

COMPARISON OF WAGES AND OCCUPATION MIX

A COMPARISON OF WAGES AND OCCUPATION MIX FOR NEW YORK CITY AND ITS COMMUTING REGION

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ABSTRACT In recent years there has been an increase in suburb-to-suburb commuting at the expense of traditional suburb-to-central city commuting. This change reflects the evolution of many U.S. suburbs from bedroom communities toward diversified economic centers. This paper examines the relative economic importance of central business district commuting to the suburban communities of New York City. The earnings of employees who reside and work in the suburbs are compared with the earnings of more traditional suburb-to-central city commuters. Earnings and occupation data have been disaggregated by race and gender to identify possible subgroup trends. In addition, the occupation/industry mix for the different work locations are also compared to determine the extent to which higher status corporate positions are relocating.

This study investigates the economic importance of central city commuting to residents of eight New York suburban counties by examining the wage disparities for different commuting patterns and the availability of employment with strong advancement opportunities. Recent research has focused on the increase in intrasuburban and intersuburban commuting at the expense of traditional suburb-to-central city commuting. This shift reflects the changing structure of the suburbs of most metropolitan centers from the bedroom communities that predominated during much of this century, toward diversified economic centers. Much of the literature has examined this trend in terms of raw commuter numbers and jobs with some discussion of the broad categories into which the new suburban industries fall. However, little is known about the economic significance of suburban employment compared to that of employment in the central city.

The relative economic importance of central business district commuting to the eight suburban communities of New York City was investigated through a comparison of the earnings of employees both residing and working in the suburbs with the earnings of the more traditional commuters, who reside in the suburbs and work in the central city. Also addressed is whether suburban employment is primarily retail and back-office support staff, supplemented by residential construction business, or whether major corporate offices offering high-wage, high-status jobs are locating in the suburbs. It was expected that earnings in almost all sectors would be significantly greater for those workers commuting to Manhattan than for those commuting within their own, or to another, suburban county. The occupation mix, although broadening in this region, was still expected to be primarily support positions and residential construction. Based on the work of McLafferty and Preston (1991) for the service sector, it was also expected that gender and racial groups will differ with respect to their earnings and occupations.

The New York metropolitan area is unique in many respects. It is the largest Standard Consolidated Statistical Area and contains the largest SMSA in the U.S. (Johnston 1982). The combined counties of Nassau and Suffolk were the first in the U.S. to be designated as a separate SMSA without having a traditional central city (Garreau 1991). New York City is also one of only four truly global cities in the U.S., serving the financial and corporate needs of firms involved in international activities (de Souza 1990). New York City is an old city with a well-developed transport system focused on Manhattan, and a strong network of peripheral, as well as city-oriented, highways,

bridges and tunnels. The area has a long history of suburbanization, with a substantial population residing outside the central city, but within commuting distance of the CBD. A more extended look at the commuting patterns of this unique central city will offer a fuller understanding of the extent of decentralization in the region, and also a framework in which to study other global centers.

BACKGROUND

The initial move to the suburbs was a search for better living conditions (Cervero 1989, Stanbeck 1991). Since World War II, commercial and industrial activities have moved to the outskirts of the city to take advantage of greater space, lower costs, and the abundant supply of workers living in the suburbs (Cervero 1989). As the highway system expanded, the suburbs offered a new transportation option to producers moving there: for many industries, trucking provided a lower-cost transportation alternative to rail (Stanbeck 1991). With the growth of industry in the suburbs came the need for firms to service those living and working there. The non-export sector of these suburban economies began to grow with new retail businesses, entertainment providers and social services. Recently, high technology firms and corporate offices have arrived, taking advantage of the skilled members of suburban communities. Today's suburbs are no longer bedroom communities, but are diverse economic systems. The increase in employment opportunities in the suburbs is well-documented. Various studies have shown that most commuters are living and working in the suburbs (Plane 1981; Hanson 1986; Cervero 1986). Other studies document the growth in jobs in the suburbs, but recognize the continuing importance of major central cities. Growth in suburban employment in New York occurred at a time when New York City was also experiencing job growth (Muller 1989). Employment in Chicago declined slightly between 1979 and 1989, with net employment growth in two suburban counties, but the Chicago CBD remained a very large employment center and still dominates the metropolitan area (McDonald and Prather 1994).

