

Ronald Reagan Presidential Library
Digital Library Collections

This is a PDF of a folder from our textual collections.

Collection: Barr, William: Files
Folder Title: [Affirmative
Action Studies] (7 of 7)
Box: 1

To see more digitized collections visit:

<https://reaganlibrary.gov/archives/digital-library>

To see all Ronald Reagan Presidential Library inventories visit:

<https://reaganlibrary.gov/document-collection>

Contact a reference archivist at: reagan.library@nara.gov

Citation Guidelines: <https://reaganlibrary.gov/citing>

National Archives Catalogue: <https://catalog.archives.gov/>

DRAFT

circumstances, reviewed establishments achieved greater net increases of minorities in skilled jobs. With a net growth in total employment of only 0.1 percent, reviewed establishments still achieved a 22 percent net increase in minority workers, while the unreviewed establishments accomplished a 24.4 percent minority increase with a 4.2 percent total employment growth. (The three-way comparison on Chart 17 points up the superior performance of both reviewed and unreviewed contractor establishments over noncontractor establishments. The latter, with an 8.2% total employment growth, increased minority employment by only 21.5 percent.) With the exception of sales workers (where the difference was not statistically significant), reviewed establishments achieved greater minority net increases in all of the compliance program's special-attention categories.

Distribution of Minority Workers

The proportion of minorities employed in skilled and white collar categories in reviewed establishments increased by 10.1 percentage points, from 31.4 percent to 41.5 percent between 1974 and 1980, for a growth of 32.2 percent in these special-attention categories (Chart 21). In unreviewed establishments, a shift of 9.2 percentage points occurred, from 40.5 percent to 49.7 percent, a growth of 22.7 percent. In 1980, only 13.7 percent of reviewed establishments' minority employees were found in the two categories of unskilled and service workers, whereas one-fourth of all minority workers in unreviewed contractor establishments were still employed in these categories.

Women

Reviewed contractor establishments showed dramatically greater growth of women's participation in the four white-collar special-attention categories for women and in service workers than did unreviewed establishments; but the latter showed much higher growth of participation in the skilled category, as well as higher growth in semi-skilled and unskilled categories. 1/

In the latter two categories, reviewed establishments faced with employment declines were apparently unable to do as well in retaining women as they did in retaining minorities (compare Charts 20 and 17). This would reflect lower seniority held by women in those establishments. The same phenomenon, plus the very large numbers involved in women's increases in the unreviewed contractors' skilled category (mainly in the communications industry), combine to produce the result of unreviewed establishments showing an overall higher growth of women's participation rates than reviewed establishments, 15.4 percent to 14.2 percent.

1/ Of the women's net increase in unreviewed contractor establishments' skilled category, 34.7 percent occurred in the communications industry. This industry is dominated by a single large employer that was subject to special monitoring under a consent decree in this period. It may be that the "spill-over" effect mentioned earlier is manifested here, with significant changes in minority and female employment occurring in the contractor's unreviewed establishments as a result of company-wide employment decisions stemming from the reviews of a relatively few establishments.

DRAFT

Distribution of Women Workers

The concentration of women in clerical work declined in both reviewed and unreviewed establishments (Chart 22). Women in reviewed establishments moved particularly into the categories of officials and managers, professionals and technicians, and women in unreviewed establishments followed the same pattern, but to a lesser degree. The shift of women from lower-skilled blue-collar and service-worker jobs to skilled and white-collar jobs was 6.6 percentage points in reviewed establishments, creating a 14 percent growth in the skilled and white-collar sector. In unreviewed establishments the same movement was 2.1 percentage points,* for a growth of only 3 percent. However, since employment of women in semi-skilled occupations has been an objective of the compliance program, and the redistribution seen here has involved extremely small net increases of women in that category, a clearer indicator of relative progress might be the proportions seen in unskilled and service workers in 1980. In reviewed establishments, the proportion of all women employed in those two categories was 8.3 percent, versus 15.4 percent in unreviewed establishments. In unreviewed establishments, with the exception of clerical jobs, women were at or above their proportions in the labor force in only two categories - service workers and sales (largely retail). In reviewed establishments, they are near that level only in semi-skilled (Chart 25).

*The corresponding figure on Chart 22 should read 2.1, rather than 2.7.

DRAFT

Minorities, Women and White Males

Data from Charts 27 and 28 utilize data from other Labor Department sources ^{1/} to describe the labor force picture on a national level since 1969. The data depict the results of a rapid shift in the population subgroups of the employed labor force during the last 12 years. Some of the factors involved in creating this shift have been evolving for a long time, such as: low fertility rates in the 1920s and 1930s; changes in population mix; slow economic growth in the 1970s in employment areas requiring unskilled and semi-skilled workers; and more rapid growth in high technology employment and the educational attainment of various sectors of the population.

Until 1974, older white males (over 45 years of age) participated in the nation's employment growth, accounting for 6.7 percent of the growth between 1969 and 1974. But, while the civilian labor force increased 40.7 percent between 1965 and 1982, white males as a proportion of the labor force declined from 58.3 to 50.8 percent, with all the decline occurring in the over-45 age group due to many factors, some of which are: low birth rates in earlier years and early retirements in the 1970's. Between 1974 and 1980, employment of white males over 45 years of age declined by 1,604,000,

^{1/} U.S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings, Selected Issues, 1970-1981.

leaving a gap in the labor market supply so that growth industries had to shift their hiring to previously underutilized labor sources. These charts show that women absorbed 53.9 percent of all employment growth between 1969 and 1974 and 69.4 percent between 1974 and 1980. Both minority (9.7 percent) and white (59.7 percent) women participated in this phenomenal employment pattern, with the major portion going to young white women (20 to 44 years of age) (52.5 percent).

One point of interest is that even older women, both minority and white, also participated in the 1974-1980 growth more so than they did in the previous five-year period.

White females	1969-74	1.7%
	1974-80	5.1%
Minority female	1969-74	.6%
	1974-80	1.8%

(See Charts 27 and 28)

Young white and minority males each shared in the employment growth, but at a lower rate than they represented in the labor force.

In the comparison of contractor and noncontractor establishments on Chart 13, it can be seen that except in the category of sales white males occupied a disproportionately high percentage of the non-clerical white-collar and skilled jobs in the work forces of Federal contractors in both 1974 and 1980. In Chart 26 data reveals that except for skilled workers, that same concentration is higher in reviewed contractor establishments than in unreviewed establishments.

Taken together with the decidedly greater growth rates of minorities and women achieved in those same reviewed establishments, the developing pattern reflects both the reasons for, and the results of, OFCCP's basic review strategy over the years, which has been to select for review those contractor establishments which are the largest, offer the best earnings opportunities and show less utilization of minorities and women; the likelihood being that these would provide the greatest number of opportunities for employment and advancement of minorities and women.

*affirmative
3-22-70
review
2-15-70*

CONCLUSION

In summation, the study has achieved its primary objective by determining that the impact of the Federal contract compliance program can be measured in terms of its effect upon the employment opportunities of minorities and women. But equally important are the findings themselves, showing, as they do, the significantly greater gains made by minorities and women in the employer establishments which have operated under the stimulus of affirmative action requirements as compared with employers generally who are only prohibited from discrimination. Finally, the data show clearly the increased opportunities for women and minorities resulting from employers' participation in compliance reviews.

List of Charts and Tables

DRAFT

Chart

- 1.--Industries as Percent of Contractor and Noncontractor Establishments Compared in 1974-1980 Survey

Table

- A.--Number of Establishments Compared, 1974-1980 (Contractors and Noncontractors)
- B.--Employment in Contractor and Noncontractor Establishments Reporting in 1974 and 1980

Chart

- 2.--Participation Rates of Minorities in Contractor and Noncontractor Establishments, 1974-1980
- 3.--Relative Growth of Minorities' Participation Rates in Contractor and Noncontractor Establishments, 1974-1980
- 4.--Net Change in Minority Employment in Contractor and Noncontractor Establishments, 1974-1980
- 5.--Participation Rates of Women in Contractor and Noncontractor Establishments, 1974-1980
- 6.--Relative Growth of Women's Participation Rates in Contractor and Noncontractor Establishments, 1974-1980
- 7.--Net Change in Women's Employment in Contractor and Noncontractor Establishments, 1974-1980
- 8.--Distribution of Minorities Among EEO-1 Categories in All Contractor and Noncontractor Establishments Showing Shift From Lower Three Categories, 1974-1980
- 9.--Distribution of Women Among EEO-1 Categories in All Contractor and Noncontractor Establishments Showing Shift From Lower Three Categories, 1974-1980
- 10.--Distribution of White Males Among EEO-1 Categories in All Contractor and Noncontractor Establishments Showing Shift From Lower Three Categories, 1974-1980
- 11.--Changes in Minority Employment in Contractor and Noncontractor Establishments, 1974-1980
- 12.--Changes in Women's Employment in Contractor and Noncontractor Establishments, 1974-1980
- 13.--Changes in White Male Employment in Contractor and Noncontractor Establishments, 1974-1980
- 14.--Industries as Percent of Reviewed and Unreviewed Contractors' Establishments

Table

- C.--Number of Establishments Compared, 1974-1980 (Reviewed and Unreviewed Contractors)
- D.--Employment in Reviewed and Unreviewed Federal Contractor Establishments Reporting in 1974 and 1980

