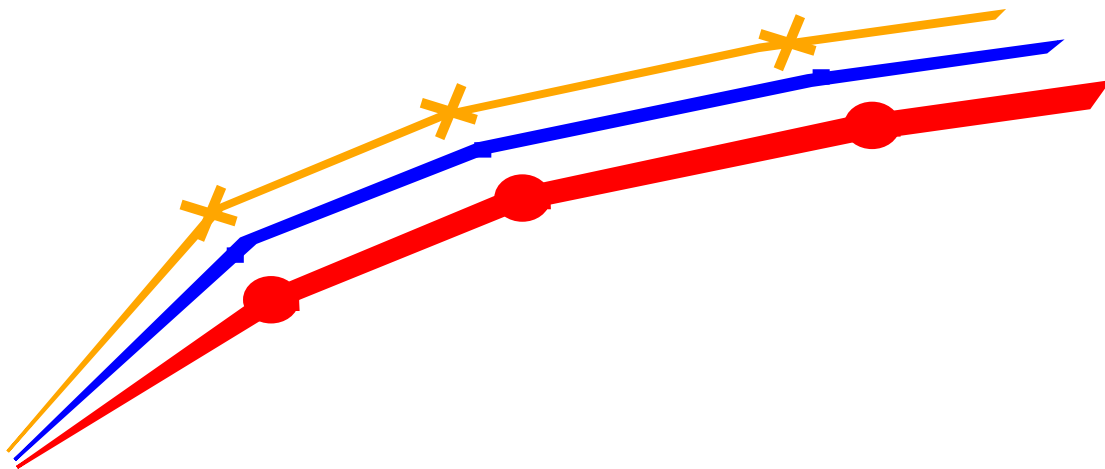# HIGH END DEPARTMENT STORES, THEIR ACCESS TO AND USE OF DIVERSE LABOR MARKETS: TECHNICAL REPORT

U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION

2004

EXECUTIVE SUMMARY

Our nation's retailers fulfill an important role in our economy and according to the Commission's EEO-1 reports, employ nearly 15 percent of all private sector employees. This report is one in a series that examines the retail industry. The focus here is on retail department stores, the largest employer of all retail subsectors except for food and beverage stores. It is also a major employer of women who make up a large portion (75 percent) of the retail salespersons in these stores. There is a wide range of stores within the broad category of department stores. The most exclusive high end department stores are considered as offering superior employment situations in terms of environment, compensation and benefits. This study seeks to determine how people of color fare in these stores. Two key questions surround these stores. Do high end department stores focus so much on locations in affluent neighborhoods that they limit access that nonwhite workers might have to employment there? Second, regardless of accessibility to diverse work forces, do high end department stores maintain a diverse work force? Department stores in the ten largest metropolitan areas are examined: New York, Los Angeles, Chicago, Philadelphia, Dallas, Miami, Washington, Houston, Detroit and Boston. Major findings include:

- The labor market for African American and Hispanic sales workers relevant to high end department stores is not significantly different than the labor markets for other types of department stores.

- The labor market for Asians sales workers is somewhat better for high end department stores than for other types of department stores.

- On average, high end department stores are more likely to have significant shortfalls in the employment of African Americans, Hispanics and Asians as sales workers.

- Chain ownership has a significant effect on diversity of employment.

- There appears to be some evidence that exclusive department stores have substantially more disparities with Hispanic sales workers than other kinds of race/ethnic groups.

U.S. Equal Employment Opportunity Commission
HIGH END DEPARTMENT STORES

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INTRODUCTION

Retail department stores represent a significant portion of employment in the retail industry. General merchandise stores, comprised largely of department stores, account for 14 percent of all retail employment. It is the largest employer of all retail subsectors except for food and beverage stores (18.8 percent). It is also a major employer of women who make up a large portion (75 percent) of the retail salespersons in general merchandise stores.[1]

A question regarding equal employment opportunity among different department stores is, how does the quality of work life vary by type of store and location? That is, one might anticipate that higher-end department stores are more likely to offer commissions, higher wages, greater benefits, greater flexibility in work hours and more valuable employee discounts. Bernhardt (2000) is more specific about the advantages of working at high end department stores.

> Bloomingdale's and Stern's department stores, both owned by Federated holding company, illustrate this split. Bloomingdale's serves high-income customers. Only 20 percent of its workers are part-time, turnover is low, wages are above average for Federated stores, and a significant amount of money is spent on recruiting polished workers with good "people skills" – mostly young white women attending college. By contrast Stern's is a mass-market operation. It focuses not on service but rather on centralizing and streamlining operations with new technology and fewer people. Wages are significantly lower, about 60 percent of the jobs are part-time, and turnover is high. Employees tend to come from working-class backgrounds (p. 23).

Further, one might expect higher-end department stores to be located in the more affluent suburban areas. Thus, if nonwhites are isolated from these areas due to residential choice patterns and/or housing discrimination, their opportunities for employment here will be reduced. A similar concern regarding the limitation of employment opportunities due to residential characteristics, the "spatial mismatch hypothesis" has been studied since the 1960's (Kain, 1968). It had renewed interest in the 1990's especially in the context of the Department of Housing and Urban Development's (HUD) "Moving to Opportunity Program" (Stoll 1999) and welfare reform (Ihlanfeldt and Sjoquist 1998). This "spatial mismatch hypothesis" is based on "the idea that suburbanization of jobs and serious

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[1] Census 2000 EEO Data Tool www.census.gov/cgi-bin/broker downloaded June 25, 2004.

limitations on Black [and other nonwhite] residential choice have acted together to create a surplus of workers relative to the number of available jobs in inner-city neighborhoods where Blacks [and other nonwhites] are located" (Ihlanfeldt and Sjoquist, p. 849).

Ihlanfeldt and Sjoquist conduct an extensive review of the spatial mismatch hypothesis research literature. They conclude that "the lack of geographic access to employment is an important factor in explaining labor market outcomes . . . (p. 881)." This occurs not necessarily because the commute is longer with respect to time and distance (Khattak et al. 2000). But because of a number of factors regarding access to employment opportunities, ". . . social distance, i.e., networks seems to matter more than spatial distance" (Pastor, 1996, p. 138). (Also see Holtzer, Quigley and Raphael, 2003, pp. 416-417.) In addition to documenting the existence of a spatial mismatch for nonwhites, Thompson (1997) focuses on the problem for women of color. "The results also suggest that the relatively poorer job access of Black and Hispanic women provides a partial explanation for their lower levels of labor force participation in comparison with that of White women, more so for Black women" (p. 144).

However, Arnott (1998) warns that if applying the spatial mismatch hypothesis to today's society, one must recognize significant changes.

> . . . the spatial mismatch hypothesis seems to be predicated on the notion of a downtown where the majority of Blacks live, surrounded by a homogeneous, white suburban fringe. But the pattern of residential location by income and race has become more complex in the years since the spatial mismatch hypothesis was originally formulated and is becoming increasingly complex. (p. 1173).

Fastenfest et al. (2004) document a number of changes in residential neighborhoods between 1990 and 2000. For example, the number of predominately White neighborhoods fell by 30 percent over the decade (p. 6). "Over the decade, Whites and Blacks became less likely, and Hispanics and Asians became more likely, to live in neighborhoods in which their group predominated" (p.8).

Further, Cooke (1996) points out that a suburban residence for African Americans does not always have positive benefits. He examines probability of employment, accounting for whether or not an individual lives in the suburbs. For Washington and New York suburbs he finds that living in the suburbs has a negative influence on the probability of employment for African Americans. Pastor and Adams (1996) also point out the disadvantage of using the simple urban/suburban dichotomy.

Additionally, recent spatial mismatch research has been limited to examining larger geographic areas using Public Use Microdata Sample (PUMS) and older Census data from 1990 (Stoll, 1999; Thompson, 1997; Cooke, 1996; and Pastor and Adams, 1996). These studies often only examine one dimension of the labor market by examining the characteristics of employees and ignore employer characteristics. Holzer, Lane and Vilhuber (2003) point out the value of looking at both the supply and demand side of labor markets.

Finally, a number of these studies are geared toward three policy alternatives (1) community development, (2) "personal mobility programs" or transportation-oriented, and (3) "residential mobility strategies" (Cooke, 1996). However, in completing their research other scholars recognize the role that employment discrimination may play (Stoll, 1999, Cooke, 1996). One of these studies Stoll (1999) focuses on Washington DC, particularly the suburbs and youth employment. He finds that employment opportunities are greater in the suburbs, but even if African Americans "overcome the problem of place," they still confront the problem of race (p. 94). For example, in examining the suburb of Montgomery County, Maryland, he estimates that if young African American men lived in the same areas as young White men, their employment rate would increase by nine percentage points, but if they were treated the same as young White males in that labor market, their employment would rise by eight percentage points. He concludes that, nonwhite "residents will not realize the full potential of employment benefits that a suburban residential location can provide unless antidiscrimination enforcement measures in suburban labor markets are included . . . " (p. 95).

RESEARCH QUESTIONS

The purpose of this research is to determine if high end department stores vary from that of other department stores with respect to the pool of available nonwhite sales workers and actual employment results. Given the dominance of women as retail salespersons in general merchandise stores, as reported on the Census, this research question is particularly important for women of color. Two research hypotheses flow from this question,

Hypothesis 1: Access to nonwhite workers will vary by type of department store.

Hypothesis 2: Employment of nonwhite sales workers will vary by type of department store.

