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Age-Earnings Profile Estimates for Older Persons In Wrongful Death and Injury Cases

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ABSTRACT

Recent work estimating earnings profiles in wrongful death and injury cases deals with specifying profiles for different levels of education. Lane and Glennon (1985, 1988) use a method which is theoretically appealing because it accounts for the human capital literature by including education and experience in the earnings equation. Their model is extended here to account for differences in profiles by a variety of individual specific variables. Further, higher order tenure and education variables are included to account for slower decreases in earnings late in life. Pension wealth calculations using these estimates are also discussed.

Recent empirical work pertaining to estimation of lost earnings from wrongful death or injury has been geared toward the estimation of the growth rate of earnings. Lane and Glennon (1985) apply human capital theory to generate individual specific age-earnings profiles, arguing that earnings growth should account for individual characteristics such as age, race, marital status and education. They use cross sectional Census data to estimate an earnings regression and use the resulting coefficients to estimate the growth in earnings as an individual ages.

Bryan and Linke (1988) questioned Lane and Glennon's estimates because their predicted growth rate of earnings for a college graduate was identical to the predicted growth rate for a high school graduate. Since human capital theory suggests that more education should lead to higher growth rates, Lane and Glennon's results were not consistent with theory. To address this issue, Lane and Glennon (1988) included an interaction term of age with education which resulted in different earnings growth rates over time for workers of different educational levels. This inclusion cleared up the inconsistency that Bryan and Linke pointed out.

Lane and Glennon's technique can be improved further. First, age interactions with other variables can be included. Second, higher order education and tenure terms may lead to age earnings profiles which more precisely follow actual data. Finally, predicted earnings growth rates can be changed to account for differences in wages between part-time and full-time workers, particularly for older partially-retired workers.

Earnings growth rates for different individuals vary over time because of demographic differences amongst these individuals. Given the abundance of degrees of freedom, Lane and Glennon should have included interactions of all variables with age. These interaction terms lead to distinct growth rate estimates that account for all demographic attributes of the individual, instead of allowing for only intercept changes through the use of dummy variables. For example, Lane and Glennon's estimates yield the same growth rate predictions for similar men and women; and likewise for similar blacks and whites. Generally, these groups have had lower earnings over their life-cycle, so they are unlikely to have the same growth rate in earnings as white men.

In a recent article, Murphy and Welch (1990) argue that the quadratic function is a poor approximation of the true relationship between earnings and experience. They find that the quadratic function underestimates earnings growth in early life by 30 to 50 percent and overestimates mid-life earnings by 20 to 50 percent. They also find that the actual decline in earnings during the last 15 years of work is less than 5 percent, but that the quadratic predicts a much steeper decline. They suggest that the inclusion of higher order polynomials of education and tenure may improve the fit of the earnings equation.

Lane and Glennon's estimates do not capture this small decline, in fact their estimates result in a 9.93 percent reduction in the wage from age 52 to age 65.[1] This large decline in predicted wage growth for older workers may be explained by two factors. First, the decline may be the result of the exclusion of the higher order terms discussed by Murphy and Welch. If this is the case, the inclusion of higher order education and tenure variables may better estimate the profile.

Secondly, the large estimated decline in growth rates for older workers may be attributed to the fact that partial retirees are included with older full-time workers. Gustman and Steinmeier (1985) found that wages for older workers who reported being partially retired declined 9.9 percent over a two year period if they remained at the same job and declined 30.4 percent if they changed jobs. Workers who were not reported to be partially retired had a 1.3 percent decline in wages. Since a large number of older workers may be partially retired (over 9 percent in Gustman and Steinmeier's data), predicted wages for all workers will be biased downward when part-time wages are included in the estimation. Generally, when an economist estimates lost earnings for a wrongful death or disability case, he or she

[1] The numbers are from Lane and Glennon (1988) Table 1, page 176 for a white married high school graduate male living in the suburbs of the North-Central region. He has no children, is in the technical, sales occupation, and the manufacturing industry.

assumes that the worker is a full-time worker. Thus, only full-time workers should be included in the analysis of wage growth.

Of the three problems discussed, the first two are likely to be prevalent for all age groups, while the third is likely to be more prevalent for older workers. The correction of these problems for all workers can wait until the 1990 Census data are available. The part-time/full-time problem for older workers can be addressed using data specific to these workers.