There has also been a shift in what is produced in suburban centers and how it is produced. A greater emphasis is now placed on various intermediate services. Also, headquarters locating in the suburbs can offer amenities previously associated with cities, without having to sacrifice proximity to metropolitan areas (Garreau 1991; Stanbeck 1991). Still, many suburban businesses are branches of central city firms handling functions that require greater space and routinized labor, without the need for the direct personal contact available in the city, or are services which can be linked by computer-telecommunications to the marketplace (Stanbeck 1991; England 1993; Netzer 1992). Nonroutine office employment has often remained in the CBD (England 1993). Flexibility in how businesses in the new suburban centers define themselves has also attracted high technology firms (Garreau 1991).

These trends are strongly evident in the New York metropolitan region. Manhattan has also been experiencing the loss of major corporate headquarters, as well as some moderate size firms, to suburban locations. Yet, New York City has still gained because of the high concentration of financial and other specialized businesses here. Sectors of the economy dependent upon the growing global economy, with an increased need for the availability of advanced telecommunications and high-level financial services, still concentrate in a few global cities (Netzer 1992).

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Differences in Suburban vs. Central City Earnings

Despite changes in the economic structure of the suburbs, earnings potential and occupational opportunities remain more extensive in the central city. Incomes in the central city must be higher than in the suburbs to compensate commuters for the extra monetary and time costs of the longer commute into the city or for the higher cost of living in and near the city (Stanbeck 1991; Ihlanfeldt 1992). Stanbeck (1991) looked at wages in the suburbs of 14 metropolitan areas and compared them to wage levels in the central city. In all industries combined average earnings were indeed higher for workers employed in central cities than in their suburbs. Average earnings in manufacturing for six of the metropolitan areas were higher in the suburbs than those in the central cities, but in the other industry categories most of the suburbs had lower earnings levels. Moreover, for New York City, the average city earnings as a ratio of average suburban earnings in the area of finance, insurance and real estate was 2.37 (Stanbeck 1991). This could hardly be attributed exclusively to compensation for the additional costs of commuting. Perceived disamenities also play a role in wage differentials. If the perception of the wage earner is that New York City (or any central city) has a higher level of disamenities than other potential employment centers, a much higher compensation will be necessary to entice the worker to overcome these differences in urban amenities (Netzer 1992). Despite this evidence, we do not know whether wage differences are due to differences in occupational mix, skill and education levels of workers employed in central cities and suburbs, or they represent added compensation for those who commute to the CBD. This study addresses those issues for the New York region.

DATA AND METHODS

The counties used in this study are those comprising the New York PMSA (less Putnam County) and the Nassau-Suffolk PMSA. These counties were chosen based on their proximity to the New York City central business district (CBD) and their strong transportation links with that CBD. The counties of New Jersey were excluded because of their ties to several CBDs in New Jersey, as well as New York. For purposes of this study the central city will be considered to be the County of New York (Manhattan). The choice of Manhattan as the central city makes sense for a variety of reasons. Foremost is the comparative ratio of the number of persons employed in the county to the number of working persons residing in the county. For New York County this ratio was 2.897 in 1980; for all other counties in the study area this ratio was less than one.

The resident counties were divided into two groups. Manhattan is used solely as a place of employment, not as a resident county. The Borough Group consists of three of the five boroughs of New York City (each a separate county), which are connected to the Manhattan CBD by a public subway system. These are long-established areas with a strong commercial base of their own. The counties included in this group are Kings, the Bronx and Queens. The Suburb Group consists of five suburban counties, which also have strong transportation ties to the CBD, but of an extended commuter nature. The counties included in this group are Westchester, Rockland, Nassau, Suffolk and Richmond counties. In the past, the resident counties in the Suburb Group contained a large number of bedroom communities with only small local economies. Despite economic growth within these communities over the last few decades, links with the central city remain strong. Richmond (the fifth borough of New York City) has been included in this group because of its lack of a true commercial center and its strong residential nature. In terms of its commutation pattern, however, it is similar to

the other boroughs, all of which contribute a large percentage of their resident commuters to the central city job pool.