In examining these questions, this study will attempt to provide certain advantages over prior research. The geographic unit of analysis will be the zip code which appears to be a precise unit available for race/ethnic data. Recent data from the Census and the 2002 EEO-1 report will be utilized. The analyses will account for both employer location and work force resident data so there is no need to rely on assumptions about "job rich suburbs." The data regarding employer location will not only be firm specific but establishment specific as well. The research will recognize the role that employment discrimination can play by basing analyses on statistics comparing nonwhite labor pools to nonwhite employment. The analyses will examine nonwhite groups separately (African Americans, Hispanics and Asians) to account for variation in residential patterns and employment. For example, ". . . for Asians the most common neighborhood type is a mixed white-and-other neighborhood. This suggests a higher level of integration among Asians and whites than among Hispanics and whites at the neighborhood level" (Fastenfest et al, 2004, p. 10).

METHODOLOGY

A number of methodological hurdles were encountered in conducting the research. These included classification of department stores, sample selection, development of employment data relevant to both the general labor market as well as the employer, and determining each store's access to nonwhite, African American, Hispanic and Asian workers. We also had to apply a technique for adjusting labor market employment data to account for commuting practices.

STORE CLASSIFICATION

To test the notion that higher end department stores have different labor market access and employment patterns, we classified stores on the basis of relative price points. Appendix 1 details the process used to develop the classifications and lists the classifications by chain and parent. As a result, of these analyses, each department store was assigned to one of four price point categories.

- Designer/Bridge (the most exclusive or high end stores)
- Better/Moderate
- Moderate/Popular
- Off-Price, Discount (the least exclusive stores)

An example of a Designer/Bridge or high end department store would be Saks Fifth Avenue. A Better/Moderate department store would be Macy's. Sears Roebuck is an example of a Moderate/Popular department store. A chain in the Off-Price, Discount category is K-Mart.

SAMPLE SELECTION

Two factors suggested that it would be useful to focus the analysis on selected areas rather than the entire nation. First, the amount of data required to construct small labor market areas is voluminous. Second, in order to draw useful comparisons it was necessary to have an adequate number of high end department stores. These types of stores are not as widely distributed throughout the country as other department stores. Therefore, the research focuses on the ten metropolitan areas with the largest population in the 2000 Census. These

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metropolitan areas are based on the 2003 definitions.[2] They are in order of population, New York, Los Angeles, Chicago, Philadelphia, Dallas, Miami, Washington, Houston, Detroit and Boston. Table A2 of Appendix 1 provides the detailed metropolitan area name and population figures.

WORK FORCE ESTIMATES

Once these broad market markets were selected, it was necessary to develop estimates of nonwhite employment that would allow the construction of small labor market areas within these larger metropolitan areas. Zip code or more precisely ZIP Code Tabulation Area (ZCTA)[3] was identified as the smallest geographic area that would allow aggregation to formulate appropriate labor market areas. These areas appear to be smaller and presumably more precise than the Public Use Microsample Data (PUMS) often used by scholars.[4]

> In the case of individual-level data, neighborhood descriptors are generally not available in most data sets because the individual's neighborhood or census tract is not identified for reasons of confidentiality. For example, many of the recent studies employ data from the Public Use Microsample Data (PUMS) that do not identify intrametropolitan residential areas smaller than 100,000 people. (Ihlanfeldt and Sjoquist p.857).

To identify a labor market for potential sales workers, the present study utilizes ZCTA Census data on wage earners. Census Table PCT73(A-I), "Sex by Work Experience in 1999 by Earnings in 1999 for the Population 16 Years and Over" from Summary File 3 was used to obtain number of individuals in the workforce by nine race/ethnic groups. For each race/ethnic and gender group the total number of individual reporting earnings (whether they worked full time or not) was computed. These data files were enhanced by assigning a county code to each zip code which in turn allowed the assignment of a metropolitan area

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[2] OMB Bulletin No. 03-04 2003. "Metropolitan Statistical Areas, Micropolitan Statistical Areas, Combined Statistical Areas, New England City and Town Areas, Combined New England City and Town Areas" Statistical and Science Policy Branch, Office of Information and Regulatory Affairs, Office of Management and Budget.

[3] ZCTA's are statistical areas developed by the Census Bureau for tabulating data from the 2000 Census. They represent U.S. Postal Service ZIP Code areas. See http://www.census.gov /geo/ZCTA/zcta.html for a technical discussion of these areas.

[4] Robert D. Clair, U.S. Bureau of the Census.

code. The 2003 definitions were used. (Appendix 2 provides more details regarding the process for developing the work force estimates.)

Firm specific employment information is also necessary. This information came from EEO-1 reports. These annual reports indicate the composition of employers' workforces by gender and by race/ethnic category.[5] The EEO-1 collects data on nine major job categories that includes sales workers.[6] The present study focuses exclusively on the EEO-1 sales worker data. In addition to the work force data provided by the employer, information about each establishment is added to the database. This additional information includes the establishment's North American Industrial Classification System code, the establishment's zip code and its metropolitan area code. Firm level EEO-1 data are confidential.[7]

ACCESSIBILITY

To analyze employment access for nonwhites, we utilized the proximity to job location model developed by Gastwirth and Haber (1996:Formula 1). The Gastwirth-Haber model has two components: a measure of employment probability that varies by residential area, and Census data on the residential workforces. These components are combined to produce

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[5] Private employers required to file are those with: (a) 100 or more employees, or (b) 50 or more employees and: (1) have a federal contract or first-tier subcontract worth $50,000 or more, or (2) act as depositories of federal funds in any amount, or (3) act as issuing and paying agents for U.S. Savings Bonds and Notes. Single-establishment employers submit only one EEO-1 report, while those employers whose business was conducted at more than one location submit a company-wide consolidated report, a headquarters report, and individual reports for each establishment with 50 or more employees. Employment figures could be reported for any pay period in the third quarter (July through September). In 2002, more than 39,000 employers submitted, as appropriate, individual establishment and headquarters reports for more than 225,000 reporting establishments with about 52 million employees.

[6] See "Section 5, Description of Job Categories" in the EEO-1 instruction booklet at *http://www.eeoc.gov/stats/jobpat/e1instruct.html*

[7] EEOC obtains and maintains EEO-1 reports pursuant to its authority under Section 709 of the Civil Rights Act of 1964, as amended, 42 U.S.C. 2000e-8. Paragraph (e) of that Section prohibits the EEOC and its employees from disclosing EEO-1 reports to the public. Violation of that section is punishable by fine and imprisonment. Aggregated data are available to the public.

an estimated access probability that describes the likelihood of employing a nonwhite employee at each job location. This estimated access probability can also be interpreted as the expected proportion of nonwhites available for employment at each job location. We will primarily use the proportion formulation in our analysis of the research hypotheses.

Table 1 illustrates these calculations for a single department store surrounded by five residential neighborhoods. The neighborhoods are designated by zip code (Census ZCTA as discussed above). We assume that the probability of employment at this store is inversely related to distance: the greater the distance between the department store and the residential area, the smaller the likelihood of employment. The columns on the left show the distances in miles and the estimated employment probabilities. The employment probabilities follow what is known as a Gaussian distribution that decreases slowly at closer distances and decreases rapidly at further distances.[8] For example, the zip code area zero miles from the store has a relatively high employment probability (0.394), and the zip code area six miles from the store has a relatively low employment probability (0.101). The middle columns show two workforce characteristics for each residential area: the total number of workers and the proportion of nonwhite workers. We first adjust the total number of workers to estimate "fraction of a firm's labor pool residing" in a particular area (Gastwirth and Haber, 1996:33). For example, the zip code area "xxx10" has 23,024 total workers. Multiplying 23,024 by the probability of employment (0.2980) yields a new adjusted figure of 6,861 workers. Dividing 6,861 by the total number of adjusted workers for the five residential areas (13,976) indicates that about one-half (0.4909) of the workers are likely to reside in the zip code area "xxx10." We then multiply the adjusted fraction of workers (0.4909) by

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[8] Sung (1996) evaluates nine alternative measures of accessibility which he defines as "the ease with which economic activities can be reached from a location" (p. 474). Our study uses Sung's Gaussian formulation with accessibility values ranging from 1.0 to 0.0. We defined accessibility values of 1.0 at zero miles, accessibility values of 0.05 at ten miles and accessibility values less than 0.05 at distances beyond ten miles. Probabilities were constructed by dividing the Gaussian accessibility values for each zip code by the sum of Gaussian distance values for all zip codes in a given metropolitan area. To simplify the exposition, we do not include the intermediate accessibility values in Table 1. We set the 0.05 accessibility value at ten miles because it was the median commuting distance in all but two of the ten largest metropolitan areas. Those two, Detroit (12 miles) and Miami (9 miles) were very close to that figure. Commuting distance by metropolitan area was extracted from the American Housing Survey 2001 using Federated Electronic Research, Review, Extract, and Tabulation Tool (FERRETT) from the Department of Census.

TABLE 1: GASTWIRTH-HABER PROXIMITY TO JOB LOCATION MODEL, HYPOTHETICAL DATA

| ZIP | PROBABILITY OF EMPLOYMENT | | TOTAL NUMBER WORKERS | RESIDENTIAL WAGE EARNING WORKFORCE | | PROPORTION NONWHITE | EMPLOY-MENT ACCESS NONWHITE |
| | DISTANCE IN MILES | EMPLOY PROB | | TOTAL WORKERS ADJUSTED FOR EMPLOYMENT PROBABILITY | | | |
				ADJUSTED NUMBER WORKERS	ADJUSTED WORKER FRACTION		
xxx15	0.000	0.3939	8,679	3,418.68	0.2446	0.2224	0.0544
xxx10	2.003	0.2980	23,024	6,861.59	0.4909	0.5422	0.2662
xxx05	4.620	0.2026	7,388	1,497.13	0.1071	0.5776	0.0619
xxx52	6.610	0.1010	20,756	2,096.45	0.1500	0.3122	0.0468
xxx48	12.004	0.0044	23,215	102.86	0.0074	0.9169	0.0067
TOTAL		1	83,062	13,976.70	1		0.4360

the proportion of nonwhite workers (0.5422). Summing the multiplication results for all five residential areas yields an estimated employment probability of 0.4360 or alternatively an estimated proportion of 0.4360 nonwhites in the store's labor pool. Based on this distribution of nonwhite workers across the five residential areas, we would expect about two employees out of five (or 43.6 percent) at this particular store to be a nonwhite worker. In the analyses to follow, these calculations are repeated for each store and all zip codes in the ten major metropolitan areas.