The Model and Data

In this article, data for full-time workers from the Retirement History Survey, RHS, for the years 1969 through 1975 are used to estimate an earnings equation. This model incorporates more age interaction terms and higher order terms for tenure and education to avoid the problems discussed by Murphy and Welch. The use of full-time workers will also avoid the decline in wages brought about by the choice of part-time work.

The RHS is a survey of men and women aged 58 to 63 in 1969. This survey was conducted every odd year until 1979. The earnings equation regresses the log of the real wage rate for workers working over 35 hours per week on a group of variables which reflect the worker's personal and employment characteristics. The use of the log wage equation conforms with the wage equation used by Lane and Glennon, and is standard in the labor economics literature (Mincer, 1974) as well as the retirement literature (see Kotlikoff and Wise, 1989). Some examples of the log wage specification using the RHS data include Clark and Johnson (1980), Gustman and Steinmeier (1982), Gordon and Blinder (1980), and Slade (1987). Furthermore, the log wage equation generally performs better than one based directly on the wage rate. It does in this model.

The independent variables described in more detail in the appendix are: AGE, ED TENURE, GOVERNMENT, SELF EMPLOYED, RACE, SEX, CHILD, SINGLE, URBAN1, URBAN2, URBAN3, URBAN4, AGRICULTURE, MINING, CONSTRUCTION, MANUFACTURING, TRANSPORTATION, WHOLESALE, FINANCE, PERSONAL SERVICES, PROFESSIONAL SERVICES, FARMERS, MANAGEMENT, CLERICAL, SALES, CRAFTSMEN, OPERATIVES, PRIVATE HOUSEHOLD, SERVICES, FARM LABORERS. Squared variables included are AGE SQUARED, ED SQUARED, TENURE SQUARED, cubed terms include ED CUBED and TENURE CUBED. ED QUAD and TENURE QUAD are EDUCATION and TENURE raised to the fourth power. All of the individual characteristic variables are multiplied by AGE. These age interaction variables allow for changes in the slope of the age-earnings profile for each of the individual characteristics.

Empirical Results

The regression results are presented in Table 1. The age coefficient with the age squared term in the age interaction column shows an age earnings

Table 1
Regression Coefficients for ln(WAGE)

			AGE INTERACTION TERMS	
Variable	**Coefficient**	**t-statistic**	**Coefficient**	**t-statistic**
AGE	0.101777	0.96	-0.00110604	-1.39
EDUCATION	-0.062391	-1.53	0.001104834	2.00
TENURE	-0.012167	-1.32	0.000309891	2.23
GOVERNMENT	-1.153327	-3.88	0.019394	4.03
SELF EMPLOYED	0.335145	0.90	-0.00733898	-1.22
RACE	-0.441543	-1.11	0.010191	1.58
SEX	0.975166	3.20	-0.011926	-2.39
CHILDREN	0.391276	2.62	-0.00621355	-2.54
SINGLE	0.591774	2.11	-0.010841	-2.38
AGRICULTURE	0.471289	0.31	-0.0098995	-0.40
MINING	-0.949831	-0.35	0.017071	0.71
CONSTRUCTION	-0.481683	-0.84	0.009175446	0.98
MANUFACTURING	-0.584023	-1.25	0.0093117	1.22
TRANSPORTATION	0.145673	0.26	-0.00235365	-0.25
WHOLESALE	-0.393594	-0.75	0.002030747	0.25
FINANCE	0.416375	0.66	-0.00813625	-0.79
PERSONAL SERVICES	-0.457023	-1.04	0.005336329	0.74
PROFESSIONAL	1.043226	1.90	-0.011854	-1.33
FARMERS	0.263420	0.16	-0.00360039	-0.13
MANAGERS	-.0403963	-0.82	0.012216	1.52
CLERICAL	-0.770490	-1.50	0.014696	1.76
SALES	-0.697831	-0.99	0.014461	1.26
CRAFTSMEN	-0.727696	-1.56	0.015155	2.00
OPERATIVE	-0.551415	-1.13	0.009983635	1.26
PRIVATE HOUSEHOLD	-2.255339	-1.30	0.034507	1.21
SERVICES	-1.306591	-2.44	0.020960	2.41
FARM LABORERS	-3.896366	-1.88	0.059827	1.76
URBAN1	0.263394	26.69		
URBAN2	0.230807	19.03		
URBAN3	0.113644	10.51		
URBAN4	0.074366	6.16		
TENURE SQUARED	0.0002212162	0.72		
TENURE CUBED	-0.0000065962	-0.73		
TENURE QUAD.	2.86443 -08	0.32		
ED SQUARED	0.003150303	0.73		
ED CUBED	-0.00031839	-0.96		
ED QUAD.	0.00001409807	1.63		
INTERCEPT	-1.679551	-0.49		
R-Square	0.4157			
N	13,436			