The data on earnings and commuting patterns are primarily drawn from the journey to work subsample of the *Census of Population and Housing, 1980: Public Use Microdata Samples Technical Documentation* (PUMS) (U.S. Bureau of Census), which is a 1% sample containing detailed individual- and household-level data. One difficulty encountered was that the data are only available at the county level for New York. Much detailed geographic information on the newer suburban employment centers is lost when looking at the county as a whole. Another problem was that the PUMS data do not allow for quantification of incomes over \$75,000. By 1980, a large number of commuters earned incomes in excess of \$75,000. Thus, data for higher level positions cannot fully differentiate between managerial positions outside the CBD and those in Manhattan. Observations used in this study are for individuals. Only those individuals who lived outside of the CBD, but within one of the counties in the study area, were included in the data set for this paper. Further, only individuals who were employed and whose employment was in the study area were included.

Variables considered in the study are wage, occupation, gender, race, age and education. The SAS statistical package was used to compare the differences in total numbers, income flows and occupation types of the central city commuters vs. the suburban commuters. Regression models were run to analyze the impact on wages of gender, race, age, education and place of work, with Manhattan as the base. Age was treated in strict numeric fashion without differentiating those exceeding an age at which a person might be retired and working in a second job, or at which a person changing jobs might not be able to compete with younger workers for top wages in their fields, despite education and experience.

Commuters were broken down by occupation group to determine whether different opportunities for employment were available in the central city, the Borough Group and the Suburb Group. Total numbers of jobs in each occupation were compared with totals for each group in the study area to determine whether occupational opportunities in specific groups differed substantially from the trends for the general region. Occupations were grouped and classified as blue collar, pink collar (less support), support, white collar and managerial. Pink collar jobs include non-professional, non-managerial occupations, which offer limited opportunity for advancement. Support includes general office positions, such as secretarial, clerical, computer and communications operators. Blue collar jobs include manual workers, craftspersons, operators and laborers. White collar jobs are skilled positions in the health services and education, and other occupations requiring education or training beyond high school. The managerial group includes professionals in various fields, including law, the sciences, health, administration (both public and private) and self-employed managers and proprietors. This classification system accounts for 99.9% of the occupations of workers included in the subsample.

Race is only differentiated between white and non-white. As with all studies based on the 1980 Census, this classification is self-interpreted and reflects only the group that an individual identifies with. If an individual entered a nationality rather than a racial group, they were classified by the predominant race of that country. In analyzing differences in wages among gender and race groups, it became apparent that the number of hours worked per week should be examined to ascertain whether length of work week might be a factor in the disparity in weekly average earnings among these groups. If usual hours worked is less than full time, a reduction in wages may be experienced based on part time status. Average weekly wages were calculated by residence group, race and gender.

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RESULTS

The majority of workers in the study area were found to commute within their own counties or other suburban counties rather than into the central city for work. In the Borough Group, almost half commute within their group (48.3%). Slightly less than this amount (45.1%) commute into Manhattan. In the Suburb Group, 70.3% commute within their group, with only 16% commuting into Manhattan. However, 40% of Richmond residents remain on Staten Island for work, with almost an equal amount (37.5%) commuting to Manhattan. The commuter flow patterns indicate that employment opportunities are available at high levels throughout the peripheral counties. The three boroughs most tightly linked by inexpensive transportation to the CBD, however, have a high percentage of their workers commuting into the CBD, as does Richmond County in the Suburb Group. Rather than leading to a definitive conclusion that employment in the region is fully decentralized at all levels, the data on commuter flows indicates a need for a closer examination of these patterns in terms other than simple raw commuter flows. The subsequent sections look more closely at these patterns in terms of occupations by class and earnings, the level of fiscal dependency inferred by variations in wage rates, and whether the same opportunities are available to all race and gender groups.