RESULTS

Our research is guided by the hypothesis that more exclusive department stores tend to locate in higher income neighborhoods, and as a result, their access to a nonwhite work force is lower than other department stores. Reduced labor market access, in turn, is likely to lead to a lower employment of nonwhite sales workers. The first hypothesis concerns the labor market availability of nonwhite workers. The second hypothesis concerns the actual utilization of nonwhite workers. We focus on the demographic relationship between store locations and nonwhite labor markets rather than issues of motivation or intentional discrimination.

H_0: Access to nonwhite workers does not vary by type of department store.

Labor market accessibility, in this study, is measured by the proportion of nonwhite wage earners within a given geographic area. It is assumed that all wage earners are equally available, qualified, and interested in seeking employment as a sales worker. As described previously, the relevant local labor market for this study is defined as a weighted average of all Census ZCTA (Census representation of five-digit zip codes) residential areas in a store's metropolitan area.[9] The proportion of nonwhite wage earners is weighted by the total ZCTA population and discounted by the distance between the store and the ZCTA area. More populous ZCTA areas receive greater weight than smaller ZCTA areas, and nearby neighborhoods greater weight than distant neighborhoods. Under this concept of labor market access, the relevant proportion of nonwhites in the general population can vary widely depending on a store's location within a metropolitan area. Flagship stores in older downtown areas, surrounded by a mixture of business elites and low-income nonwhites, may have relatively high accessibility values while similar stores in the outer suburbs, located in largely white neighborhoods, may have relatively low accessibility values. Overall metropolitan area characteristics can also vary depending on store locations. Metropolitan areas with large nonwhite populations may have relatively low accessibility values if a majority of stores are located outside of nonwhite areas, and metropolitan areas with small nonwhite populations may have relatively high nonwhite accessibility values if a majority of stores are located close to nonwhite areas.

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[9] See APPENDIX1: MEASURING MARKET SEGMENTATION for the technical explanation of how department stores are defined and included in the data base.

Table 2 reports the mean proportion of department store accessibility to nonwhites and other racial/ethnic groups for the four major retail price point categories.

TABLE 2: **MEAN ACCESSIBILITY PROPORTION BY STORE TYPE**

MODEL	PRICEPT4	STORES (N)	MEAN	STANDARD DEVIATION	PROBABILITY (> |T|)
NONWHITE	DESIGNER/BRIDGE	111	0.4014	0.1474	_
NONWHITE	BETTER/MODERATE	215	0.3907	0.1771	0.8757
NONWHITE	MODERATE/POPULAR	718	0.3738	0.2054	0.2851
NONWHITE	OFF-PRICE, DISCOUNT	1347	0.3657	0.1959	0.1211
AFRICAN AMERICAN	DESIGNER/BRIDGE	111	0.1278	0.0814	_
AFRICAN AMERICAN	BETTER/MODERATE	215	0.1345	0.1016	0.8318
AFRICAN AMERICAN	MODERATE/POPULAR	718	0.1202	0.1053	0.7185
AFRICAN AMERICAN	OFF-PRICE, DISCOUNT	1347	0.1269	0.1107	0.9989
HISPANIC	DESIGNER/BRIDGE	111	0.1804	0.1196	_
HISPANIC	BETTER/MODERATE	215	0.1697	0.1313	0.7690
HISPANIC	MODERATE/POPULAR	718	0.1782	0.1620	0.9941
HISPANIC	OFF-PRICE, DISCOUNT	1347	0.1628	0.1415	0.3703
ASIAN	DESIGNER/BRIDGE	111	0.0730	0.0387	_
ASIAN	BETTER/MODERATE	215	0.0679	0.0465	0.5509
ASIAN	MODERATE/POPULAR	718	0.0583	0.0465	0.0046
ASIAN	OFF-PRICE, DISCOUNT	1347	0.0583	0.0468	0.0032

With the exception of minor differences for Asian populations, the current study is not able to detect significant differences in accessibility between the designer/bridge category and the other price point categories.[10] The mean proportion of nonwhites varies from 0.366 (36.6 percent) to 0.401 (40.1 percent). The largest mean difference occurs between the

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[10] All mean difference tests use the Dunnett two-sided multiple comparison procedure with the designer/bridge category as the control group.

designer/bridge category and the off-price, discount category, a difference of 0.036 (3.6 percent). None of the nonwhite mean difference tests are statistically significant. The mean proportion of nonwhites accessible to the high end (designer/bridge) department stores were compared to each of the different types of department stores. The differences were tested to determine if they were statistically significant. This was then repeated for African Americans, Hispanics and Asians. The nonwhite two-sided probabilities, using the designer/bridge category as a reference group, vary from about seven chances out of eight (a probability of 0.876) to about one chance out of eight (a probability of 0.121). The accessibility proportions for African Americans and Hispanics show similar results. The smallest mean difference probability is 0.719 for African Americans and 0.370 for Hispanics. There is some evidence that designer/bridge stores are located in closer proximity to Asian wage earners than moderate/popular and off-price, discount stores (probability values of 0.005 and 0.003 respectively). On average, it appears the four types of price point categories have similar labor markets in terms of the proportion of nonwhites, African Americans, and Hispanics.

Labor market accessibility varies widely across the top ten metropolitan areas. Table 3 reports the mean proportion of department store accessibility to nonwhites by the top ten

TABLE 3: **MEAN ACCESSIBILITY PROPORTION BY METROPOLITAN AREA**

MSA	STORES (N)	ACCESS TO NONWHITE WORKERS		
		MEAN	STANDARD DEVIATION	PROBABILITY
LOS ANGELES	332	0.5789	0.1500	_
MIAMI	185	0.5447	0.2132	0.0942
HOUSTON	204	0.4425	0.1469	0.0000
WASHINGTON	174	0.4012	0.1740	0.0000
NEW YORK	365	0.3566	0.1656	0.0000
DALLAS	234	0.3495	0.1248	0.0000
CHICAGO	355	0.3187	0.1461	0.0000
PHILADELPHIA	211	0.2337	0.1111	0.0000
DETROIT	177	0.2075	0.1367	0.0000
BOSTON	154	0.1646	0.0880	0.0000
	2391			

metropolitan areas. The mean proportion of nonwhites varies from 0.579 in the Los Angeles metropolitan area to 0.165 in the Boston metropolitan area. Using the Los Angeles metropolitan area as a reference group, the two-sided mean difference tests are highly significant (probability values less than 0.0000) for all metropolitan areas except for the Miami metropolitan area. The relatively low accessibility proportions for Philadelphia and Detroit (0.234 and 0.208 respectively) are due, in part, to the concentration of stores in suburban areas such as King of Prussia, Pennsylvania and Troy, Michigan.

Table 4 summarizes the overall results for the labor market accessibility hypothesis based on linear multivariate regressions. There are four regression equations.[11] Each equation uses a different dependent variable, representing the four race/ethnic proportions for nonwhites, African Americans, Hispanics, and Asians. All of the regression equations use the same independent or explanatory factors: the four price point categories (PRICEPT4), the ten metropolitan areas (MSA), and a control variable for the major chains within each price point category (PP1C through PP4C). The latter variable indicates whether chains within a price point category have different accessibility patterns.

TABLE 4: REGRESSION EQUATIONS EXPLAINING ACCESSIBILITY

MODEL	F VALUE	DF	PROB F	R SQUARE	PRICEPT4	MSA	PP1C	PP2C	PP3C	PP4C
NONWHITE	36.20	58	<.0001	0.473757	0.2109	<.0001	0.6200	0.8042	<.0001	<.0001
BLACK	10.32	58	<.0001	0.204177	0.5882	<.0001	0.7161	0.6873	0.0018	<.0001
HISPANIC	63.90	58	<.0001	0.613794	0.7695	<.0001	0.6974	0.5268	<.0001	<.0001
ASIAN	50.34	58	<.0001	0.555977	0.0018	<.0001	0.9257	0.7373	0.0034	<.0001

The price point categories, capturing type of department store, controlled for metropolitan area, are not significant explanatory factors except for Asian accessibility. That is, the influence of type of department store on the store's accessibility to nonwhite, African American and Hispanic workers is not significantly different from zero influence. Chains in the upper two price point categories, designer/bridge and better/moderate, appear to have no

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[11]   All of the regression equations are statistically significant, with overall probabilities less than 0.0001, and the proportion of explained variation or R squared ranges from 0.204 to 0.614.

significant influence on the accessibility of nonwhites measured collectively or by individual group. However, chains in the lower two price point categories, moderate/popular and off-price, discount, show significant influence. Some chains appear to locate further from various types of nonwhite workers, and other chains appear to locate closer to various types of nonwhite workers. These differences in labor market accessibility appear to reflect, in part, well-known preferences, among certain chains, for rural rather than urban locations. Taken as a whole, the present study suggests that access to most types of race/ethnic workers tends to vary more by type of chain within price point categories rather than by the type of department store as measured by price point categories. As expected, metropolitan area is a major explanatory variable for all four of the race/ethnic regression as the employment of these groups reflecting regional differences in the size of race/ethnic populations. These results suggest that high end department stores are located in a manner that provides the same accessibility to nonwhite workers as other types of department stores.