Chart

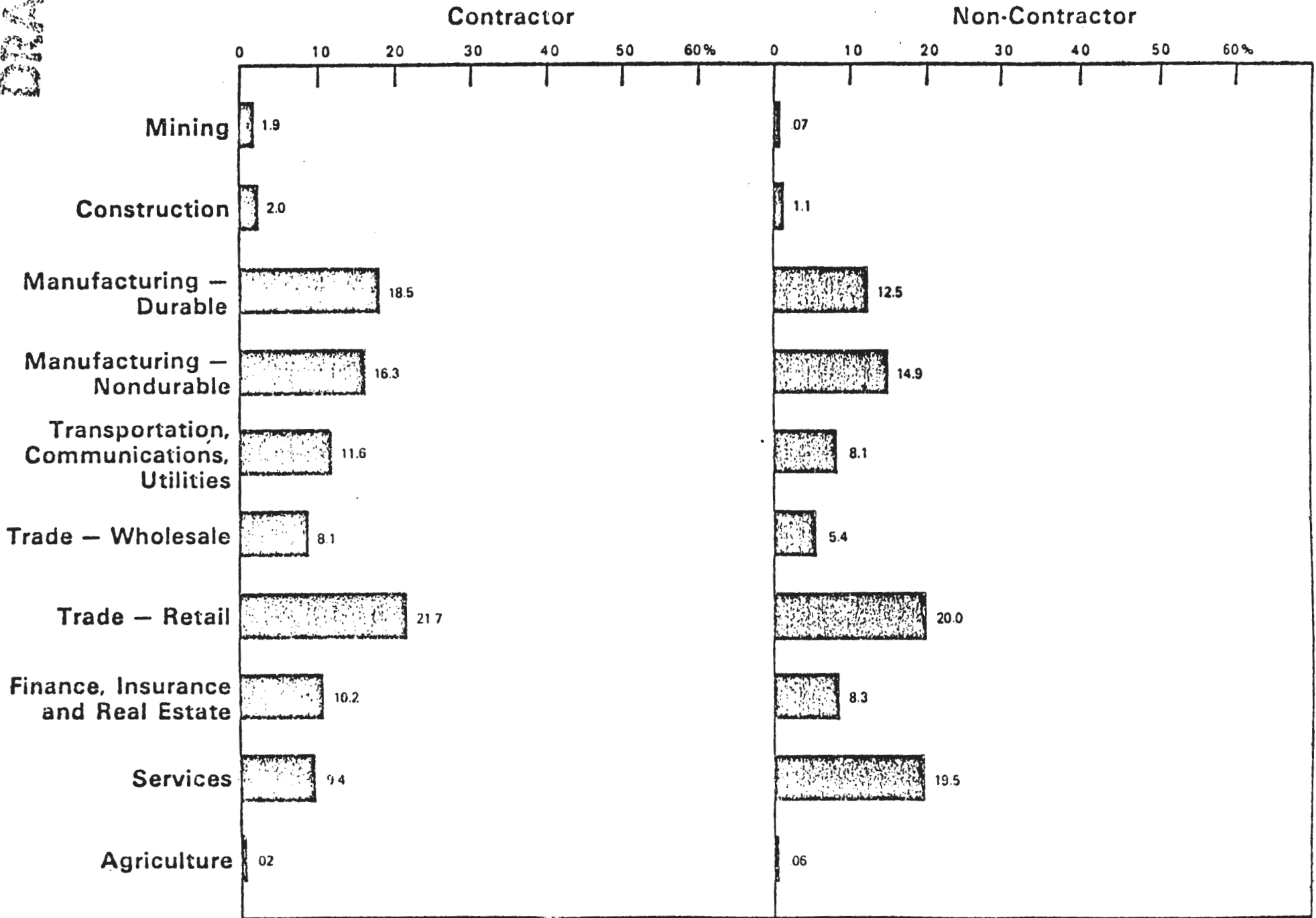
- 15.--Participation Rates of Minorities in Reviewed and Unreviewed Contractor Establishments, 1974-1980
- 16.--Relative Growth of Minorities' Participation Rates in Three Types of Work Forces, 1974-1980
- 17.--Net Change in Minority Employment in Three Types of Work Forces, 1974-1980
- 18.--Participation Rates of Women in Reviewed and Unreviewed Contractor Establishments, 1974-1980
- 19.--Relative Growth of Women's Participation Rates in Three Types of Work Forces, 1974-1980
- 20.--Net Change in Women's Employment in Three Types of Work Forces, 1974-1980
- 21.--Distribution of Minorities Among EEO-1 Categories in Reviewed and Unreviewed Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980
- 22.--Distribution of Women Among EEO-1 Categories in Reviewed and Unreviewed Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980
- 23.--Distribution of White Males Among EEO-1 Categories in Reviewed and Unreviewed Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980
- 24.--Changes in Minority Employment in Reviewed and Unreviewed Contractor Establishments, 1974-1980
- 25.--Changes in Women's Employment in Reviewed and Unreviewed Contractor Establishments, 1974-1980
- 26.--Changes in White Male Employment in Reviewed and Unreviewed Contractor Establishments, 1974-1980
- 27.--Percent That Selected Groups (by Sex, Race and Age) Represented of the Employment Growth in the United States During the 1969-1974 Period
- 28.--Percent That Selected Groups (by Sex, Race and Age) Represented of the Employment Growth in the United States During the 1974-1980 Period

Table

- E.--Differences in Participation Growth - Contractors v. Noncontractors 1974-1980
- F.--Differences in Participation Growth - Reviewed Contractors v. Unreviewed Contractors, 1974 - 1980

Industries as Percent of Contractor and Non-Contractor Establishments Compared in 1974-1980 Survey

DATA



Number of Establishments Compared, 1974-1980

	Contractor	Non-Contractor
Mining	913	201
Construction	1,006	310
Manufacturing — Durable	9,061	3,839
Manufacturing — Non-Durable	7,980	4,358
Transportation, Communication, Utilities	5,704	2,291
Trade — Wholesale	3,973	1,564
Trade — Retail	10,618	8,184
Finance, Insurance, Real Estate	4,982	2,351
Services	4,607	5,503
Agriculture	137	174
All	48,981	28,775

DRAFT

Employment Totals in Establishments
Reporting in 1974 and 1980

DRAFT

Federal Contractor Establishments - 1974

	TOTAL	WHITE MALE	MINORITY	FEMALE
Officials & Managers	1,437,197	1,239,503	65,891	143,618
Professionals	1,151,422	896,348	72,460	203,805
Technicians	664,936	479,958	67,261	142,958
Sales Workers	908,877	478,634	79,490	390,711
Office & Clerical	2,161,529	420,591	302,268	1,672,347
Craftsmen	1,995,270	1,721,268	206,666	82,822
Operators	3,536,994	2,054,930	762,019	936,476
Laborers	1,093,940	532,408	316,948	329,237
Service Workers	698,357	257,455	222,411	292,462
All Jobs	13,648,522	8,099,095	2,095,414	4,194,436

1980

Officials & Managers	1,652,888	1,314,704	118,755	248,793
Professionals	1,426,274	958,544	141,058	379,127
Technicians	782,456	469,052	114,365	248,658
Sales Workers	1,019,864	453,094	137,095	507,385
Office & Clerical	2,222,722	335,388	425,611	1,801,071
Craftsmen	2,025,235	1,629,501	292,133	137,908
Operators	3,171,694	1,684,927	785,298	974,586
Laborers	1,000,707	458,194	315,214	328,489
Service Workers	755,342	258,908	265,391	351,887
All Jobs	14,057,182	7,562,312	2,591,920	4,977,904

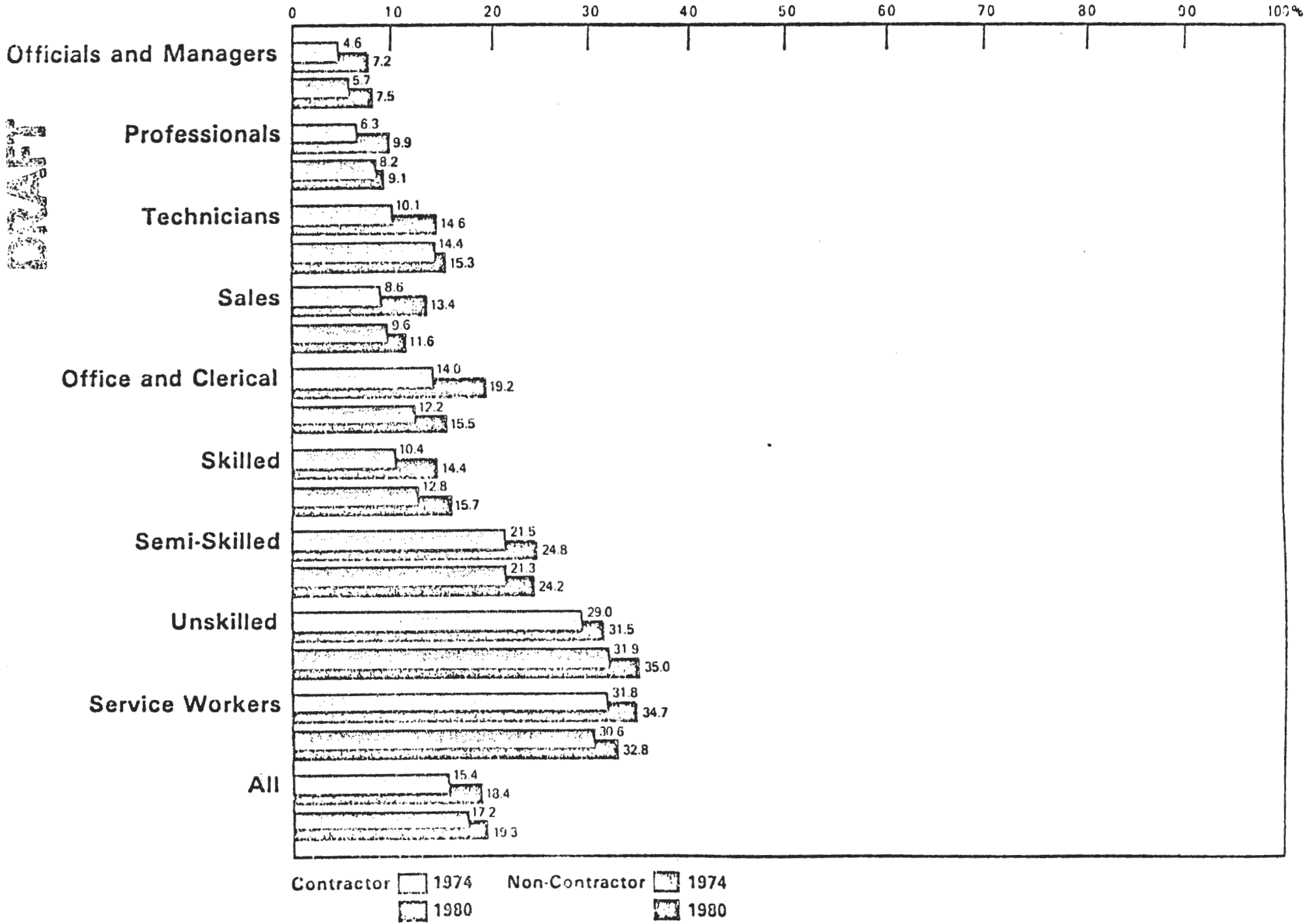
Non-contractor Establishments - 1974

Officials & Managers	497,458	367,273	28,354	110,451
Professionals	483,555	160,279	39,471	309,393
Technicians	306,751	104,337	44,094	190,263
Sales Workers	698,887	296,588	67,027	374,216
Office & Clerical	945,652	128,611	115,090	794,520
Craftsmen	532,665	400,032	68,163	78,343
Operators	1,032,604	493,169	220,013	408,260
Laborers	551,997	248,723	176,045	180,095
Service Workers	820,242	193,908	251,029	524,505
All Jobs	5,869,811	2,392,920	1,009,286	2,970,046