Occupational Choice and Earnings Potential

With decentralization in the region established, the question remains as to whether a true decentralization at all occupational levels has occurred or has the growth in employment in the suburbs been in support-type, secondary occupations. Table 1 breaks down employment in the study area by occupation and by group:

TABLE 1. Percent of Jobs in Each Occupation

	<u>Blue Collar</u>	<u>Pink Collar*</u>	<u>Support</u>	<u>White Collar</u>	<u>Managerial</u>	<u>Total</u>
Borough Group	37.0	29.1	18.7	29.4	17.7	26.7
Suburb Group	34.9	34.6	28.5	34.2	26.4	31.9
Manhattan	28.1	36.2	52.7	36.4	55.9	41.3

* Less support.

For the study area as a whole, the largest percent of jobs (41.3%) fall in the pink collar category, when support is included. This reflects the strong predominance of the tertiary sector in the New York region. Almost half of the pink collar jobs were in support positions. The remaining jobs were almost evenly split among blue collar (21.4%), managerial (20.7%) and white collar positions (16.5%). When these jobs are broken down by place of work group, Manhattan clearly dominates in all occupational categories except blue collar. In managerial jobs, Manhattan holds 55.9% of the jobs in the study area. This indicates that higher status occupations have not decentralized at the same rates as blue collar and some other occupations.

These figures, however, do not consider occupational mix for the residents of the suburban counties which are the subject of this study. In both the suburbs and the boroughs, for those residents who commute within their group, jobs are, again, predominantly pink collar, with the next highest percent in blue collar jobs (Table 2). Pink collar jobs continue to dominate employment patterns for Borough Group residents commuting to Manhattan, but the highest percent of Suburb Group residents commuting to Manhattan are doing so for managerial positions. As these are the highest paying positions, this pattern argues for a continuing fiscal dependence on the central city. However, since

most suburban residents do not commute into Manhattan for work, a large degree of decentralization at even this level has occurred.

Income and Wage Differences

How do wages and incomes differ for the main commuter flows? The lowest average incomes were earned by those both living and working in the boroughs (Table 3). The commute to Manhattan or to the suburbs did not substantially improve their wage earning capacity. The next lowest wages were for those living and working in the suburbs. Here, however, commuting either to a borough or to Manhattan significantly improved the wage earning capacity of suburban residents. Of those commuters living in the Borough Group, the highest incomes are for those commuting to the suburbs. This group, however, comprises only 4.7% of the commuters. Those remaining within the boroughs earned substantially less on average than either of the other two groups of commuters. For those living in the Suburb Group, the greatest income was earned by those commuting to the CBD, with the borough commute yielding close to \$2000 per year less in income. The suburb-to-suburb commute, which includes 70.3% of all commuters, yielded substantially less income than did the suburb-to-CBD commute.

TABLE 2. Commuter Flows Between Groups by Occupation

	<u>To Borough</u>		<u>To Suburb</u>		<u>To Manhattan</u>	
	<u>% of total</u>	<u>avg. wage</u>	<u>% of total</u>	<u>avg. wage</u>	<u>% of total</u>	<u>avg. wage</u>
From Boroughs						
All jobs	48		5		45	
Blue Collar	30	255.97	29	273.10	18	288.76
Pink Collar	30	199.80	22	201.39	26	240.81
Support	13	199.29	12	203.41	28	222.27
White Collar	16	312.78	17	359.53	11	333.92
Managerial	11	340.13	20	392.70	18	371.97
From Suburbs						
All jobs	11		70		16	
Blue Collar	29	398.49	23	267.69	14	442.96
Pink Collar	17	334.03	26	181.01	13	358.58
Support	7	256.71	16	178.71	16	248.60
White Collar	26	421.38	17	355.07	19	471.94
Managerial	21	518.99	16	430.45	37	547.17

TABLE 3. Per Capita Income and Wage

Commuter Flow	Income	Wage
From Borough to Borough	11,631.38	250.11
From Borough to Suburb	13,582.66	286.94
From Borough to CBD	13,054.85	277.36
From Suburb to Borough	20,002.01	408.81
From Suburb to Suburb	12,685.72	271.48
From Suburb to CBD	21,991.81	443.21

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When income was divided by weeks worked (wage), the pattern remained the same. Those living and working in the boroughs received the lowest wage of any commute. Those living and commuting within the suburbs earned the next lowest wage. Commuters from the boroughs to the suburbs or to Manhattan also had low wages on average. The highest wages were for suburban residents either commuting into the boroughs or into Manhattan. This demonstrates that there is a continuing disparity in earnings based on place of work. Other influences must also be examined and controlled for before a definitive conclusion can be made.