H_0: Employment of nonwhite workers does not vary by type of department store.

For the purposes of this study, employment of nonwhite workers is measured by a shortfall ratio. The shortfall ratio is defined as the difference between observed and expected number of nonwhite sales workers at each store, divided by the total number of sales workers at each store:

Nonwhite shortfalls per sales worker = (observed number of nonwhite sales workers - expected number of nonwhite sales workers)/ total number of sales workers

The expected number of sales workers is computed by the formula,

Expected number of nonwhite sales workers =
(the proportion of nonwhites as defined by the measure of labor market accessibility described above) x (total number of sales workers per store)

The shortfall is computed as a ratio of total sales workers in order to standardize the index for variations in store employment sizes. Negative values of the shortfall ratio indicate a deficit of nonwhite sales workers, i.e., fewer sales workers than expected from a particular race/ethnic group. Positive values of the shortfall ratio indicate a surplus of nonwhite sales workers, i.e., more sales workers than expected from a particular race/ethnic group. Since the expected number of nonwhite sales workers cannot exceed the total number of sales

workers, the shortfall ratio per sales worker is always less than 1.0.[12] The positive shortfall mean value of 0.113 is significantly different from a neutral value of 0.0 (a two-sided t test probability less than 0.0001) indicating that the stores in this segment of retail industry employ more nonwhite workers, on average, than might be expected from their labor market accessibility in the general population.

Table 5 reports the shortfall counts and percentages, by type of department store (price point categories) for nonwhite sales workers. For display purposes, the shortfall distribution has been divided into three equal-sized groups: low values (shortfall ratios from -0.664 to 0.028), medium values (shortfall ratios from 0.028 to 0.189) and high values

TABLE 5: DEPARTMENT STORES BY SHORTFALL CATEGORY

MODEL	PRICEPT4	COUNTS LOW	COUNTS MEDIUM	COUNTS HIGH	TOTAL STORES
NONWHITE	DESIGNER/BRIDGE	90	17	4	111
NONWHITE	BETTER/MODERATE	56	101	58	215
NONWHITE	MODERATE/POPULAR	303	265	150	718
NONWHITE	OFF-PRICE,DISCOUNT	348	414	585	1347

PERCENT LOW	PERCENT MEDIUM	PERCENT HIGH	PERCENT TOTAL
81.08	15.32	3.60	100.0
26.05	46.98	26.98	100.0
42.20	36.91	20.89	100.0
25.84	30.73	43.43	100.0

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[12] For these department stores, the ratios range from a negative value of -0.664. to a positive value of 0.665. The shortfall ratio distribution is approximately symmetric with a skewness measure close to zero (-0.126) and similar values for the mean and median (0.113 and 0.107 respectively).

(shortfall ratios from 0.189 to 0.665).[13] As hypothesized, stores in the designer/bridge price point category fall predominantly in the deficit direction. About four-fifths (81.1 percent) of the designer/bridge stores are in the low group, 15.3 percent are in the medium group and 3.6 percent are in the high group. By contrast, stores in the better/moderate price point category are distributed more symmetrically - - 26.1 percent in the low group, 47.0 percent in the medium group, and 27.0 percent in the high group. Although the designer/bridge category has a larger percentage of stores in the low group than the better/moderate category (81.1 and 26.1 percent respectively), the percentage of stores in the low group increases to 42.2 percent in the moderate/popular price point category and then decreases again to 25.8 percent in the off-price, discount category. Moderate/popular department stores are more likely to have more of a deficiency of nonwhite sales workers than the less exclusive off-price, discount stores.

Table 6 reports the employment results by mean shortfall ratios rather than by shortfall category.   Mean values for high end department stores (designer/bridge) are compared to those for the other department store types and tested for statistical significance. As expected, the mean shortfall ratio in the designer/bridge category is significantly less than the mean shortfall ratios in the other price point categories. The two-sided mean difference tests show probabilities of less than 0.0001 for all four race/ethnic conditions (nonwhite, African American, Hispanic, Asian).

In addition, the relative ranking of the price point categories is the same in all four race/ethnic groups. Ranked from low mean shortfall ratios to high mean shortfall ratios, the designer/bridge category has the lowest mean shortfall ratio, followed by the moderate/popular category. (Lower shortfall ratios mean a greater disparity between expected and observed employment of nonwhites.) The highest mean shortfall ratios occur in the better/moderate category and the off-price, discount category. Although the designer/bridge category is always lower than the off-price, discount category, there does not appear to be a uniform inverse relationship between price point categories and mean shortfall ratio levels. The better/moderate category, by our measures, is more exclusive than the moderate/popular category, but the better/moderate category also has higher mean shortfalls ratios, indicating a greater employment of nonwhites, than the moderate/popular category.

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[13] It should be noted that low values are not necessarily negative values of the shortfall ratio. Low values simply indicate a relative rank ordering, i.e., shortfall ratios that are in the lower one-third of the shortfall distribution.

TABLE 6: MEAN EMPLOYMENT SHORTFALL RATIOS

MODEL	PRICEPT4	N	MEAN	STANDARD DEVIATION	PROBABILITY (> |T|)
NONWHITE	DESIGNER/BRIDGE	111	-0.0732	0.1284	_
NONWHITE	BETTER/MODERATE	215	0.1105	0.1353	<.0001
NONWHITE	MODERATE/POPULAR	718	0.0580	0.1689	<.0001
NONWHITE	OFF-PRICE,DISCOUNT	1347	0.1588	0.1710	<.0001
AFRICAN AMERICAN	DESIGNER/BRIDGE	111	0.2003	0.1583	_
AFRICAN AMERICAN	BETTER/MODERATE	215	0.3667	0.1811	<.0001
AFRICAN AMERICAN	MODERATE/POPULAR	718	0.3116	0.2354	<.0001
AFRICAN AMERICAN	OFF-PRICE, DISCOUNT	1347	0.3976	0.2469	<.0001
HISPANIC	DESIGNER/BRIDGE	111	0.1477	0.1332	_
HISPANIC	BETTER/MODERATE	215	0.3315	0.1840	<.0001
HISPANIC	MODERATE/POPULAR	718	0.2535	0.2196	<.0001
HISPANIC	OFF-PRICE, DISCOUNT	1347	0.3617	0.2284	<.0001
ASIAN	DESIGNER/BRIDGE	111	0.2552	0.1565	_
ASIAN	BETTER/MODERATE	215	0.4333	0.2161	<.0001
ASIAN	MODERATE/POPULAR	718	0.3734	0.2479	<.0001
ASIAN	OFF-PRICE, DISCOUNT	1347	0.4661	0.2646	<.0001

Table 7 summarizes the overall results for the employment hypothesis based on linear multivariate regressions. Analogous to the access results in Table 4, each equation uses the same independent variables but different dependent variables. The independent or explanatory variables comprise the four price point categories, the ten metropolitan areas, and the major chains within each price point category. The dependent variables refer to

shortfall ratios for the four race/ethnic groups (nonwhites, African Americans, Hispanics, and Asians).[14]

TABLE 7:   **REGRESSION EQUATIONS EXPLAINING EMPLOYMENT SHORTFALL RATIO**

MODEL	F VALUE	DF	PROB F	R SQUARE	PRICEPT4	MSA	PP1C	PP2C	PP3C	PP4C
NONWHITE	24.80	58	<.0001	0.381486	<.0001	<.0001	<.0001	0.0877	<.0001	<.0001
AFRICAN AMERICAN	34.85	58	<.0001	0.464335	0.0002	<.0001	0.0001	0.3031	<.0001	<.0001
HISPANIC	22.60	58	<.0001	0.359793	<.0001	<.0001	0.0046	0.2907	<.0001	<.0001
ASIAN	23.84	58	<.0001	0.372275	0.0048	<.0001	0.0202	0.2841	<.0001	<.0001

Consistent with the discussion of mean shortfall ratios, the price point categories, controlled for metropolitan area, show statistically significant differences in shortfall ratios across all four race/ethnic groups. In addition, chains in the better/moderate category appear to have no significant influence on employment shortfalls, whereas the chain probability differences within the other price point categories indicate they have a significant influence. It is not clear why the chains in the better/moderate price point category should have relatively similar shortfall values. Some potential explanations include the impact of centralized human resource practices, the prevalence of employee trade unions, or the competitive pressures of operating in similar labor markets. Taken as a whole, the shortfall ratio index suggests that the employment of nonwhite sales workers varies both by price point categories as well as by selected chains within the upper and lower price point categories.

The employment analyses, presented so far, have been based on the shortfall ratio index which covers the full range of values from negative shortfalls to positive shortfalls. The shortfall index measures the direction of nonwhite employment (that is, whether a store employs more nonwhites or fewer nonwhites than might be expected from its surrounding labor pool), but it does not show which stores, if any, have employment deficits that might have occurred by chance. We now examine the shortfalls that would be considered both

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[14]   All of the employment regression equations are statistically significant, with overall probabilities less than 0.0001, and the proportion of explained variation varies from 0.360 to 0.464.

negative and statistically significant. Focusing on the firms with the lowest rates of nonwhite employment has the added benefit that it allows us to measure how many stores might be classified as potential candidates for some sort of remedial action.