Note t-ratios are in absolute values.

profile which increases at a decreasing rate; however, the overall age effect depends upon the effect of the other age interaction terms. A test of the joint significance of age interaction coefficients was significant at the 0.01 level (F=10.8).[2] The URBAN dummy variables indicate that respondents

[2] Separate tests for the industry, occupation, and urban dummy variables also showed that these variables were jointly significant.

Table 2
Percentage Change in Wage

Age	L&G SEARN	RHS SEARN	L&G SEARN1	RHS SEARN1	FEMALE SEARN1	BLACK SEARN1
55	-0.38	1.02	-0.29	1.47	2.69	0.40
56	-0.47	0.82	-0.38	1.27	2.55	0.30
57	-0.57	0.69	-0.48	1.13	2.41	0.17
58	-0.66	0.55	-0.57	0.99	2.27	0.03
59	-0.76	0.41	-0.66	0.85	2.12	-0.12
60	-0.85	0.26	-0.76	0.70	1.97	-0.26
61	-0.94	0.11	-0.85	0.55	1.81	-0.42
62	-1.04	-0.04	-0.94	0.40	1.65	-0.57
63	-1.13	-0.20	-1.04	0.25	1.49	-0.73
64	-1.22	-0.35	-1.13	0.09	1.33	-0.89
65	-1.32	-0.51	-1.22	-0.07	1.16	-1.05
66	-1.41	-0.68	-1.32	-0.24	0.99	-1.22
67	-1.50	-0.85	-1.41	-0.40	0.82	-1.39
68	-1.60	-1.01	-1.50	-0.58	0.64	-1.56
69	-1.69	-1.19	-1.60	-0.75	0.46	-1.73
70	-1.78	-1.36	-1.69	-0.93	0.28	-1.91
71	-1.88	-1.54	-1.78	-1.11	0.10	-2.09
72	-1.97	-1.72	-1.88	-1.29	-0.09	-2.27
73	-2.06	-1.90	-1.97	-1.47	-0.27	-2.46
74	-2.15	-2.09	-2.06	-1.66	-0.47	-2.64
75	-2.25	-2.28	-2.16	-1.84	-0.66	-2.83
PRESENT VALUE	18.857	20.964	19.043	21.991	25.237	19.787

living in urban areas earn significantly more than those living in rural areas. The R-squared value is 0.45, which for cross-sectional data, is acceptable. The coefficients from this equation can be used to estimate full-time earnings and the growth rate in full-time earnings for older individuals, which in turn can be used with probability of work life data to determine lost lifetime earnings for older individuals.

Table 2, compares the predicted growth in wages from these RHS estimates with that of Lane and Glennon for ages 55 to 75. The RHS wage growth estimates are for a white married high school graduate male living in an urban area of 1 to 3 million people. He has one child, is in the technical, sales occupation, and the manufacturing industry. He is not self employed or a government worker and initially has no tenure. Lane and Glennon's results for a similar male are in column (2) of Table 2. Their predicted earnings are already decreasing at age 55, and by age 75, decrease by 2.25 percent. The RHS wage growth estimates are in column (3) and are positive but declining until age 59. Wages then grow at a negative rate, and by age 75, are falling by 2.28 percent per year. The average decline for the RHS estimates is 0.56 percent per year. Lane and Glennon's average decline over this age range is 1.32 percent.

Estimates of earnings growth for an individual with the same characteristics as used in columns (2) and (3), except that he is a college graduate are shown in columns (4) and (5). Column (4) contains the growth rates using Lane and Glennon's estimates, and column (5) has the results from the RHS estimates. Again, the results from the RHS show a relatively flatter profile for these older workers than those of Lane and Glennon. As noted earlier this flatter profile may be the result of using only full-time workers, including the age interaction terms, and including the higher order terms for education and tenure. When a college graduate is compared to a high school graduate, the results show that the college graduate has a much less precipitous decline in his wage. Thus these wage growth estimates are consistent with the expectation that the growth in earnings should be higher for individuals with more education.