1980

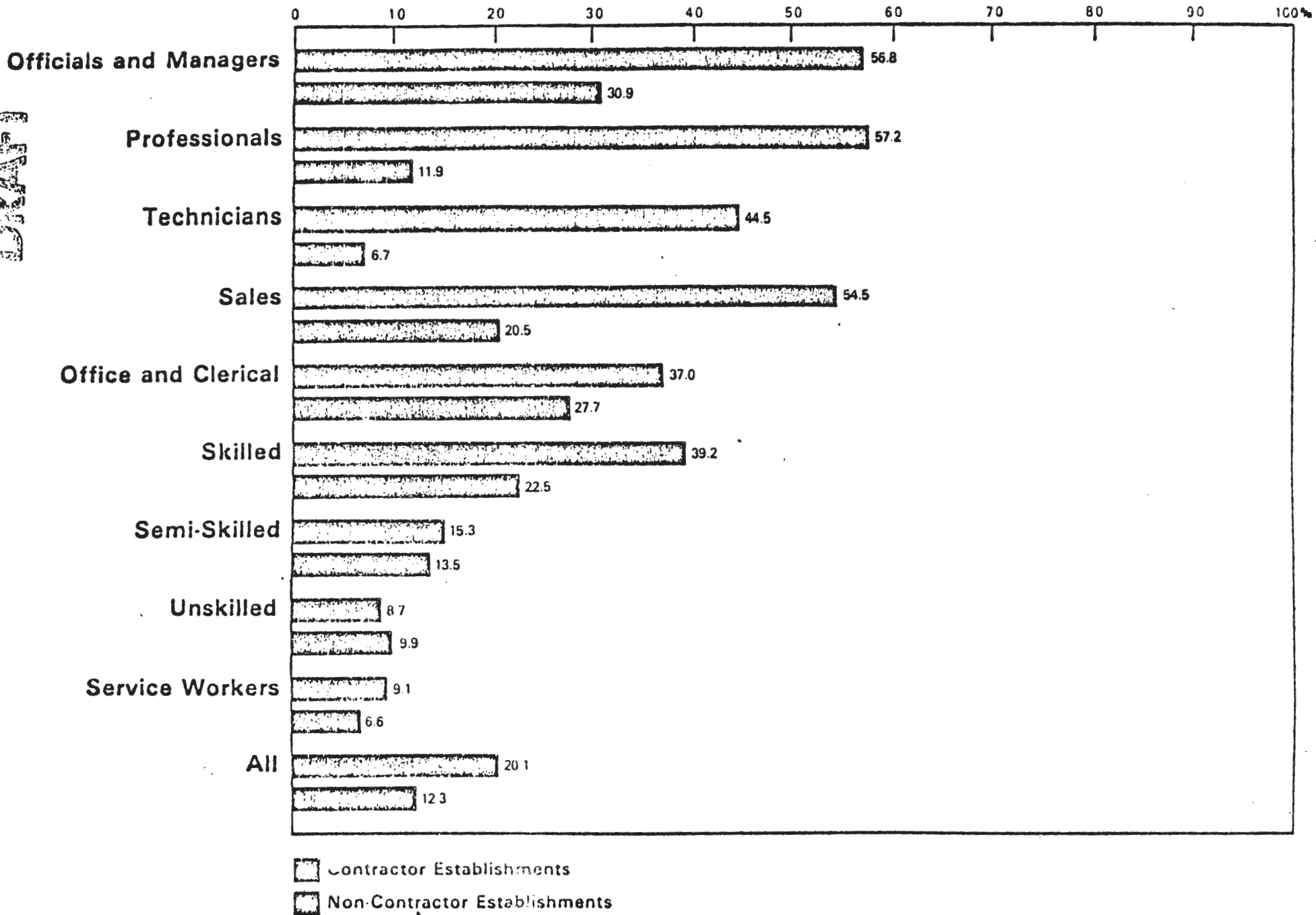
Officials & Managers	574,720	395,760	42,894	150,694
Professionals	713,346	221,494	65,148	470,043
Technicians	407,200	117,845	62,438	270,942
Sales Workers	568,386	232,043	65,683	310,204
Office & Clerical	975,143	108,013	151,584	839,649
Craftsmen	581,507	422,047	91,209	89,674
Operators	1,096,981	539,226	265,361	392,087
Laborers	530,287	222,543	185,856	182,562
Service Workers	901,376	204,856	295,637	577,396
All Jobs	6,348,946	2,463,827	1,225,810	3,282,251

Participation Rates of *Minorities* in Contractor and Non-Contractor Establishments, 1974-1980

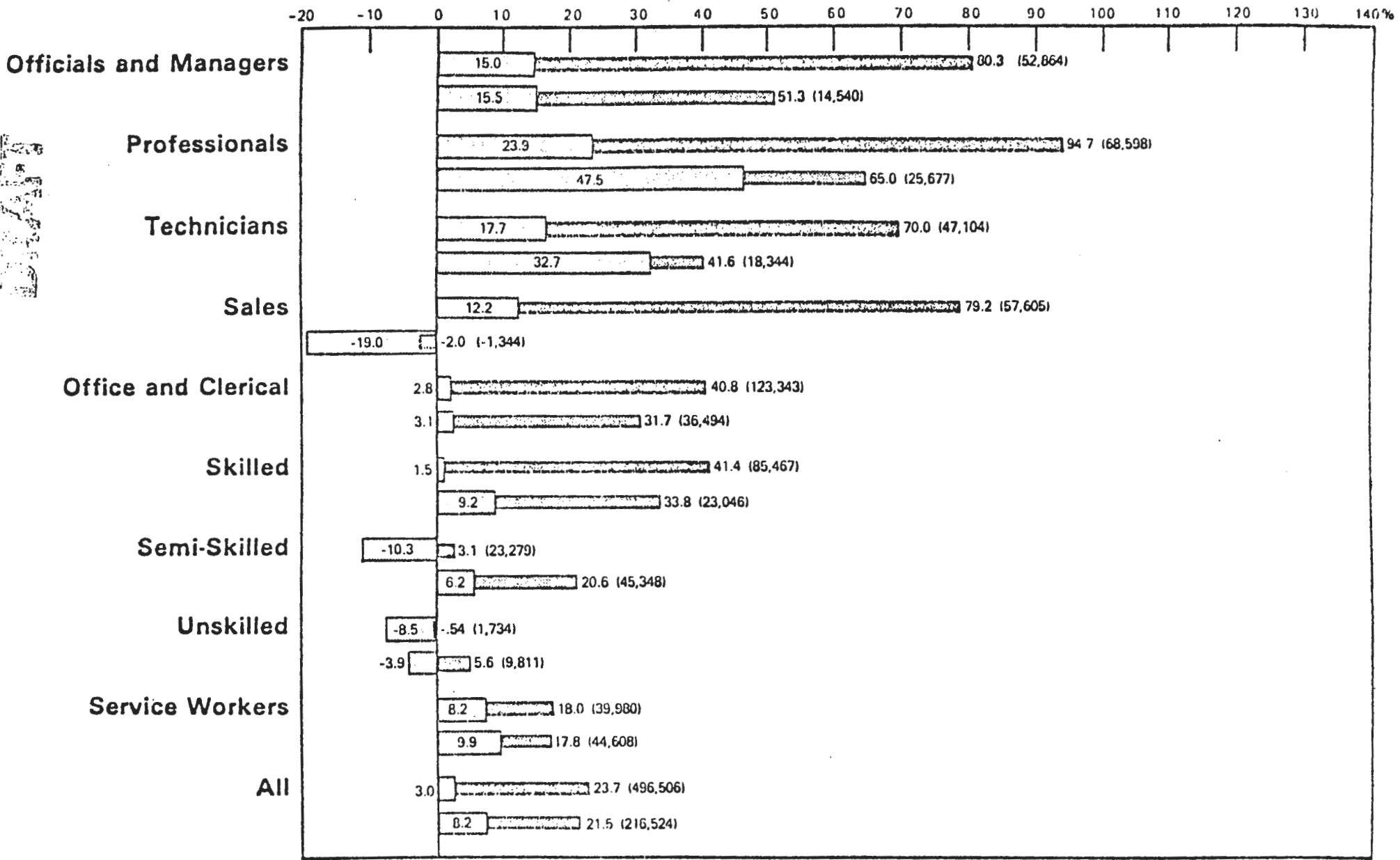


Relative Growth of *Minorities'* Participation Rates in Contractor and Non-Contractor Establishments, 1974-1980

DRAFT

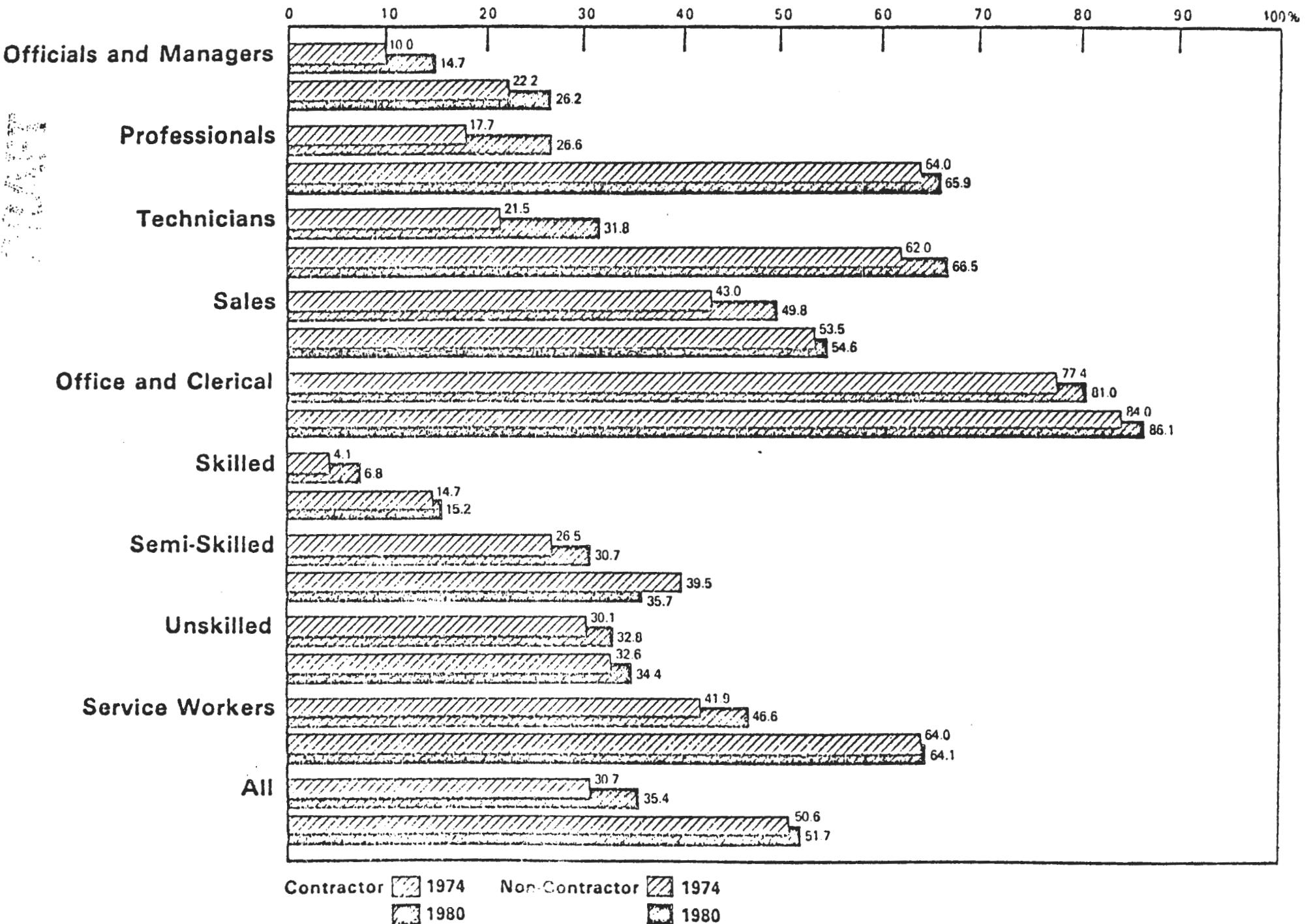


Net Change in *Minority* Employment in Contractor and Non-Contractor Establishments, 1974-1980