EXAMINATION OF DISPARITIES AT THE STORE LEVEL

A binomial test is used to compare each store's employment of nonwhite sales workers to the computed proportion of nonwhite workers in each store's labor market. These results are then summarized. Those firms with probability less than 0.025 and with a negative disparity between expected and observed nonwhite sales workers are classified as having significant disparities. The stores are subdivided into those in the designer/bridge category and all others. A Fishers Exact test is used to determine if the expected number of designer/bridge department stores with significant disparities is greater than expected. Indeed it is. We would expect ten stores to have significant disparities, but 47 have such disparities (probablity less than 0.00000). For African Americans, we would expect four designer/bridge department stores to have significant disparities, 18 have such disparities (probability less than 0.0000).   Based on chance, 15 stores might be expected to have significant disparities of Hispanics, instead 55 have such disparities (probability less than 0.0000).   Unlike, the results for African Americans and Hispanics, while there are more high end stores with significant disparities (13) for Asian sales workers than would be expected (10) this difference was not statistically significant. Consistent with the results reported in Table 7, chain appears to matter with some chains having a larger percentage of stores with significant disparities than others.

Results are summarized for nonwhites, African Americans, Hispanics and Asians and are also summarized by type of department store. Table 8 summarizes results for the relevant race/ethnic groups. Here the percentage is computed within each race/ethnic group and refers to the number of stores with significant disparities within a department store type divided by the total number of stores with significant disparities. For example, 20.8 percent of all department stores with a significant disparity in the employment of nonwhite sales workers are in the designer/bridge category. (This is derived from 47 designer/bridge stores with significant disparities for nonwhite sales workers out of 226 total stores with such disparities.)

TABLE 8: PERCENT OF STORES WITH SIGNIFICANT DISPARITIES BY RACE/ETHNIC GROUP

STORE TYPE	NON-WHITES	AFRICAN AMERICANS	HISPANICS	ASIANS	TOTAL STORES	PERCENT OF STORES
DESIGNER/ BRIDGE (1)	20.8	20.45	16.37	5.94	111	4.64
BETTER/ MODERATE (2)	7.52	4.55	19.94	9.59	215	8.99
MODERATE/ POPULAR (3)	42.48	40.91	33.93	30.14	718	30.33
OFF-PRICE, DISCOUNT (4)	29.2	34.09	29.76	54.34	1347	56.34
	100	100	100	100		

Although Designer/Bridge stores account for just 4.64 percent of all department stores, they account of 20.8 percent of significant disparities for nonwhites, 20.45 percent for African Americans, 16.37 percent for Hispanics. Only when computing disparities for Asians are the percent of Designer/Bridge stores with significant disparities close to their overall percentage of department stores. In contrast the percent of stores with disparities in the Off-Price Discount category is far below their portion of all stores (56.34 percent) with the exception of Asians.

Table 9 summarizes results by type of department store but can also be used to see how results vary by different race/ethnic groups. Here the percentage refers to total number of stores with disparities in a price point category divided by all stores in that price point category. For example, 42.34 percent of all high end (designer/bridge) department stores have a significant disparity in their employment of nonwhite sales workers. (This is derived from 47 designer/bridge stores with significant disparities for nonwhite sales workers out of 111 designer/bridge stores.)

**TABLE 9: PERCENT OF STORES WITH SIGNIFICANT DISPARITIES
BY STORE TYPE**

STORE TYPE	NON-WHITES	AFRICAN AMERICANS	HISPANICS	ASIANS
DESIGNER/BRIDGE (1)	42.34	16.22	49.55	11.71
BETTER/MODERATE (2)	7.91	1.86	31.16	9.77
MODERATE/POPULAR (3)	13.37	5.01	15.88	9.19
OFF-PRICE, DISCOUNT (4)	4.9	2.23	7.42	8.83

Looking at Designer/Bridge department stores, 42.34 percent of these stores have significant disparities between the expected and actual number of nonwhites sales workers employed. (This means that 57.66 percent of Designer/Bridge department stores do not have significant disparities of nonwhite sales workers.) In contrast only 16.22 percent of these high end department stores have significant disparities in the employment of African American sales workers. The percentage for Hispanics is 49.55 and 11.71 for Asians. What is particularly striking here is the percentage of stores, even across different types of stores, with significant disparities for Hispanics. While the percentage of stores for African Americans and for Asians is fairly similar, the percentage for Hispanics is always the highest and for the two most exclusive store types is more than three times as high. The exception to these findings is Off-Price, Discount Stores where Asians have the largest portion of stores with significant disparities.

SUMMARY

We began our investigation with two hypotheses: the more exclusive the department store, the lower the proportion of nonwhites in its labor pool, and the more exclusive the department store, the lower its utilization of nonwhite sales workers. We measured department store exclusivity in terms of four price point categories: designer/bridge, better/moderate, moderate/popular, and off-price, discount. The results generally disconfirm the first hypothesis. This study is unable to detect significant differences in labor market accessibility between the designer/bridge category and the others types of department stores for nonwhites, African Americans, and Hispanics. There is some evidence that more exclusive department stores have slightly larger Asian labor pools than other types of department stores.[15] But, on average, the differences in potential labor markets are much less than we expected even when controlled for metropolitan areas.

By contrast, the results generally support the second hypothesis. We measured employment utilization in terms of a ratio of shortfall to sales workers (the difference between the actual employment of nonwhite sales workers versus the expected employment of nonwhite sales workers divided by the total number of sales workers). Negative ratios indicate fewer nonwhite sales workers than expected. Positive ratios indicate more nonwhite sales workers than expected. As hypothesized, the mean shortfall ratios in the designer/bridge category are significantly less than the mean shortfall ratios in the other types of department stores regardless of the race/ethnic group. The four types of department stores also show statistically significant differences in average shortfall ratios controlled for metropolitan areas.

Three additional findings were somewhat surprising. First, there does not seem to be a systematic inverse relationship between average shortfalls and levels of exclusivity. While the designer/bridge category always has lower average shortfall values than the off-price, discount category, the two middle categories seem to behave differently. The moderate/popular category (ranked third from the top) tends to resemble the designer/bride category, and the better/moderate category (ranked second from the top) tends to resemble the off-price, discount category. Second, chain ownership has a significant effect on average shortfall ratio values for all types of department stores except the better/moderate category. Within three types of departments stores, designer/bridge, moderate/popular, and off-price

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[15] There is also some evidence of chain disparities, especially among the less exclusive department stores, that are probably related to preferences among selected chains for rural rather than urban locations.

discount, there appears to be a certain number of outlying chains, that is, chains with substantially higher or lower average shortfall ratios than the other chains in the same price point category. Why the chains in the better/moderate category should appear to be more homogeneous than the chains in other price point categories is not clear. Some potential (but speculative) explanations include the impact of centralized human resource practices, the prevalence of employee trade unions, or the competitive pressures of operating in similar labor markets. Third, focusing exclusively on department stores with statistically significant, negative shortfalls, there appears to be some evidence that exclusive stores have substantially more disparities with Hispanic sales workers than other kinds of race/ethnic groups. It is not clear from this research whether these disparities might be tied to qualifications unique to these exclusive stores but the differences between chains within this type of store suggest that qualifications alone may not explain these results.

ADDITIONAL INFORMATION

For additional information, visit our web site at *http://www.eeoc.gov*. Click on *STATISTICS* and *JOB PATTERNS FOR MINORITIES AND WOMEN* (*http://www.eeoc.gov/stats /jobpat/jobpat.html*) for sample copies of the EEO-1 form, an instruction booklet and aggregate statistics.

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SELECTED REFERENCES

Arnott, Richard. 1998. "Economic Theory and the Spatial Mismatch Hypothesis." *Urban Studies* 35(7) 1171-1185.

Bernhardt, Annette. September/October 2000. "The Wal-Mart Trap." *Dollars and Sense* 23-25.

Bureau of Labor Statistics. February 27, 2004. "Clothing, Accessory, and General Merchandise Stores." *Career Guide to Industries* http://stats.bls.gov/oco/cg/ downloaded June 25, 2004.

Cooke, Thomas J. 1996. "City-Suburb Differences in African American Male Labor Market Achievement." *Professional Geographer* 48(4) 458-467.

Fasenfest, David, Jason Booza and Kurt Metzger. April 2004. "Living Together: A New Look at Racial and Ethnic Integration in Metropolitan Neighborhoods, 1990-2000." *The Living Cites Census Series* The Bookings Institute, Center on Urban and Metropolitan Policy.

Gastwirth, Joseph L. and Sheldon E. Haber. March 1976. "Defining the Labor Market for Equal Employment Standards." *Monthly Labor Review* 99(3) 32-36.

Gastwirth, Joseph L. 1988. *Statistical Reasoning in Law and Public Policy, Volume 1 Statistical Concepts and Issues of Fairness* 68-70.

Holzer, Harry J. and Keith R. Ihlanfeldt 1996. "Spatial Factors and the Employment of Blacks at the Firm Level." *New England Economic Review* (Federal Reserve Bank of Boston) May/June Special Issue 65-82.

Holzer, Harry J., Julia Lane, and Lars Vilhuber 2003. "Escaping Low Earnings: The Role of Employer Characteristics and Changes." Institute for Research on Poverty (http://www.ssc.wisc.edu/irp). Discussion Paper No. 1269-03.

Holzer, Harry J., Steven Raphael and Michael A. Stoll. 2003 "Employers in the Boom: How Did the Hiring of Unskilled Workers Change during the 1990s?" Institute for Research on Poverty (http://www.ssc.wisc.edu/irp). Discussion Paper No. 1267-03.

U.S. Equal Employment Opportunity Commission
HIGH END DEPARTMENT STORES

Holzer, Harry J., John M. Quigley and Steven Raphael. 2003 "Public Transit and the Spatial Distribution of Minority Employment: Evidence from a Natural Experiment." *Journal of Policy Analysis and Management* 22(3) 415-441.