The inclusion of the age interaction variables allows for different age earnings growth rates by race and sex. Columns (6) and (7) show the predicted growth in earnings for a female and a black male worker with all of their other characteristics the same as the worker whose earnings are estimated in column (5). The female worker has a higher growth rate in earnings, but the initially estimated wage is much lower. The black male worker has a lower predicted wage and a quicker decline in earnings relative to the white male.

At the bottom of Table 2 is the present value of the growth in earnings assuming an offset method for inflation and overall economic growth. This present value also does not account for life expectancy. Unlike Lane and Glennon, this method gives a present value sum of 20.164 (column 3) for a high school graduate, while theirs gives a present value of 18.857 (column 2). In addition, female college graduates have substantially higher present values than their male counterparts. This is due to higher age 55 growth rates and a much slower predicted decline in the growth rate.

This model has attempted to correct for large predicted declines in earnings of older workers. These large predicted declines may be the result of the exclusion of higher order education and tenure variables, the exclusion of age interaction variables, or the inclusion of older part-time workers. In Table 3, several earnings growth rate projections are included which show how the inclusion of each of these factors affects the predicted growth rate of earnings.

Column 1 shows predicted earnings for the high school educated male in column 5 of Table 2. To determine how the higher order terms affect the predictions, the earnings equation is re-estimated excluding these higher order terms. Notice that the exclusion of these terms results in a steeper decline in predicted earnings with the growth rate becoming negative at age 61 and falling to -2.63 percent by age 75.

Although the exclusion of the higher order terms results in a steeper decline in earnings, the exclusion of the age interaction terms results in a much more precipitous decline in the predicted earnings for this individual. Column (3) shows the estimated wage growth predicted from an earnings

Table 3
Percentage Change in Wage for Different Specifications

Age	RHS SEARN1	NO HIGHER ORDER TERMS	NO INTERACTION TERMS	PART TIME INCLUDED
55	1.47	1.13	3.73	5.43
56	1.27	0.94	3.15	4.82
57	1.13	0.74	2.57	4.21
58	0.99	0.55	1.99	3.62
59	0.85	0.36	1.42	3.05
60	0.70	0.18	0.85	2.48
61	0.55	-0.01	0.28	1.93
62	0.40	-0.20	-0.28	1.39
63	0.25	-0.39	-0.84	0.86
64	0.09	-0.58	-1.40	0.34
65	-0.07	-0.77	-1.95	-0.17
66	-0.24	-0.95	-2.50	-0.68
67	-0.40	-1.14	-3.05	-1.17
68	-0.58	-1.33	-3.59	-1.66
69	-0.75	-1.51	-4.13	-2.15
70	-0.93	-1.70	-4.67	-2.63
71	-1.11	-1.59	-5.21	-3.10
72	-1.29	-2.07	-5.74	-3.57
73	-1.47	-2.26	-6.27	-4.03
74	-1.66	-2.44	-6.80	-4.49
75	-1.84	-2.63	-7.32	-4.95
PRESENT VALUE				
AGE 55	21.991	20.731	21.053	25.261
AGE 60	15.874	15.032	13.737	15.878
AGE 65	10.587	10.144	8.846	9.898

equation which excludes the age interaction terms. The growth rate there declines from 3.73 percent at age 55 to -7.32 percent at age 75.

Column (4) shows the predicted decline in earnings when part-time workers are included in the estimation of earnings. The inclusion of the part-time workers also leads to a steeper decline in predicted earnings. These workers tend to earn a lower wage than full-time workers. As a result, the predicted earnings when part-time workers are included fall from a growth of 5.43 percent at age 55 to a decline of 4.95 percent at age 75.

The inclusion or exclusion of each of these variables has only a small effect on the present value of the wage growth, shown at the bottom of Table 3. However, the present values change as different starting ages are used. For example, the present values at age 60 show marked declines when part-time workers are included (a fall from 25.261 to 15.878). Likewise, if no interaction terms were included, the fall would be from 21.053 to 13.736.

The steepness of the decline is even more prevalent for a present value at age 65. Thus the inclusion of these variables in the model plays an important role in the determination of the present value of future earnings.