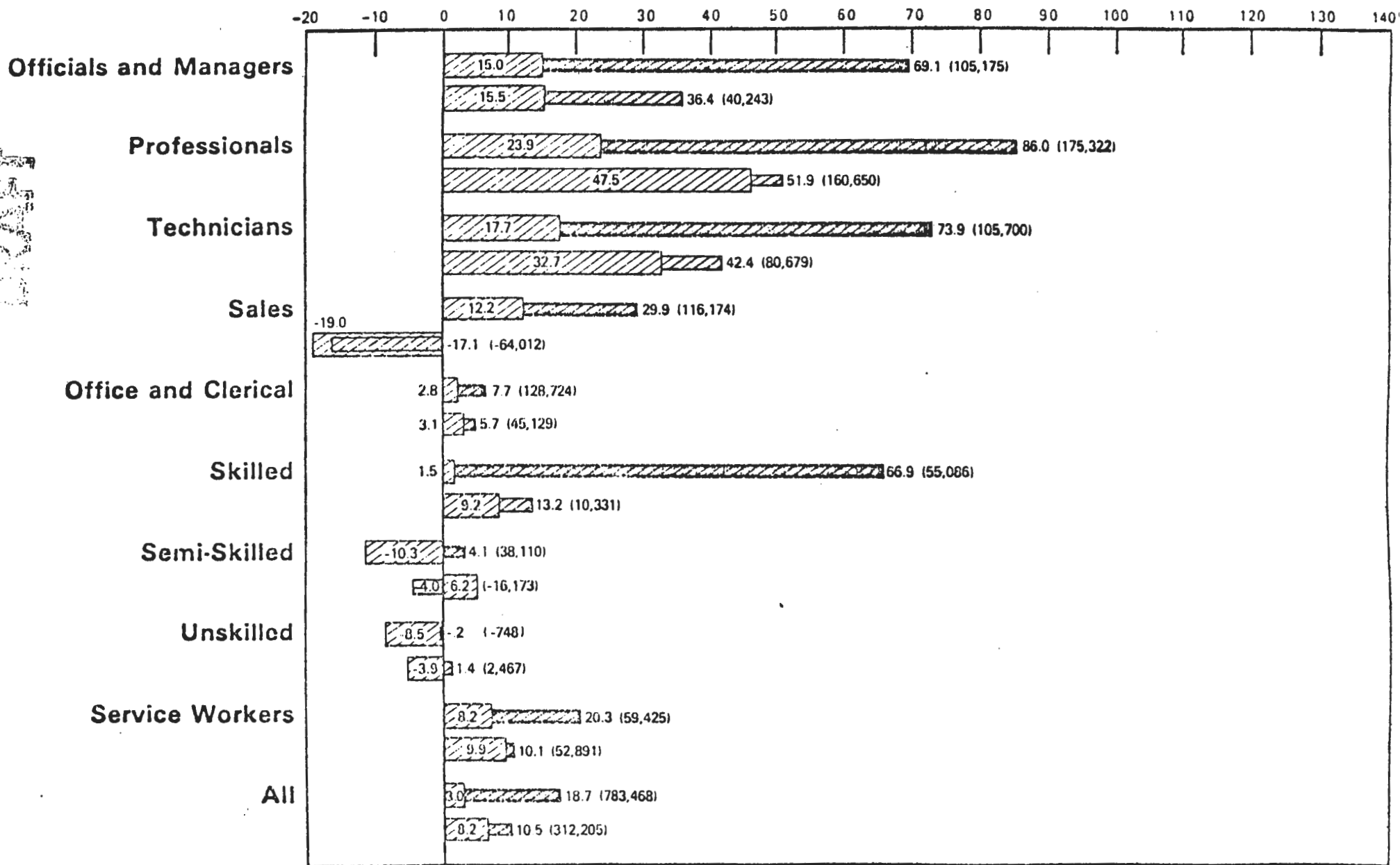





Total Employment Change in Each Job Category
 Minorities' Employment in Contractor Establishments
 Minorities' Employment in Non-Contractor Establishments

Participation Rates of Women in Contractor and Non-Contractor Establishments, 1974-1980

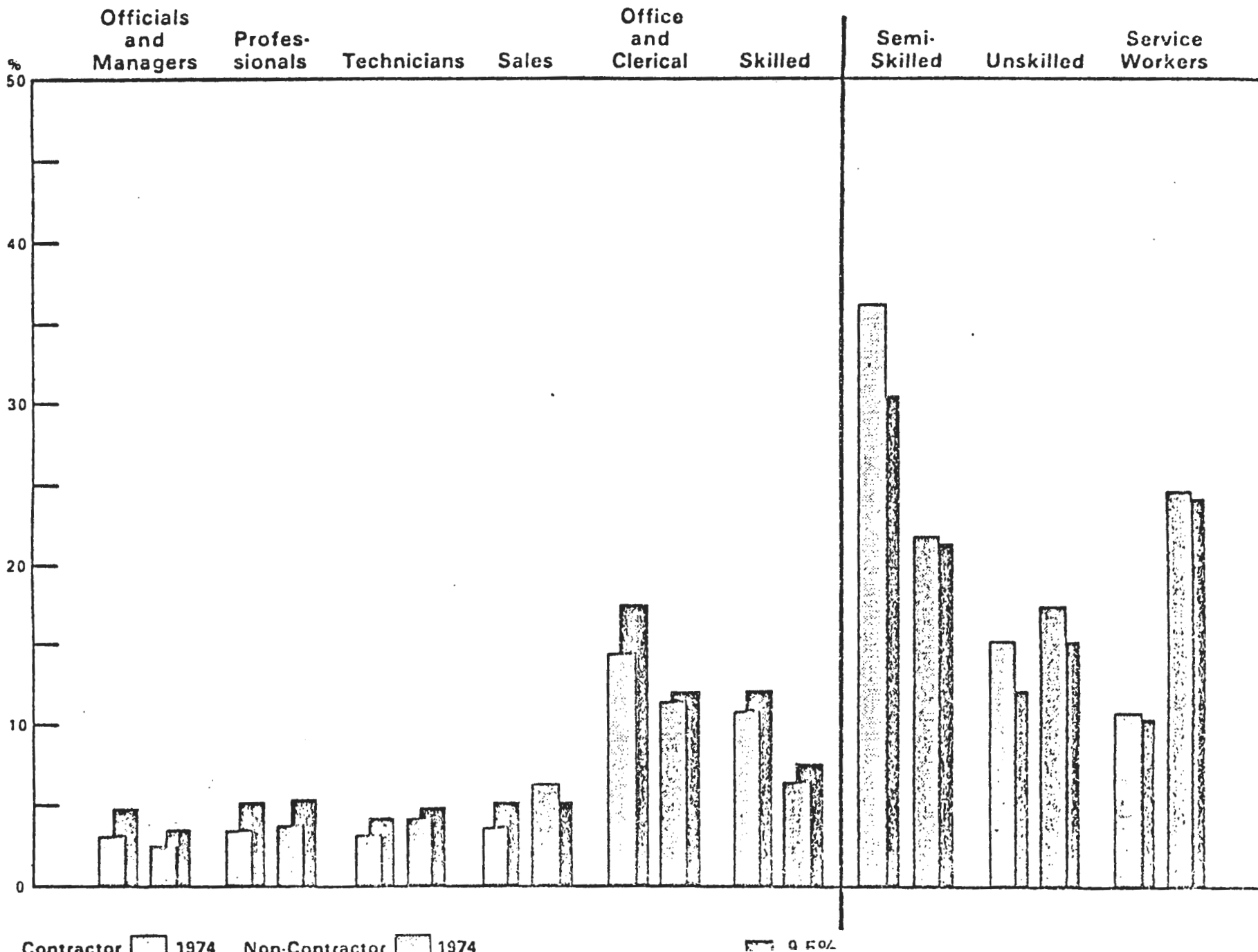


Net Change in *Women's* Employment in Contractor and Non-Contractor Establishments, 1974-1980



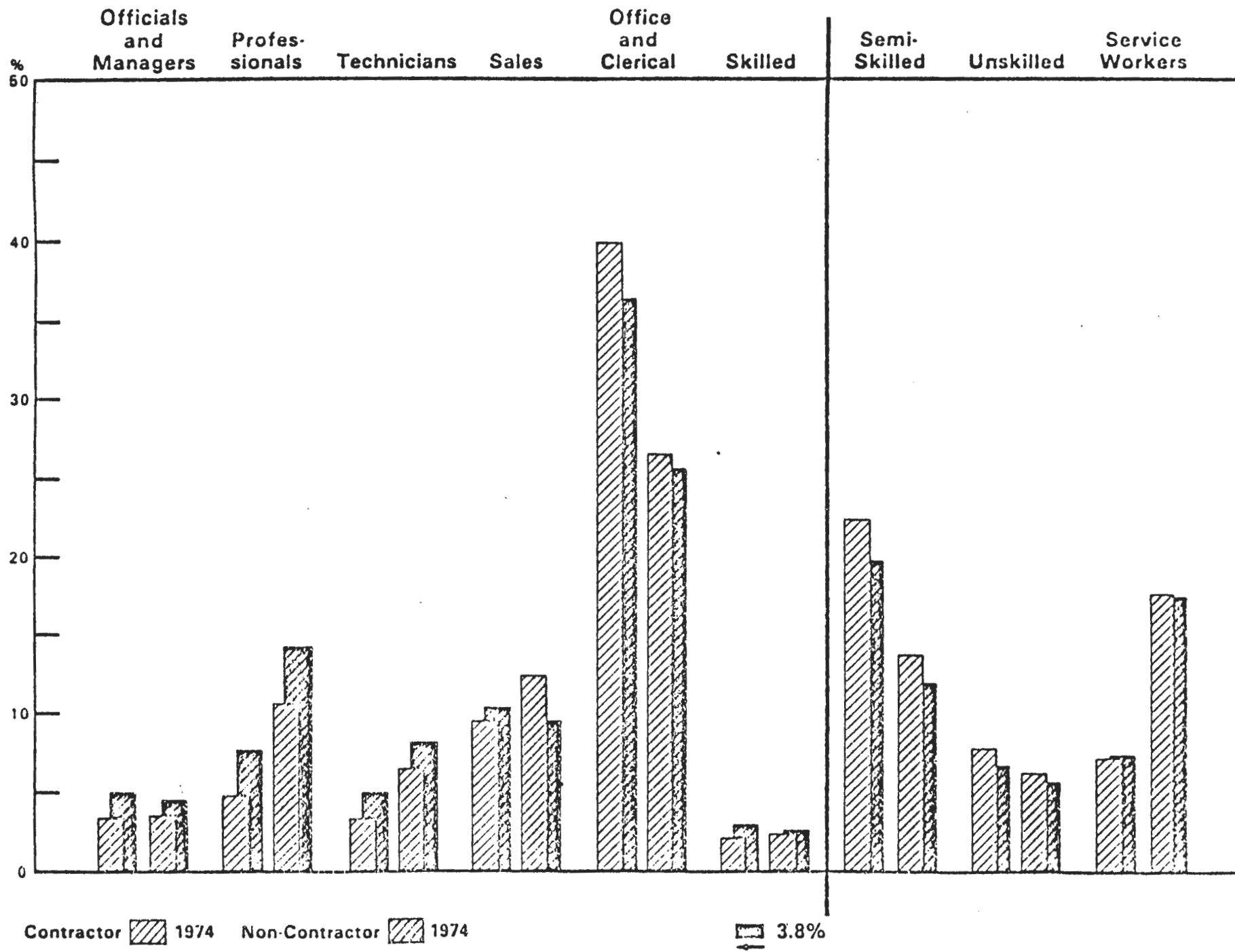
 Total Employment Change in Each Job Category
 Women's Employment in Contractor Establishments
 Women's Employment in Non-Contractor Establishments