Wage Regressions

To control for other social and human capital factors affecting wages, the following multiple regression model was estimated for suburban and borough residents:

$$\text{Wage} = \text{CBD} + b_1\text{POW} + b_2\text{GENDER} + b_3\text{RACE} + b_4\text{AGE} + b_5\text{EDUCATION} + e$$

If people who work in the CBD continue to earn more, the place of work variable should show a significant positive effect on wages for CBD employment after controlling for the other independent variables. All things being equal, a woman who works in the central city makes \$122.90 less than her male counterpart. If she works in the suburbs her income, compared to that of a male worker, is further reduced by \$29.74. Gender was not significant in the boroughs. The disparity between women's and men's wages can be partially explained by the number of hours worked. Workers in all gender and race groups who commuted into the central city averaged more than 35 hours of work per week, which in Manhattan is considered full-time for many occupations. This held for non-white women for all commutes, but did not hold for white women working in the boroughs or suburbs. White women who did not work in Manhattan averaged less than 35 hours per work week, which would strongly influence their potential wages. Non-white women averaged more than 35 hours of work per week, but, the shortest work weeks were found among women remaining within their residential group for work. More research is needed to determine whether the shorter work week of some women in the sample was due to domestic responsibilities, workplace factors or personal choice.

Weekly earnings differ significantly by race. White workers who work in Manhattan have weekly earnings \$36.67 higher than those of comparable non-white workers. In the Borough Group, white workers earn \$24.92 over that of a non-white worker per week. White workers in the suburbs, however, did not show an advantage over their minority counterparts, with wages approximately equal for comparable white and minority workers. This agrees with McMillen's finding that blacks in suburban jobs earn more than their central-city counterparts because the majority of blacks do not live in the suburbs and, therefore, require an earnings premium to work in the suburbs. Whites will accept a reduction in wages to work closer to their residences.

Age had the greatest effect on wage in the suburbs, a factor of 4.228, compared to 3.612 and 3.215 for the city and boroughs, respectively. This is interesting, given that the image of the suburbs is that of young professionals with small children. When tested, however, there was no significant difference in average age by place of work.

The effect of education was also greatest in the suburbs, a factor of 22.994, with each year of education adding \$19.83 to a city workers wage and \$16.52 to a worker in the boroughs. Three of the suburban counties had over 20% of their workforce population with 16 years or more of schooling. The highest percentage for any borough county was Queens, with 15.5%.

Although base wages in the suburbs are lower than in the boroughs or the central city, the rewards for age and education are high. The percent increase in salary with the increase in age and education, however, is smaller for males, both white and non-white, than for females. For women, especially those working in the suburbs, the increase with age and education is dramatic. These increases mean that the gaps between different wage rates for different gender and race groups diminishes substantially with age and higher levels of education, but does not disappear. In the light of decentralization of employment and fiscal dependency on the central city, it would appear from these findings that even where occupations have decentralized, not all groups are able to participate at the same levels. The profile of a worker able to take advantage of the decentralization of employment to the suburbs is that of a white, older male with a high degree of education.

CONCLUSIONS

Suburbs are no longer only places to return to after a day of work in the city. They have become diverse, economic centers in their own right. This is true for New York City's suburbs as well. Although a large percent of workers in the boroughs that make up the City of New York continue to commute into Manhattan for employment, only a small percent of the workers residing in the suburban counties commute into Manhattan. Occupational opportunities in the higher level managerial positions, however, continue to be concentrated in Manhattan. Manhattan dominates in the other occupational categories, as well, except for blue collar employment. Further, wages for all occupational categories are substantially higher in Manhattan than in the boroughs or suburbs. This is especially true for the managerial positions, where the higher rate cannot be wholly attributed to compensation for extra commuting costs.