Ihlanfeldt, Keith R. and David L. Sjoquist 1998. "The Spatial Mismatch Hypothesis: A Review of Recent Studies and Their Implications for Welfare Reform." *Housing Policy Debate* 9(4) 849-892.

Kain, John F. 1968. "Housing Segregation, Negro Employment and Metropolitan Decentralization." *Quarterly Journal of Economics* 82 175-197.

Khattak, Asad J., Virginie Amerlynck and Roberto G. Quercia 2000. "Are Travel Times and Distances to Work Greater for Residencts of Poor Urban Neighborhoods." Transportation Research Board, 79th Annual Meeting. http://www.unc.edu?~khattak/wktt.html downloaded January 28, 2004.

Pastor, Manuel Jr. and Ara Robinson Adams. 1996. "Keeping Down with the Joneses: Neighbors, Networks and Wages." *Review of Regional Studies* 26 115-145.

Song, Shunfeng. November 1996. "Some Tests of Alternative Accessibility Measures: A Population Density Approach." *Land Economics* 72(4) 474-482.

Stoll, Michael A. 1999. "Spatial Mismatch, Discrimination, and Male Youth Employment in the Washington DC Area: Implications for Residential Mobility Policies." *Journal of Policy Analysis and Management* 18(1) 77-98.

Thompson, Mark A. 1997. "The Impact of Spatial Mismatch on Female Labor Force Participation." *Economic Development Quarterly* 11(2) 123-141.

REFERENCES ii

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APPENDIX 1: MEASURING MARKET SEGMENTATION

In order to examine the relationship between department store type and relevant labor market characteristics it was necessary to develop a typology to classify the department stores. Existing industry classification schemes such as the North American Industrial Classification System (NAICS) and its predecessor, the Standard Industrial Classification system (SIC) do not distinguish types of department stores.[16] Our interest is not in fashion per se, but the consequences of market segmentation for the retail workforce, especially nonwhite workers.[17] We assume, by and large, that exclusive stores and shops are relatively desirable places to work. The combination of expensive merchandise, large markups, and generous commissions are likely to produce reasonably high wages for sales workers. It is also likely that these employers provide better working conditions in terms of fringe benefits, job security, scheduling, training, employee discounts, and perhaps promotion than other segments of the industry.   Put simply, we assume that the types of apparel and accessory stores on Fifth Avenue in New York, Michigan Avenue in Chicago, or Wilshire Boulevard in Los Angeles have better jobs, for most sales workers, than other types of apparel and accessory stores. The following discussion briefly introduces the concept of retail price

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[16]   The present report examines the distribution of nonwhite sales workers across different types of retail stores. Our analysis of market segmentation presumes, but does not demonstrate, a positive relationship between store prices and salesperson compensation.   In particular, this report does not examine store variations in employee hours, wages and benefits, nor does it investigate the potential effects of such factors as union affiliation, personnel practices and employee skills. Since opinions about fashion tend to be highly subjective, we have attempted, as much as possible, to develop segmentation measures based on publically available data sources. For historical background on changes in the fashion industry, see Crane (2000).

[17]   Hughes and Bernhardt (1999:4) suggest that "the trend toward market segmentation has been found in diverse industries such as fast-foods and retail sales, computers and high-tech, financial services, insurance, and telecommunications. The key outcome is not just a divergence in job quality and wages, but rather a splitting of the paths that previously connected jobs and constituted a career, often geographically. For example, separate department stores now specialize in either high-income, middle-income or mass markets; thus it is unlikely that a Wal-Mart customer service representative can make a career advance to Bloomingdale's."

points and describes how we classified retail stores in the 2002 EEO-1 survey on the basis of relative price points.

Retail Price Points. Apparel and accessory manufacturers tend to classify brands by price ranges known as "price points." Although the prices and terminology are not always consistent, the retail industry generally recognizes five broad categories: ready-to-wear designer goods (more than $1,000), bridge goods ($500 to $999), better goods ($100 to $499), moderate goods ($50 to $99) and popular or budget goods (less than $50).[18] [19] To identify price points at selected chains, we surveyed the items listed on retail websites. We selected three kinds of merchandise as follows,

1. Women's apparel (including suits, dresses, jackets and skirts but excluding gowns, outerwear, lingerie, and sweaters)
2. Women's shoes (including flats, pumps, sandals, slides, and mules but excluding boots and athletic shoes)
3. Women's handbags (including satchels, shoulders, hobos, and totes but excluding clutches and backpacks)

Within each category, we computed an average of the five most expensive items as a means of estimating maximum price points. Prices were recorded at list prices unless all items on the website had a sales price. We then combined the category averages together to form a composite price score.[20] The resulting composite scores appear to be intuitively plausible. Chains such Neiman Marcus and Saks Fifth Avenue have the highest price points, chains such as Kohl's and Sears Roebuck have the lowest price points, and chains such as Macy's and Dillard's have middle-range price points. (See Table A1.)

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[18] Approximate dollar values are taken from "Is It Really 'Designer'?" Retrieved February 5, 2004 (http://fashion.about.com/cs/stylebasics/a/pricepoints.htm).   For alternative definitions of the bridge category, see Greene (2002).

[19] Relative price is, of course, not the only form of market segmentation. Apparel goods also differ by gender, age, physical size, and type of activity (e.g., sportswear). For an interesting account of how Chico's discovered the buying power of women in their 50's, see Rozhon (2004).

[20] The composite price index represents scores from a single factor, principal components analysis based on twelve retail chains. The three types of merchandise have pearson correlation values of 0.91 (handbags and shoes), 0.98 (handbags and apparel) and 0.86 (shoes and apparel).

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Estimating price points from retailer websites has several drawbacks. Some websites offer few, if any, selections, and some websites list items without prices.[21]   In addition, web-based

TABLE A1: LISTED MERCHANDISE

MERCHANDISE LISTED ON WEBSITES FOR SELECTED RETAIL CHAINS				
	AVERAGE OF FIVE HIGHEST PRICES			PRICE SCORE
RETAIL CHAIN	HANDBAGS	SHOES	APPAREL	
NEIMAN MARCUS GROUP INC	$1,059.00	$922.00	$1,161.00	2.073
SAKS FIFTH AVENUE	$1,194.00	$550.00	$1,549.00	2.009
NORDSTROM INC	$410.00	$369.80	$439.20	0.244
LORD & TAYLOR	$279.60	$166.80	$431.60	-0.139
MARSHALL FIELDS	$200.60	$243.60	$386.80	-0.147
BLOOMINGDALES	$204.00	$206.20	$285.60	-0.266
MACYS	$160.00	$93.00	$306.00	-0.435
DILLARD'S INC	$205.60	$130.80	$150.00	-0.461
BOSCOVS EAST	$197.00	$54.80	$64.00	-0.629
J C PENNEY CO INC	$92.00	$60.00	$121.20	-0.676
SEARS ROEBUCK AND CO	$49.80	$61.00	$86.20	-0.739
KOHLS DEPARTMENT STORES INC	$24.20	$29.60	$43.60	-0.834

merchandise may not reflect what is displayed in stores, and it is difficult to determine to what extent price points vary across stores within the same chain.   As an alternative, we surveyed the store locations listed on designer websites.[22]   To make the project manageable,

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[21]   For example, excluding Lord & Taylor, the websites for the May Company display cosmetics and accessories, but they do not display women's shoes or apparel. The website for Barneys New York lists prices for selected blouses, sweaters, and handbags, but it does not list prices for designer shoes and apparel. The website for Von Maur announces special events at selected stores and mentions available brand names, but it does not feature specific items for sale.

[22]   We are indebted to Gertner and Stillman's 2001 study of vertical integration in the apparel industry for suggesting the importance of brand names as measurement devices.

TABLE A2: TEN LARGEST METROPOLITAN AREAS

MSA_TITLE	POPULATION
New York-Newark-Edison, NY-NJ-PA Metropolitan Statistical Area	18,323,002
Los Angeles-Long Beach-Santa Ana, CA Metropolitan Statistical Area	12,365,627
Chicago-Naperville-Joliet, IL-IN-WI Metropolitan Statistical Area	9,098,316
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Metropolitan Statistical Area	5,687,147
Dallas-Fort Worth-Arlington, TX Metropolitan Statistical Area	5,161,544
Miami-Fort Lauderdale-Miami Beach, FL Metropolitan Statistical Area	5,007,564
Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area	4,796,183
Houston-Baytown-Sugar Land, TX Metropolitan Statistical Area	4,715,407
Detroit-Warren-Livonia, MI Metropolitan Statistical Area	4,452,557
Boston-Cambridge-Quincy, MA-NH Metropolitan Statistical Area	4,391,344

we concentrated on designers of women's apparel and accessories. Specifically, we identified all the designers of women's apparel, women's shoes and women's handbags from the Saks Fifth Avenue website (www.saksfifthavenue.com) as of March 4, 2004.[23] We then searched the internet for the websites of the Saks Fifth Avenue designers. Many of the designers did not have websites, some were not in English, some did not list store locations, and some only listed their own stores or Saks Fifth Avenue.[24] Among the designers who listed multiple retail partners on their website, we selected all the stores with identifiable addresses from the ten largest Metropolitan Statistical Areas listed in Table A2.

Strictly speaking, store locations on a designer's website only mean that at least one order was placed from a store at some point in the past, not that the goods are currently displayed or actively sold.   As Davis (1992:143) notes, "to the extent that genuine haute couture apparel is actually stocked by 'upscale' department stores, like Neiman Marcus or Saks Fifth Avenue, this, too, is done primarily to lend prestige to the store and not from any serious expectation of actually selling such extraordinarily expensive ware for a profit."