Pension Wealth Calculations

Oftentimes pension wealth becomes a major issue in wrongful death cases.[3] Generally, when specific pension plan information is available for the deceased, the predicted earnings growth can be applied to the pension plan specifics and a value of pension wealth can be calculated. For example, if the pension plan is a defined benefit plan based on the highest five years of earnings and years of service, then the predicted earnings can easily be used to estimate the annual pension benefit. In the case of a defined contribution plan, the percentage of the contribution can be applied to each year's earnings to determine the annual contribution. In this case, however, various growth rate assumptions must be made to determine the growth in the value of the pension plan.

The Retirement History Survey does include some information on pension coverage, but these data are rather deficient for calculating a pension. See for example, Quinn, Burkhauser and Myers (1990, p.78), Gohmann (1990, p. s122), and Fields and Mitchell (1985, p.33).[4] As an alternative to using the RHS to calculate pension wealth, data from Kotlikoff and Smith (1983) can be used to determine a worker's pension wealth by industry, given his or her initial wages and wage growth calculated above. Similar methods have been employed by Fields and Mitchell (1984) and Gohmann (1990).

The calculation of pension wealth depends upon the type of plan. For example, the pension wealth for the white male married manufacturing worker whose wage growth is shown in column 4 of Table 2 is calculated. Suppose his initial wage at age 54 was $10 per hour, or $20,080 per year and this worker has 16 years of service. Kotlikoff and Smith (1983) find

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[3] Given that the present value of all future wealth is of interest in wrongful death cases, the present value of pension wealth for a particular retirement age can be calculated instead of pension accrual for each year of work. This present value of pension wealth can be added to the present value of predicted future earnings for each retirement age to determine total wealth, which is the value of interest to the court. The pension accrual values can also be calculated using the growth rate of earnings and the pension plan specifics, but space limitations prevent such a presentation here. Kotlikoff and Wise (1989) describe the calculation of pension accrual for different plans in their book.

[4] A multitude of authors have used the RHS to impute pension wealth based on the respondent's answers to questions about current pension benefits and expected future benefits. See for example Clark and Johnson (1980), Gohmann and Clark (1989), Gustman and Steinmeier (1986). The use of these data, however, is likely to result in a bias in the prediction of pension wealth for wrongful death cases, since people who are currently receiving benefits would be a selected group and expected future benefits as reported in the RHS are not necessarily equal to actual benefits. Given the paucity of pension data, others have opted to use a dummy variable indicating pension coverage. See Gustman and Steinmeier (1984) and Honig and Hanoch (1985).

Table 4
Present Value of Pensions, Earnings, and Wealth

AGE	PERCENT CHANGE IN WAGE	ANNUAL WAGE	PENSION	PRESENT VALUE PENSION	PRESENT VALUE WAGE	PRESENT VALUE WEALTH
54	1.00	$20,080			$20,080	
55	1.47	$20,375			$39,766	
56	1.27	$20,634			$58,688	
57	1.13	$20,867			$76,519	
58	0.99	$21,074	$4,533	$66,148	$92,991	$159,140
59	0.85	$21,253	$4,814	$65,847	$107,911	$173,758
60	0.7	$21,402	$5,093	$65,099	$121,159	$186,258
61	0.55	$21,519	$5,369	$63,916	$132,693	$196,608
62	0.4	$21,605	$5,642	$62,303	$142,536	$204,839
63	0.25	$21,659	$5,909	$60,269	$150,773	$211,042
64	0.09	$21,679	$6,170	$57,826	$157,530	**$215,356**
65	-0.07	$21,664	$6,423	$54,990	$162,964	$217,954
66	-0.24	$21,612	$6,666	$51,779	$167,249	**$219,028**
67	-0.4	$21,525	$6,904	$48,251	$170,562	$218,812
68	-0.58	$21,400	$7,142	$44,462	$173,072	$217,534
69	-0.75	$21,240	$7,381	$40,421	$174,938	$215,359
70	-0.93	$21,042	$7,619	$36,137	$176,296	$212,434
71	-1.11	$20,809	$7,857	$31,618	$177,267	$208,885
72	-1.29	$20,540	$8,095	$26,872	$177,946	$204,818
73	-1.47	$20,238	$8,333	$21,906	$178,413	$200,319
74	-1.66	$19,902	$8,571	$16,729	$178,726	$195,455
75	-1.84	$19,536	$8,809	$11,347	$178,933	$190,281

in their Table 4.5.18 that 43 percent of defined benefit plan participants in the manufacturing industry are in plans using the highest five years of earnings. Assume the worker's plan is based on these five years of highest earnings and service and pays 1.1 percent for each year of service (the average from Kotlikoff and Smith p. 210). A 54 year old worker has a life expectancy of 23 years in 1986 and expected work life of 10 more years (Smith 1986).