Distribution of Minorities Among EEO-1 Categories in All Contractor and Non-Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980



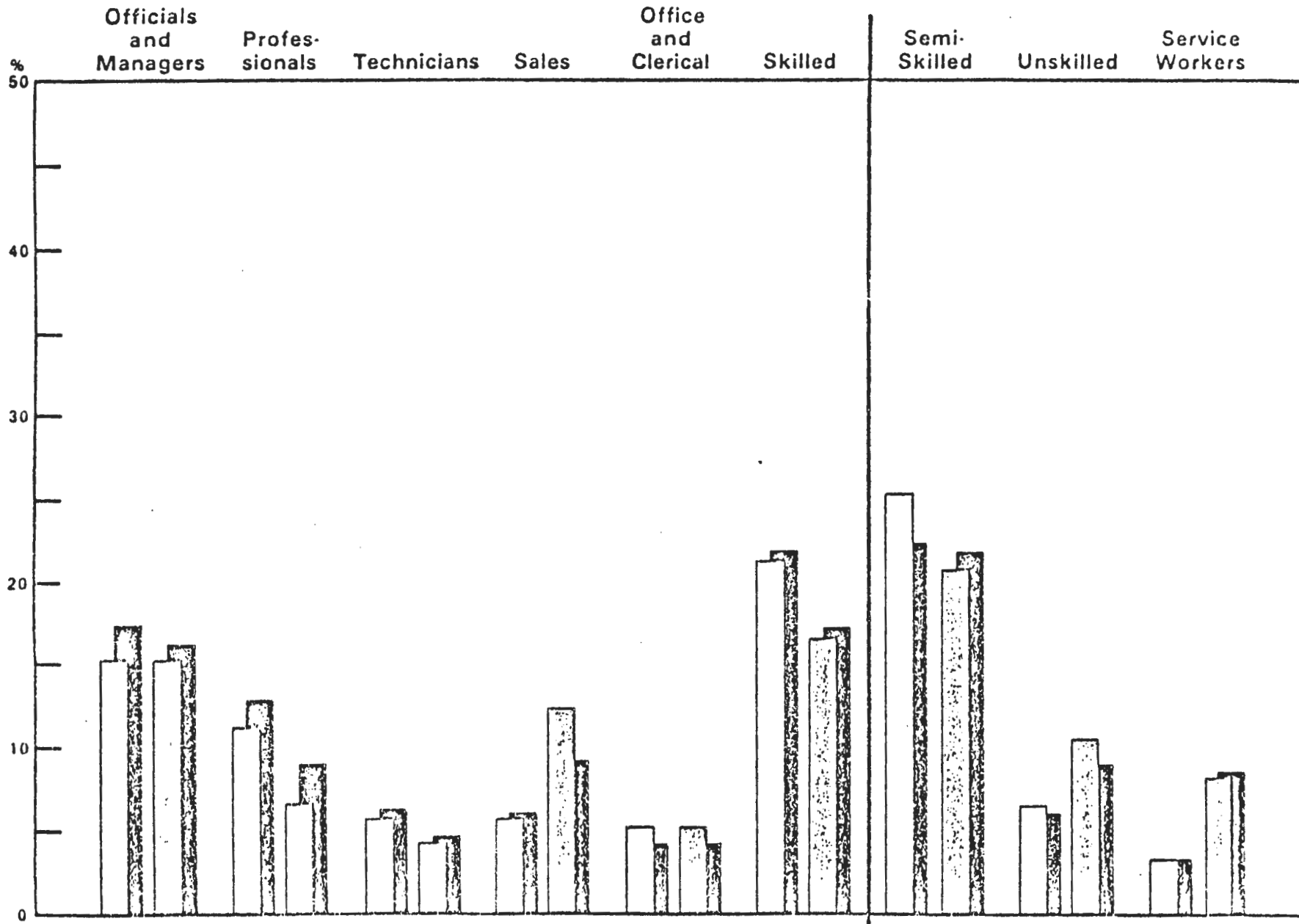
Contractor and Non-Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980

DRAFT



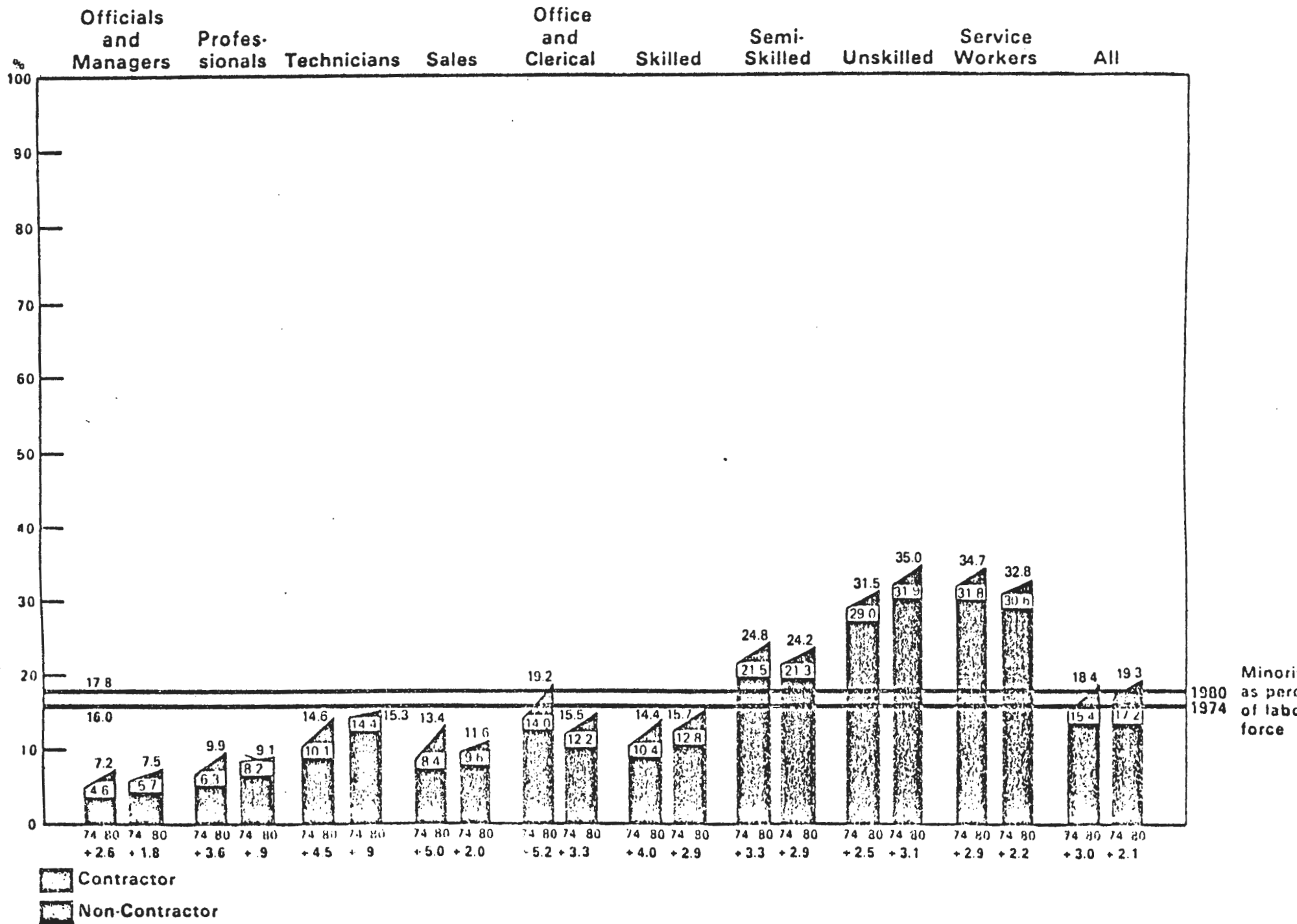
Distribution of White Males Among EEO-1 Categories in All Contractor and Non-Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980