[23]   Both Saks Fifth Avenue and Neiman Marcus sell bridge-to-designer price points (Moin 2003), and we could have sampled designers from either or both chains. We chose Saks Fifth Avenue primarily because its website appears to list a larger number of designers. Moin (2002) reports that "Neiman's average customer is 43 and earns approximately $200,000 while UnCircle customers, who get gifts and other amenities based on purchase frequency, earn $350,000 annually and have a net worth in excess of $5 million."

[24]   For example, Burberry, Carolina Herrera, Escada, and Gucci, list only their own stores. Akris Punto, Andrew Marc, Nanette Lepore, and Natori list chain names without locations.

This produced a sample of eighteen designers and/or brand names as listed in Table A3.

TABLE A3: DESIGNER AND BRIDGE BRANDS

DESIGNER AND BRIDGE BRANDS	
Chanel Fashions[25]	Dolce and Gabbana[26]
Lambertson Truex[27]	Carmen Marc Valvo Couture[28]
Anne Klein	Isabella Fiore
Diane von Furstenberg	Stuart Weitzman
Longchamp	St. John
Kate Spade	Ellen Tracy
Salvatore Ferragamo	Dana Buchman
Lilly Pulitzer	Donald J. Pliner
Elie Tahari	James Perse

Some of these designers have higher price points than others, and some cover a wider range of price points than others, but taken as a whole, they appear to be representative of the brand names appearing in such publications as the New York Times Spring Fashion Magazine. To

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[25] Among the top European luxury companies with a significant women's fashion component, Chanel, "a perennial favorite among fashion editors," ranked number two in 2002 with estimated sales of $2 billion (*Women's Wear Daily*, August 28, 2003, p. 10).

[26] At the new Dolce & Gabbana flagship, 825 Madison Avenue, New York City, "Retail prices for the women's line range from $300 to $975 for tops, $275 to $1,200 for pants, and $450 to $2,500 for dresses. Average prices for accessories are $450 for shoes, $550 for handbags, and $260 for scarves" (*Women's Wear Daily*, March 12, 2002, p. 3).

[27] "In five years, the designers [Richard Lambertson and John Truex] have . . .built a luxury accessories firm that comfortably sits next to established European houses like Hermes, Pradea, Gucci, Bottega Veneta and Tod's. . . Retail price points for the handbags from about $395 for a day bag to $7,800 for an exotic, but the average price point is $795" (Karimzadeh 2003).

[28] "The brand's higher-end line, Carmen Marc Valvo Couture, features product between $1,500 and $3,000 retail and is currently a top performer" (Greene 2003).

supplement this list, we surveyed SEC 10-K Reports and websites for major apparel manufacturers searching, primarily, for "better" and "moderate" brand names.[29] Apparel manufacturers usually do not list store locations, but we did obtain explicit store addresses for three additional brands (Kasper suits, Nine West clothing, and Jones New York suits and dresses) designed for the "better" apparel market.

The information on brand names was combined with the 2002 EEO-1 survey data as follows:

- The retail industry for the 2002 EEO-1 data was defined using North American Industrial Classification System (NAICS) codes for Retail (44, 45). Motor Vehicle and Parts Dealers, Food and Beverage Stores, and Non Store Retailers were then excluded because they utilize different occupations.[30]

- We separated sales establishments from non sales establishments based on the proportion of sales workers. Establishments whose use of sales workers was either greater than or not significantly different from their company's overall proportion of sales workers were designated as sales establishments.[31]

- We focused on the sales establishments classified as department stores (NAICS 4521), clothing stores (NAICS 4481), and other merchandise (NAICS 4529 and 4539). From this group, we excluded boutiques (such as Burberry, Gucci, Escada),[32] specialized clothing stores (such as Gap, Express, Ann Taylor), discount outlets of high end department stores (such as Nordstrom Racks, Saks Off Fifth, Neiman Marcus Last Call), discount buying clubs (such as Sam's Club, Costco, BJ's), and miscellaneous coding errors (such as grocery stores listed as department stores).

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[29] Apparel and accessory manufacturers frequently cite specific price points and market segments in their SEC filings. For example, the Jones Apparel Group, Inc. divides its brand labels into better and moderate apparel (10-K Report for Fiscal Year Ending December 31, 2002, p. 5). Fossil, Inc. lists watch brands by suggested price ranges (10-K Report for Fiscal Year Ending January 4, 2003, pp. 8-9). Perry Ellis International, Inc. states that "the Perry Ellis brand appeals primarily to higher income, status conscious, professional 25-40 year old men" (10-K Report for Fiscal Year Ending January 31, 2003, p. 12).

[30] For a discussion of Food and Beverage Stores and the employment status of minorities and women, see Sheryl Skaggs, "Producing Change or Bagging Opportunity? The Effects of Discrimination Litigation on Women and Minorities in Supermarket Management. Present at the Annual Meeting of the American Sociological Association, 2002.

[31] Decision is based on the use of an exact binomial test and a 0.05 probability level.

[32] Limitations on the size of EEO-1 respondents, described in the main body of the text, exclude most boutiques which tend to be small and locally owned.

• Finally, we matched the store data on designers to the EEO-1 observations by name of store and address and standardized establishment names to eliminate spelling variations, store numbers, or geographic designations.

The resulting store sample contains a total of 2,391 sales establishments representing 332,667 sales workers.

We divided the store observations into two broad groups: stores carrying none of the brand names in our sample (neither bridge nor best brands) and stores carrying at least one of the brand names in our sample (either bridge or best brands). Depending on the type of analysis, we created various sub-groups. The sub-groups with no sampled brand names were classified on the basis of chain characteristics. The sub-groups with some sample brand names were classified on the basis of individual stores. To preserve the confidentiality of the EEO-1 respondents, each of the sub-groups represents at least five parent corporations and none of parent corporations represent more than 50 percent of the sales workers in any given sub-group. The different sub-groups can be described as follows:

• Within stores with no sampled brand names, we distinguished between chains generally known for promotional sales, i.e., advertised specials on selected items on particular days, and chains generally known for reduced prices on almost all items.[33] The former, including Sears Roebuck, Gottschalks, and Carson Pirie Scott, typically carry moderate and popularly priced lines such as

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[33] The trade press frequently distinguishes between stores with and without sales promotions, but readers are reminded that we have no data showing higher levels of employee compensation and/or employee qualifications in chains with promotional sales.

Sag Harbor and Koret.[34] The latter typically carry off-price[35] and discount merchandise.[36]

• Within stores with at least one designer (either bridge or better), we conducted a statistical cluster analysis[37] that produced two broad clusters: one centered on the bridge designers and one centered on the better designers. Counting all twenty-one designers together (both bridge and better), the designer cluster has a median of eight designers per store and the better cluster has a median of zero designers per store. The stores in the top quartile of the designer

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[34] Kellwood Company, the manufacturer of Sag Harbor, classifies Sag Harbor as a moderately priced brand (www.kellwood.com/brands). The Sag Harbor "Where to Buy" option (www.sag-harbor.com) lists the following retail partners, many of whom can be found in our moderate/popular price point category: Bealls, Belk, Bon Marche, Bon Ton, Boscovs, Burdines, Carsons, Elder-Beerman, Famous-Barr, Filene's, Foley's, Fred Meyer, Goodys, Gottschalks, Hechts, JC Penny, Kaufmann's, Kohls, L.S. Ayers, Meir & Frank, Meijer, Mervyns, Military Exchanges, Peebles, Proffitt's, Rich's/Lazarus, Robinsons-May, Sears USA, Strawbridge's, Stage Stores, The Jones Store, and Younkers.

[35] Retail Ventures, Inc., formerly Value City Department Stores, describes off-price retailing as follows: "Off-price retailing, as distinguished from traditional full-price retailing and discount or off-brand merchandising, is characterized by the purchase of primarily high quality brand name merchandise, at prices below normal cost to most retailers. . . . We regularly purchase overstocked or overproduced items from manufacturers and other retailers, including end-of-season, out-of-season, and end-of-run merchandise and manufacturers' slight irregulars" (10-K Report for the Fiscal Year Ending February 1, 2003, pp. 4-5).

[36] It is difficult to identify discount merchants on the basis of brand labels since many brands are chain-specific (e.g., Levi Strauss Signature jeans were initially developed for Wal-Mart and have only recently been sold at Target).

[37] The cluster analysis utilized the nonparametric SAS™ Procedure MODECLUS (method 1, smoothing parameter R=0.5). The cluster procedure weights each of the designers equally. It would be possible to assign greater weight to some labels (e.g., Chanel) and lesser weight to other labels (e.g., Lilly Pulitzer), but we do not believe that we could make such judgments reliably. The analysis actually produced five separate designer clusters, one large cluster with 105 observations and four smaller clusters with six observations. The smaller clusters comprise Barneys New York, Bergdorf Goodman (owned by Neiman Marcus), and two other Neiman Marcus stores (both of whom carry Dolce & Gabbana). Consistent with their general reputation, stores in the smaller clusters appear to specialize in high end designers not readily found elsewhere. For statistical purposes, the four smaller clusters were combined with the larger designer cluster for a total of 111 observations.

cluster include Saks Fifth Avenue on 611 Fifth Avenue, New York; Neiman Marcus on 9700 Wilshire Boulevard, Los Angeles; and Bloomingdales on 1000 Third Avenue, New York.

