 1-3 suggests that blacks as a group are worse off than whites in terms of income.