Wages were positively affected by increases in age and education. These changes had the greatest effect on suburban workers and the least effect on borough workers. Wages were substantially lower for women in all places of work. Figures for white women in the suburbs, however, are affected by their shorter work weeks. Race also impacted negatively on wages in the central city and the boroughs. Although this did not hold for the suburbs, the increase in wages for non-whites is misleading. The majority of residents in the suburbs are overwhelmingly white and the increase is not sufficient to compensate non-white workers for the increased time and monetary costs of the extended commute.

It is clear that decentralization of employment is occurring in the New York commuting region. The extent, however, is not as great as would be expected from previous literature on the subject. Much of the decentralization has been of blue collar and pink collar jobs, and the majority of higher level managerial positions remain in the central city. Suburbs still have a strong fiscal dependency on the central city.

REFERENCES

Cervero, R. 1986. **Suburban Gridlock**. New Brunswick, NJ: Rutgers University, Center for Urban Policy Research.

_____, 1989. **America's Suburban Gridlock: The Land Use-Transportation Link**. Boston: Unwin Hyman.

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- de Souza, A.R. 1990. **A Geography of World Economy**. Columbus, OH: Merrill Publ. Co.
- England, K.V.L. 1993. *Suburban Pink Collar Ghettos: The Spatial Entrapment of Women?* **Annals of the Association of American Geographers**, 83(2):225-242.
- Garreau, J. 1991. **Edge Cities: Life on the New Frontier**. New York, NY: Doubleday.
- Hanson, S. 1986. *Dimensions of the Urban Transportation Problem* (Ch. 1) in **The Geography of Urban Transportation**. New York: Guildford Press.
- Ihlanfeldt, K.R. 1992. *Intraurban Wage Gradients: Evidence by Race, Gender, Occupational Class, and Sector*. **Journal of Urban Economics**, 32, 70-91.
- Johnston, R.J. 1982. **The American Urban System**, New York:St. Martin's Press.
- McDonald, J.F. and P.J. Prather. 1994. *Suburban Employment Centres: The Case of Chicago*. **Urban Studies**, 31:201-218.
- McLafferty, S. and V. Preston. 1991. *Gender, Race and Commuting Among Service Sector Workers*. **Professional Geographer**, 1:1-15.
- McMillen, D.P. 1993. *Can Blacks Earn More in the Suburbs? Racial Differences in Intra-metropolitan Earnings Variation*. **Journal of Urban Economics**, 33:135-150.
- Moriarty, B.M. 1993. *Wage Rates, Occupation Staffing Patterns, and the Location of the Computer and Semiconductor Industries: Some Tests of a City-Size, Industrial Location Sorting Model*. **Urban Geography**, 14:348-374.
- Muller, P.O. 1989. *The Transformation of Bedroom Suburbia into the Outer City: An Overview of Metropolitan Structural Change Since 1947* in **Suburbia Re-examined**, ed. by Barbara M. Kelly. Westport, Conn.: Greenwood Press.
- Muller, P.O. 1976. **The Outer City: Geographical Consequences of the Urbanization of the Suburbs**. Resource Paper No. 75-2, Assoc. of American Geographers: Wash., D.C.
- Netzer, D. 1992. *The Economy of the New York Metropolitan Region, Then and Now*. **Urban Studies**, 2:251-258.
- Plane, D.A. 1981. *The Geography of Urban Commuting Fields: Some Empirical Evidence from New England*. **Professional Geographer**, 33(2), 182-188.

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Stanbeck, T.M. 1991. **The New Suburbanization: Challenge to the Central City.** Boulder, Colorado: Westview Press.

Thurston, L. and M.J. Yezer. 1994. *Causality in the Suburbanization of Population and Employment.* **Journal of Urban Economics**, 35, 105-118.

Voith, R. 1993. *Changing Capitalization of CBD-Oriented Transportation Systems: Evidence from Philadelphia, 1970-1988.* **Journal of Urban Economics**, 33:361-376.