The overall list of parent companies and individual chains, grouped by relative price points, is summarized in Table A-1. Since many chains cover multiple price points,[38] the categories are labeled with slash marks indicating price point ranges (e.g., "better/moderate" signifies the better to moderate price range). Relative frequencies within the price point categories are suppressed to preserve confidentiality. It should be noted that the larger chains, such as Dillard's, Hechts, and Macys, have some stores in the better to moderate range and some stores in the moderate to popular range. This reflects the common observation that stores in the same chain often carry different lines in different neighborhoods, typically featuring better lines in stores frequented by business and professional women. The results in Table A-1 are generally consistent with our survey of merchandise prices on retail websites. The main difference is the assignment of selected Marshall Fields and Bloomingdales stores to the designer/bridge category and the assignment of selected Nordstrom stores to the better/moderate category.

Summary. This report combines EEO-1 survey data and web-based data sources to classify retailers on the basis of relative price points. Knowledgeable shoppers and industry observers may disagree with specific classification decisions, but hopefully most readers will regard the price point categories presented in this appendix as a reasonable, if imperfect, attempt to measure market segmentation on the basis of publically available information (for a comprehensive survey of market segmentation methods and data sources, see Wedel and Kamakura, 2000).

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[38] For example, a prominent department store in the Washington, DC area has a store directory showing the better women's department on the main floor and the moderate women's department in the basement.

APPENDIX 1: SELECTED REFERENCES

Crane, Diana. 2000. *Fashion and its Social Agendas: Class, Gender, and Identity in Clothing*. Chicago: University of Chicago Press.

Davis, Fred. 1992. *Fashion, Culture, and Identity.* Chicago: University of Chicago Press.

Gertner, Robert H. and Robert S. Stillman. 2001. "Vertical Integration and Internet Strategies in the Apparel Industry." *Journal of Industrial Economics* 49(4) 417-440.

Greene, Joshua. 2002. "Defining Bridge: It Depends Who's Asked." *Women's Wear Daily*, June 19, 2002, p. 8.

Greene, Joshua. 2003. "Improving the Career Outlook." *Women's Wear Daily*, December 2, 2003, p. 15.

Karimzadeh, Marc. 2003. "Life in the Luxury Fast Lane." *Women's Wear Daily*, September 13, 2003, p. 42.

Hughes, Katherine and Annette Bernhardt. 1999. "Market Segmentation and the Restructuring of Banking Jobs." Institute on Education and the Economy (IEE) Working Paper No. 9, Columbia University, Teachers College, New York City.

Moin, David. 2002. "Saks Fifth Avenue's Latest Strategy: An 'Invitation to Luxury'." *Women's Wear Daily*, January 6, 2003, p. 1.

Moin, David. 2003. "Neiman Marcus' Luxury Goods." *Women's Wear Daily*, October 25, 2002, p. S24.

Rozhon, Tracie. 2004. "A Big Middle-Age Demand for the Not so Revealing but Still Stylish." *New York Times*, April 7, 2004, pp. C.1, C.4.

Wedel, Michel and Wagner A. Kamakura. 2000. *Market Segmentation: Conceptual and Methodological Foundations*. 2nd Edition. Dordrecht, Netherlands: Kluwer Academic Publishers.

DESIGNER/BRIDGE

PARENT COMPANY	CHAIN NAME
BARNEYS INC	BARNEYS INC
FEDERATED DEPARTMENT STORES INC	BLOOMINGDALES
NEIMAN MARCUS GROUP INC	NEIMAN MARCUS GROUP INC
NORDSTROM INC	NORDSTROM INC
SAKS INCORPORATED	SAKS FIFTH AVENUE
TARGET CORPORATION	MARSHALL FIELDS

BETTER/MODERATE

PARENT COMPANY	CHAIN NAME
DILLARD'S INC	DILLARD'S INC
FEDERATED DEPARTMENT STORES INC	BURDINES
FEDERATED DEPARTMENT STORES INC	MACYS
MAY DEPARTMENT STORES COMPANY	FILENES
MAY DEPARTMENT STORES COMPANY	FOLEYS
MAY DEPARTMENT STORES COMPANY	HECHTS
MAY DEPARTMENT STORES COMPANY	LORD & TAYLOR
MAY DEPARTMENT STORES COMPANY	ROBINSONS-MAY
MAY DEPARTMENT STORES COMPANY	STRAWBRIDGES
NORDSTROM INC	NORDSTROM INC
SAKS INCORPORATED	CARSON PIRIE SCOTT
SAKS INCORPORATED	PARISIAN
TARGET CORPORATION	MARSHALL FIELDS
VON MAUR INC	VON MAUR INC

MODERATE/POPULAR

PARENT COMPANY	CHAIN NAME
BELK STORES SERVICES	BELK STORES
BON TON DEPARTMENT STORES INC	BON TON DEPARTMENT STORES INC
BOSCOVS EAST	BOSCOVS EAST
DILLARD'S INC	DILLARD'S INC
DUNLAP COMPANY	DUNLAP
ELDER BEERMAN STORES	ELDER BEERMAN STORES
FEDERATED DEPARTMENT STORES INC	BURDINES
FEDERATED DEPARTMENT STORES INC	LAZARUS
FEDERATED DEPARTMENT STORES INC	MACYS
GOTTSCHALKS INC	GOTTSCHALKS
HAROLD'S STORES INC	HAROLD'S STORES INC
J C PENNEY CO INC	J C PENNEY CO INC
KOHLS DEPARTMENT STORES INC	KOHLS
MAY DEPARTMENT STORES COMPANY	FILENES
MAY DEPARTMENT STORES COMPANY	FOLEYS
MAY DEPARTMENT STORES COMPANY	HECHTS
MAY DEPARTMENT STORES COMPANY	L S AYRES
MAY DEPARTMENT STORES COMPANY	LORD & TAYLOR
MAY DEPARTMENT STORES COMPANY	ROBINSONS-MAY
MAY DEPARTMENT STORES COMPANY	STRAWBRIDGES
NORDSTROM INC	NORDSTROM INC
SAKS INCORPORATED	CARSON PIRIE SCOTT
SAKS INCORPORATED	YOUNKERS
SEARS ROEBUCK AND CO	SEARS ROEBUCK AND CO
STAGE STORES INC	BEALLS
STAGE STORES INC	PALAIS
SWEZEY AND NEWINS INC	SWEZEY AND NEWINS INC
TARGET CORPORATION	MARSHALL FIELDS
TARGET CORPORATION	MERVYNS

OFF-PRICE AND DISCOUNT

PARENT COMPANY	CHAIN NAME
AMES DEPT STORES INC	AMES
BURLINGTON COAT FACTORY WAREHOUSE	BURLINGTON COAT FACTORY
CENTURY 21	CENTURY 21
CONWAY STORES INC	CONWAY STORES INC
DAFFYS INC	DAFFYS INC
KMART CORPORATION	KMART
LOEHMANNS INC	LOEHMANNS
ROSS STORES INC	ROSS STORES INC
SHOPKO STORES INC	SHOPKO STORES INC
STEIN MART INC	STEIN MART INC
TARGET CORPORATION	TARGET
TJX COMPANIES INC	MARSHALLS
TJX COMPANIES INC	T J MAXX
VALUE CITY STORES	FILENES BASEMENT
VALUE CITY STORES	VALUE CITY
WAL-MART STORES INC	WAL-MART

APPENDIX 2: WORKFORCE ESTIMATES

As an initial step to developing the necessary data for the retail research, Census Table PCT73(A-I), "Sex by Work Experience in 1999 by Earnings in 1999 for the Population 16 Years and Over" from Summary File 3 was identified as being particularly useful. There are separate tables for nine race/ethnic groups. These tables are particularly useful in providing the number of wage earners in the workforce. This is in contrast to just using population numbers.

Census Data sets (segments 47 to 51 contain data for "Sex by Work Experience in 1999 by Earnings in 1999 for the Population 16 Years and Over" by the various race/ethnic categories. Data set 47 contains data for those classified as "White Alone." The other categories are: African American Alone (data set 48), American Indian, Alaskan Native, Alone (data set 48), Asian Alone (data set 49), Native Hawaiian and Other Pacific Islander, Alone (data set 49), Some Other Race, Alone (data set 50), Two or More Races (data set 50), Hispanic or Latino (data set 51), and White Alone, Not Hispanic or Latino (segment 51). In order to be able to calculate valid proportions all of the groups listed above were used except "White Alone." Additionally it was necessary to download a separate file (data set 29) with the totals for computing percentages.

For each race/ethnic and gender group and for a total computation the following variables were obtained.

- The total number in the population 16 years and over
- The total number that reported that they worked full- time year- round in 1999
- The total number that reported that they worked full- time year- round, with earnings
- The total number that reported that they had not worked full- time year- round
- The total number that reported that they had not worked full- time year- round, with earnings

In order to utilize the Work Experience data files discussed above, it is necessary to enhance the files in the following manner.

- Only those observations with zip code values were retained.[39]

- For each observation with a five digit zip code value, a county code was added. This was completed by using a data set provided by the Office of Social and Economic Data Analysis at the University of Missouri

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[39] The Census Bureau constructs a special zip code values ZCTA5 and ZCTA3 that parallel the zip postal codes. It is these Census zip codes values that are used in these analyses.

(downloaded from www.oseda.missouri.edu/jgb/zip.resources.html on April 12, 2004. Specifically, "correlation files" are available at http://mcdc2.missouri.edu/cgi-bin/uexplore?/pub/data/corrlst).

• This new county code was then used to generate a metropolitan area code and title. The 2003 definitions were used.

• Totals and proportions for each of the race/ethnic groups were computed for each five digit zip code. The work groupings maintained were full time, full time with earnings, other than full time, other than full time with earnings. Totals and proportions were also computed for a calculated group that combined full time with earnings and part time with earnings.

• The results were then compared to those obtained from AMERICAN FACT FINDER. The Census Bureau, web tool for retrieving data by individual zip code. Two zip codes were tested and the raw counts (the only data provided on the web site) matched the data set above.