DRAFT

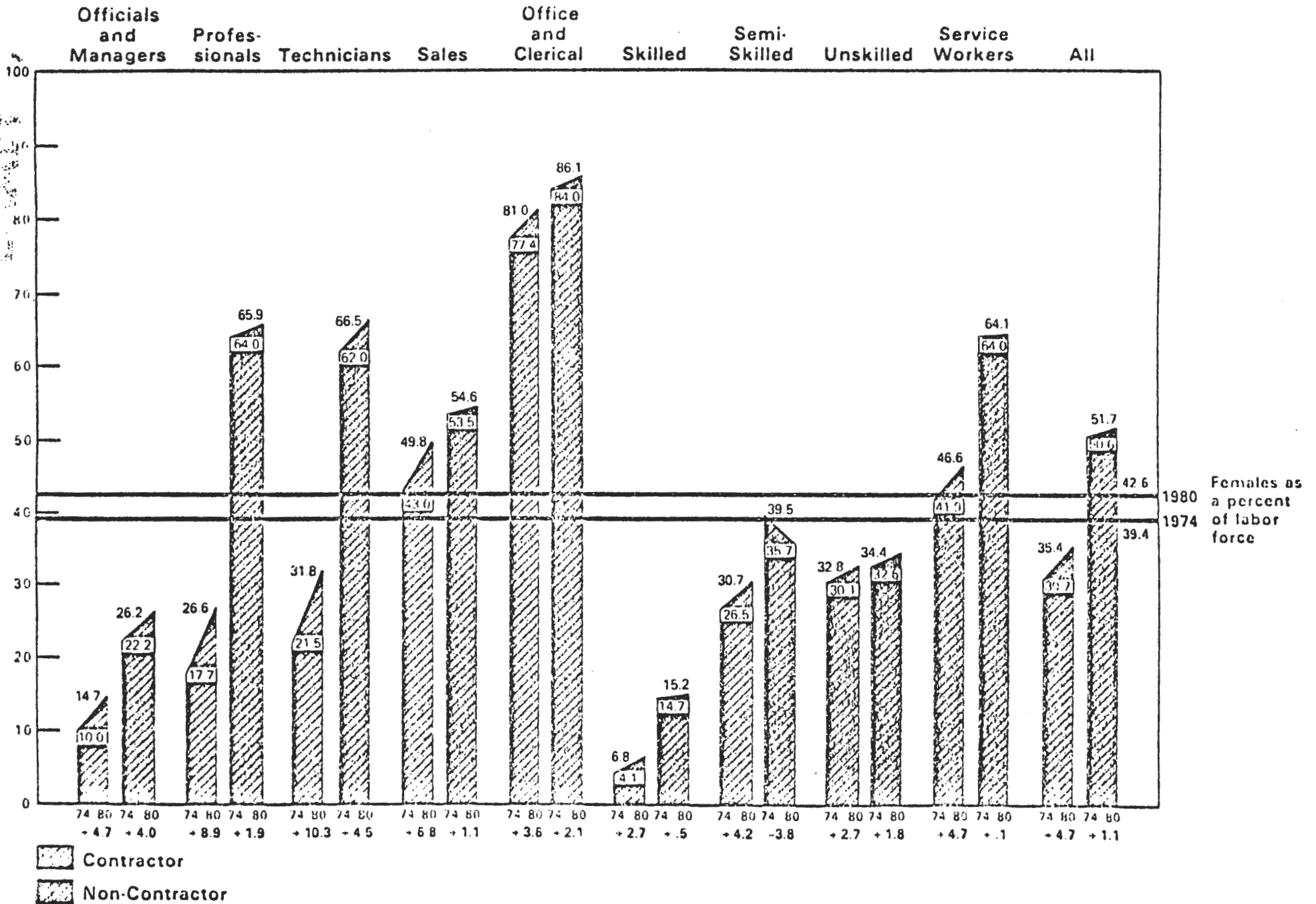


Contractor 1974 Non-Contractor 1974 3.6%
 Contractor 1980 Non-Contractor 1980 0.1%

Changes in Minority Employment in Contractor and Non-Contractor Establishments, 1974-1980

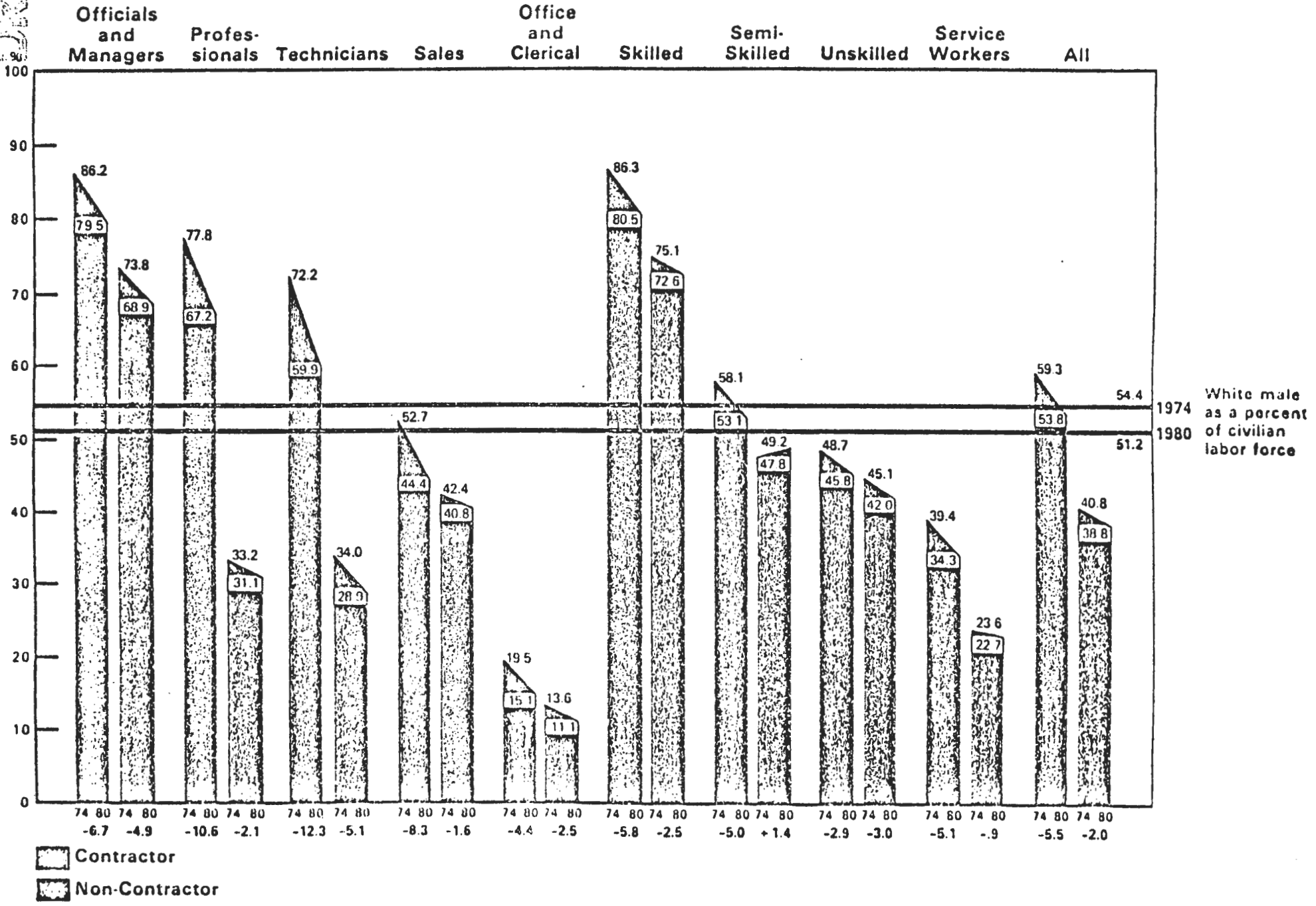


Changes in *Women's* Employment in Contractor and Non-Contractor Establishments, 1974-1980



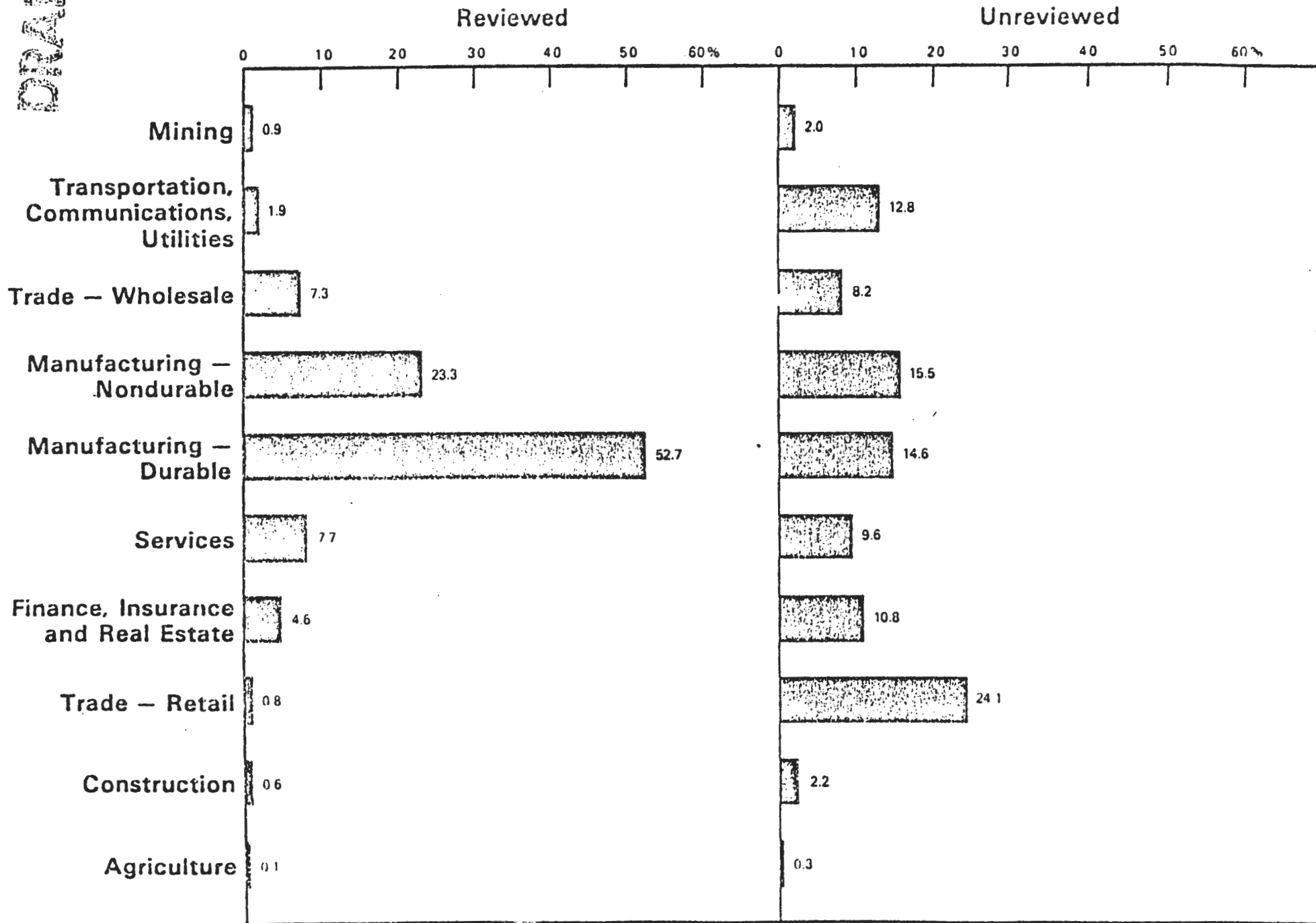
Changes in *White Male* Employment in Contractor and Non-Contractor Establishments, 1974-1980

DRAFT



Industries as Percent of Reviewed and Unreviewed Contractors' Establishments

DRAFT



Number of Establishments Compared, 1974-1980

DRAFT

	Reviewed Contractor	Unreviewed Contractor
Mining	46	867
Construction	32	974
Manufacturing — Durable	2,643	6,409
Manufacturing — Non-Durable	1,166	6,811
Transportation, Communication, Utilities	96	5,608
Trade — Wholesale	365	3,608
Trade — Retail	42	10,576
Finance, Insurance, Real Estate	233	4,747
Services	385	4,222
Agriculture	4	133
All	5,012	43,955

Employment Totals in Federal Contractor Establishments
Reporting in 1974 and 1980

Reviewed Establishments - 1974

DRAFT

	TOTAL	WHITE MALE	MINORITY	FEMALE
Officials & Managers	394,122	360,394	15,447	19,774
Professionals	426,635	371,166	23,827	34,673
Technicians	229,547	183,047	19,473	30,907
Sales Workers	72,452	55,583	4,233	13,980
Office & Clerical	513,200	118,367	60,113	377,761
Craftsmen	598,972	507,706	62,409	35,817
Operators	1,312,645	661,048	302,067	467,576
Laborers	261,452	118,127	77,241	91,518
Service Workers	102,407	63,667	26,315	16,993
All Jobs	3,911,432	2,439,105	591,125	1,088,990