Table 4 shows his expected pension and pension wealth assuming an interest rate of 2 percent.[5] Column 4 shows the pension predicted from his wages and years of service, and column 5 shows the present value of his pension assuming he retires at the corresponding age in column 1 and receives the predicted pension for the remainder of his lifetime. Notice his pension wealth is already declining. The present value of earnings in column 6 increases with retirement age, and column 7 has the sum of the present value of earnings and pension wealth. His total wealth, thus, is maximized at age 66 at $219,028. Given his expected work life of 10 more years, his

[5] A real interest rate is used since all values are in real terms.

wealth at age 64 is $215,356. Obviously the values of these wealth variables are dependent upon the interest rate assumptions, years of service, and type of pension plan.

Conclusion

Three problems inherent in Lane and Glennon's model can be corrected by including higher order polynomial terms, age interaction terms, and excluding part-time workers. Given the differences in the predicted growth rates in earnings for blacks and females relative to white males, these results suggest that wage growth estimates must not only take into account age and education interactions but also they must include interactions of age with other variables. Given the large decline in earnings predicted from Lane and Glennon's model for older workers, the use of data which only incorporate full-time workers and the inclusion of the higher order education and tenure variables leads to estimates of growth rates of full-time earnings which better represent the age earnings growth rate as predicted by Murphy and Welsh (1990). Since economists generally assume full-time work and then use probability of work life estimates in the calculation of lost earnings, these full-time wage growth rate estimates will give better estimates of the lost earnings of workers.

The age interaction terms give a much more distinct set of estimates for wage growth rates. When the new Census data become available, estimates of wage growth rates from these data with age interaction terms will be useful for estimating age earnings growth for younger individuals.

These results can also be used to determine pension wealth for various retirement ages and maximum total wealth. Once the type of pension plan and an initial wage rate are established, the annual pension benefit can be calculated by applying the pension plan's rules to the appropriate earnings. Pension wealth calculations are straightforward once interest rate assumptions are made.

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Appendix: Variable Description

AGE -	Age during the year of the survey.
EDUCATION -	Number of years of education.
TENURE -	Number of years the worker has worked at his or her current job.
GOVERNMENT -	A dummy variable equal to 1 if the worker is a government worker.
SELF EMPLOYED -	A dummy variable equal to 1 if the worker is self employed.
RACE -	A dummy variable equal to 1 if the respondent is white.
SEX -	A dummy variable equal to 1 if the respondent is male.
CHILDREN -	Number of children living at home.
SINGLE -	A dummy variable equal to 1 if the respondent is not married.
URBAN1 -	A dummy variable equal to 1 if the respondent lives in an urban area with population greater than 3 million.
URBAN2 -	A dummy variable equal to 1 if the respondent lives in an urban area with population between 1 to 3 million.
URBAN3 -	A dummy variable equal to 1 if the respondent lives in an urban area with population between 0.25 to 1 million.
URBAN4 -	A dummy variable equal to 1 if the respondent lives in an urban area with population less than 0.25 million. The excluded URBAN variable is that the respondent lives in a rural area.

Industry dummy variables[6]:

AGRICULTURE -	Agriculture.
MINING -	Mining.
CONSTRUCTION -	Construction.
MANUFACTURING -	Manufacturing.
TRANSPORTATION -	Transportation, Communications, and Public Utilities.
WHOLESALE -	Wholesale and Retail Trade.
FINANCE -	Finance, Real Estate, and Insurance.
PERSONAL SERVICES	Personal Services, Entertainment and Recreation, Professional and Related Services.

Occupation dummy variables:

PROFESSIONAL -	Professional, Technical, and Kindred.
FARMERS -	Farmers and Managers.
MANUFACTURING -	Managers, Officials, and Proprietors.
CLERICAL -	Clerical and Kindred.
SALES -	Sales.
CRAFTSMEN -	Craftsmen, Foremen.
OPERATIVES -	Operatives and Kindred.
PRIVATE HOUSEHOLD	Private Household.
SERVICES -	Service, Except Private Household.
FARM LABORERS -	Farm Laborers and Foremen.

[6] The classification for occupation and industry changed between 1969 and 1975, thus for consistency, some classifications have been grouped together.