1980

Officials & Managers	457,631	387,993	30,063	44,889
Professionals	517,950	399,936	48,327	80,306
Technicians	269,100	183,897	35,567	60,391
Sales Workers	76,249	51,116	6,726	20,918
Office & Clerical	523,370	89,932	89,267	412,168
Craftsmen	586,442	460,571	89,357	49,204
Operators	1,168,604	520,490	323,034	472,205
Laborers	210,813	89,121	69,223	77,769
Service Workers	101,480	53,945	29,367	25,941
All Jobs	3,911,639	2,237,001	720,931	1,243,791

Unreviewed Establishments - 1974

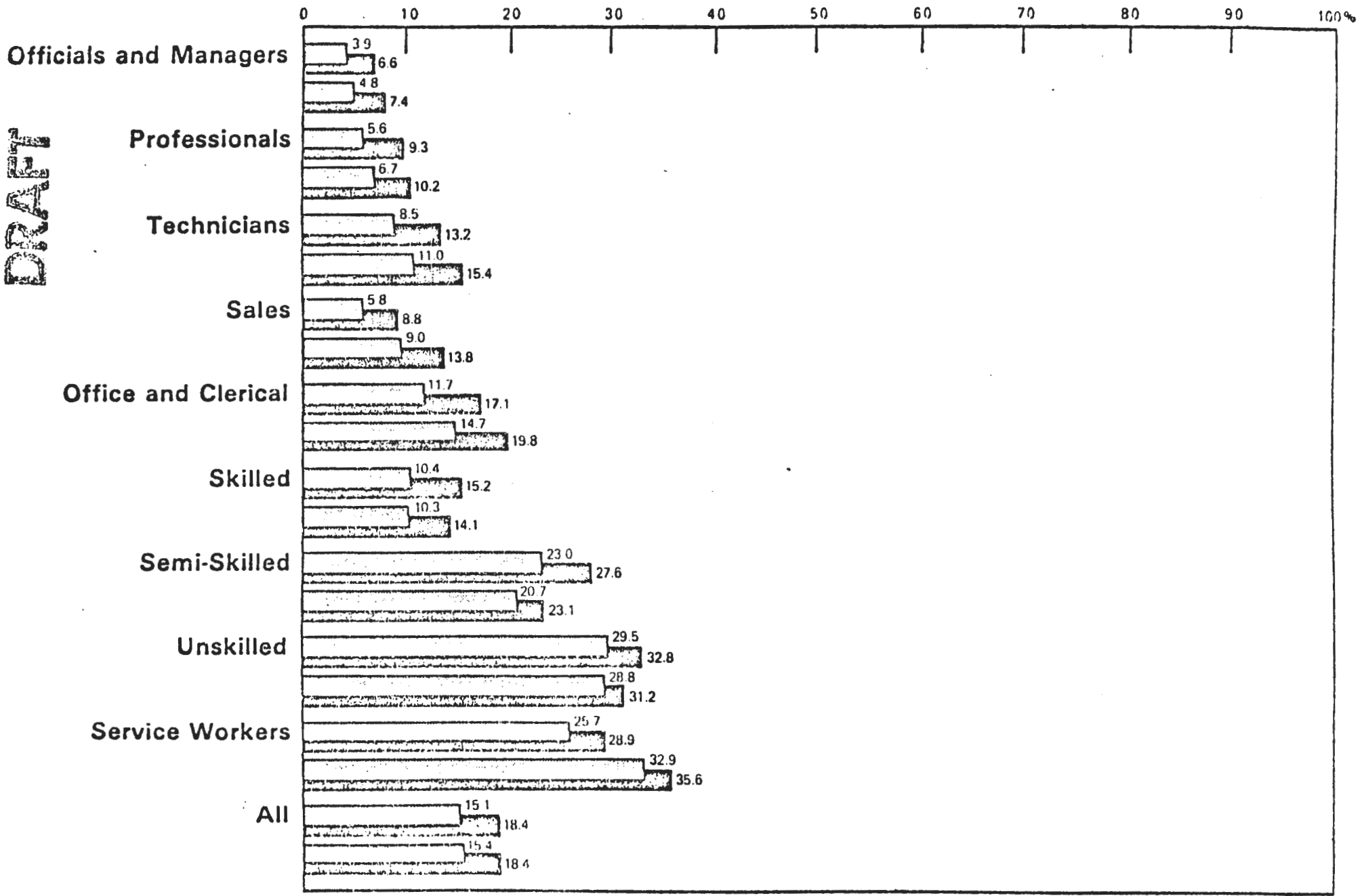
Officials & Managers	1,042,057	878,203	50,396	123,776
Professionals	724,192	524,636	48,602	169,111
Technicians	434,970	296,570	47,756	112,001
Sales Workers	836,248	422,885	75,255	376,721
Office & Clerical	1,647,221	302,037	242,059	1,293,695
Craftsmen	1,394,379	1,212,162	143,932	46,770
Operators	2,221,775	1,392,731	459,143	467,937
Laborers	831,898	413,887	239,626	237,591
Service Workers	595,833	211,721	196,057	257,451
All Jobs	9,728,573	5,654,832	1,502,826	3,103,053

1980

Officials & Managers	1,194,220	925,835	88,628	203,799
Professionals	907,737	558,116	92,676	298,773
Technicians	512,883	284,822	78,721	188,167
Sales Workers	943,473	401,861	130,362	486,448
Office & Clerical	1,698,413	245,321	336,230	1,388,120
Craftsmen	1,437,029	1,167,627	202,353	88,644
Operators	2,001,075	1,163,653	461,496	501,515
Laborers	789,521	368,899	245,929	250,564
Service Workers	653,758	204,900	232,999	325,922
All Jobs	10,138,109	5,321,034	1,869,394	3,731,952

Participation Rates of *Minorities* in Reviewed and Unreviewed Contractor Establishments, 1974-1980

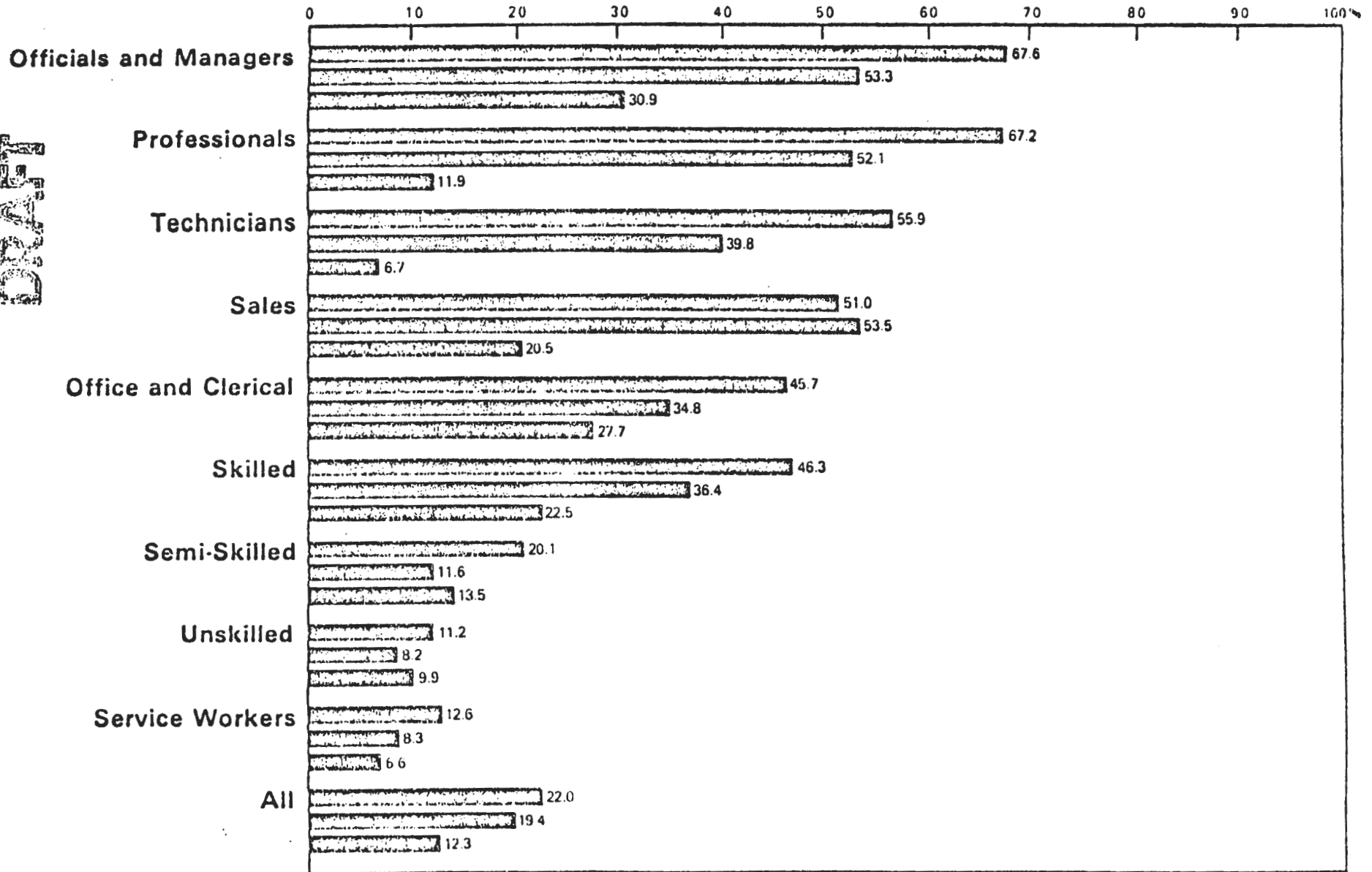
LEVEL



Reviewed 1974 Unreviewed 1974
 1980 1980

Relative Growth of *Minorities'* Participation Rates in Three Types of Work Forces, 1974-1980

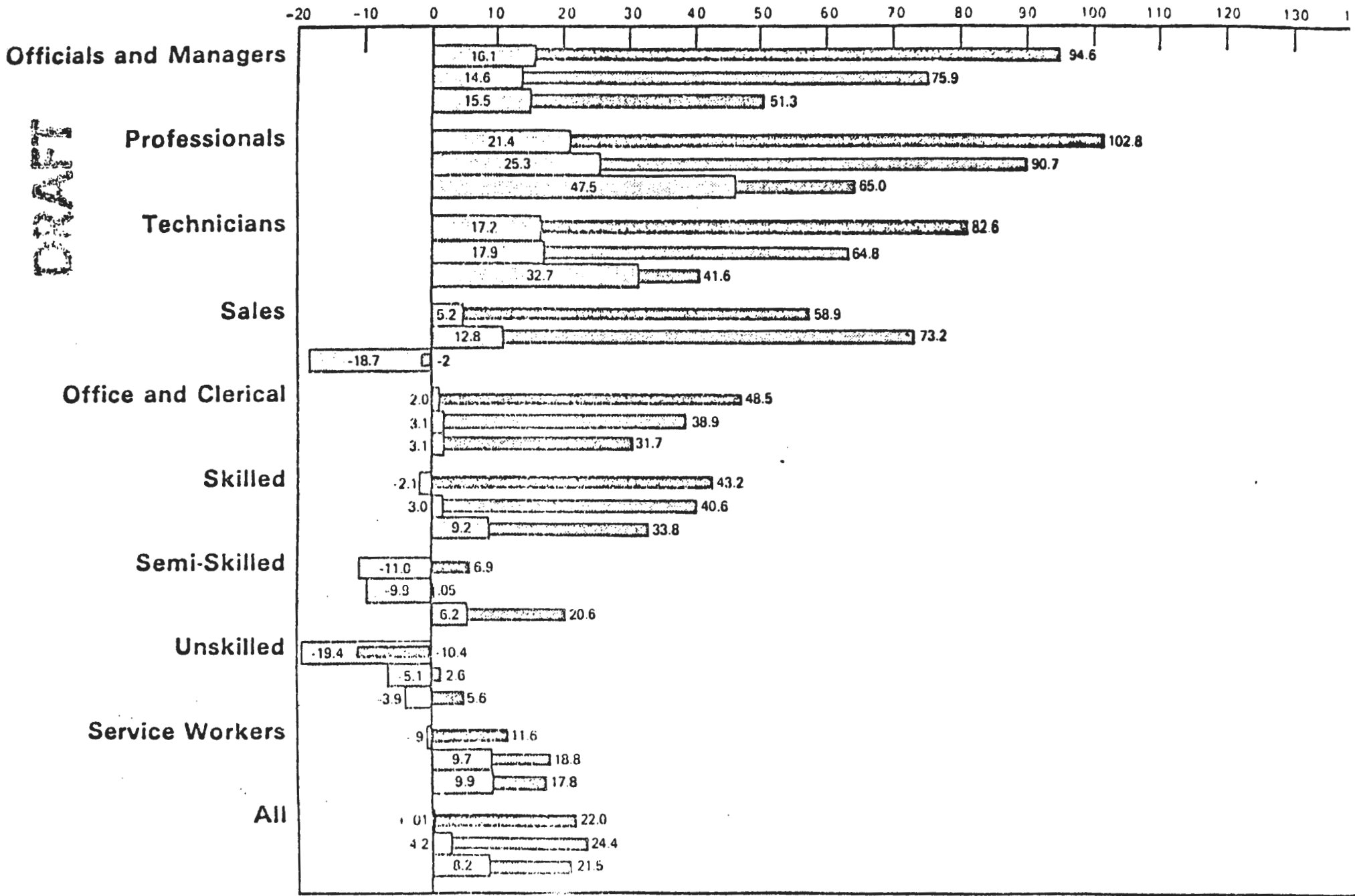
DRAFT



Reviewed Contractors
 Unreviewed Contractors
 Non-Contractors

Net Change in *Minority* Employment in Three Types of Work Forces, 1974-1980

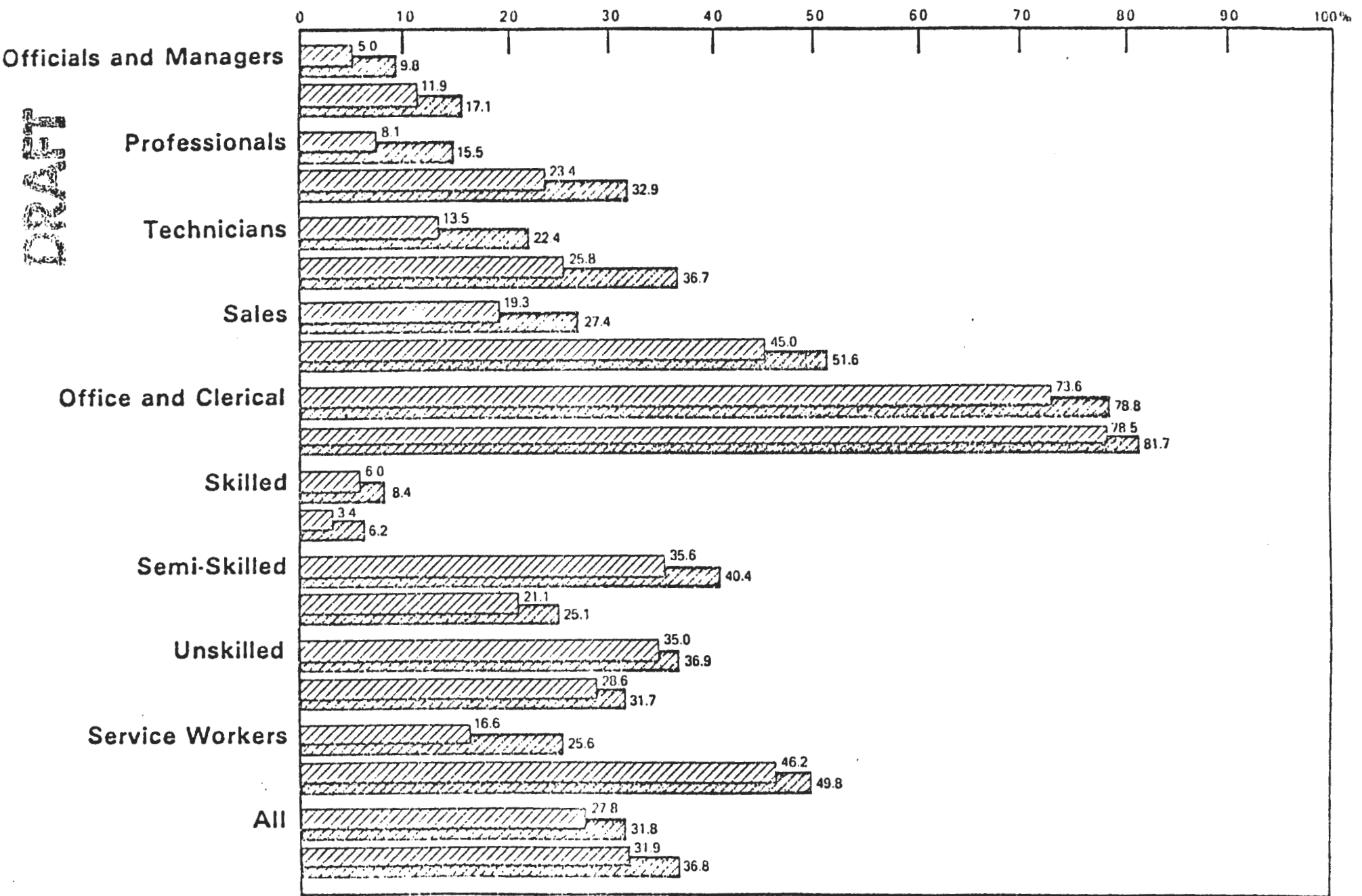
DRAFT



Minorities in Reviewed Contractor Establishments
 Minorities in Non-Contractor Establishments
 Minorities in Unreviewed Contractor Establishments
 Total Employment Change in 1974-1980

Participation Rates of *Women* in Reviewed and Unreviewed Contractor Establishments, 1974-1980

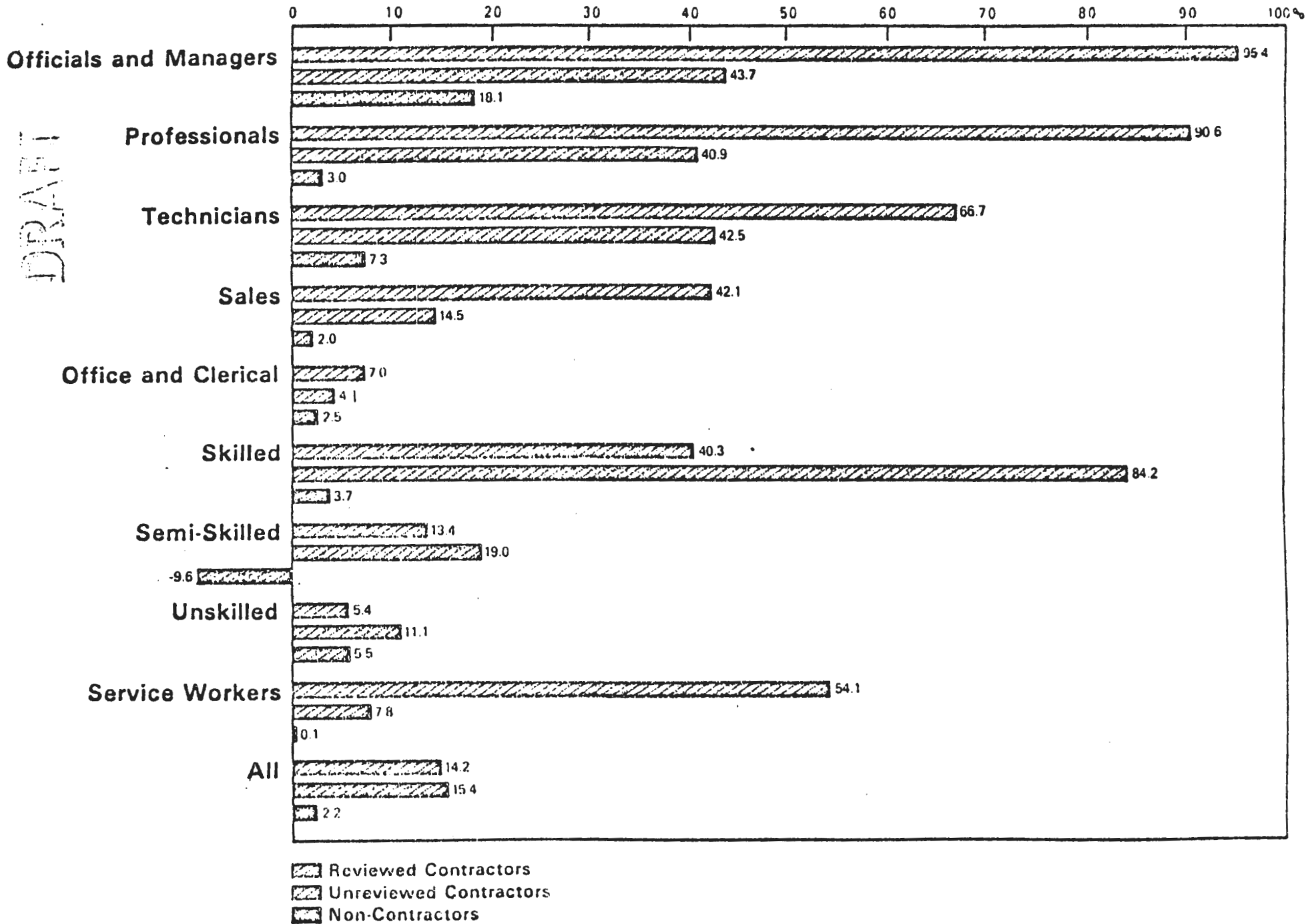
DRAFT



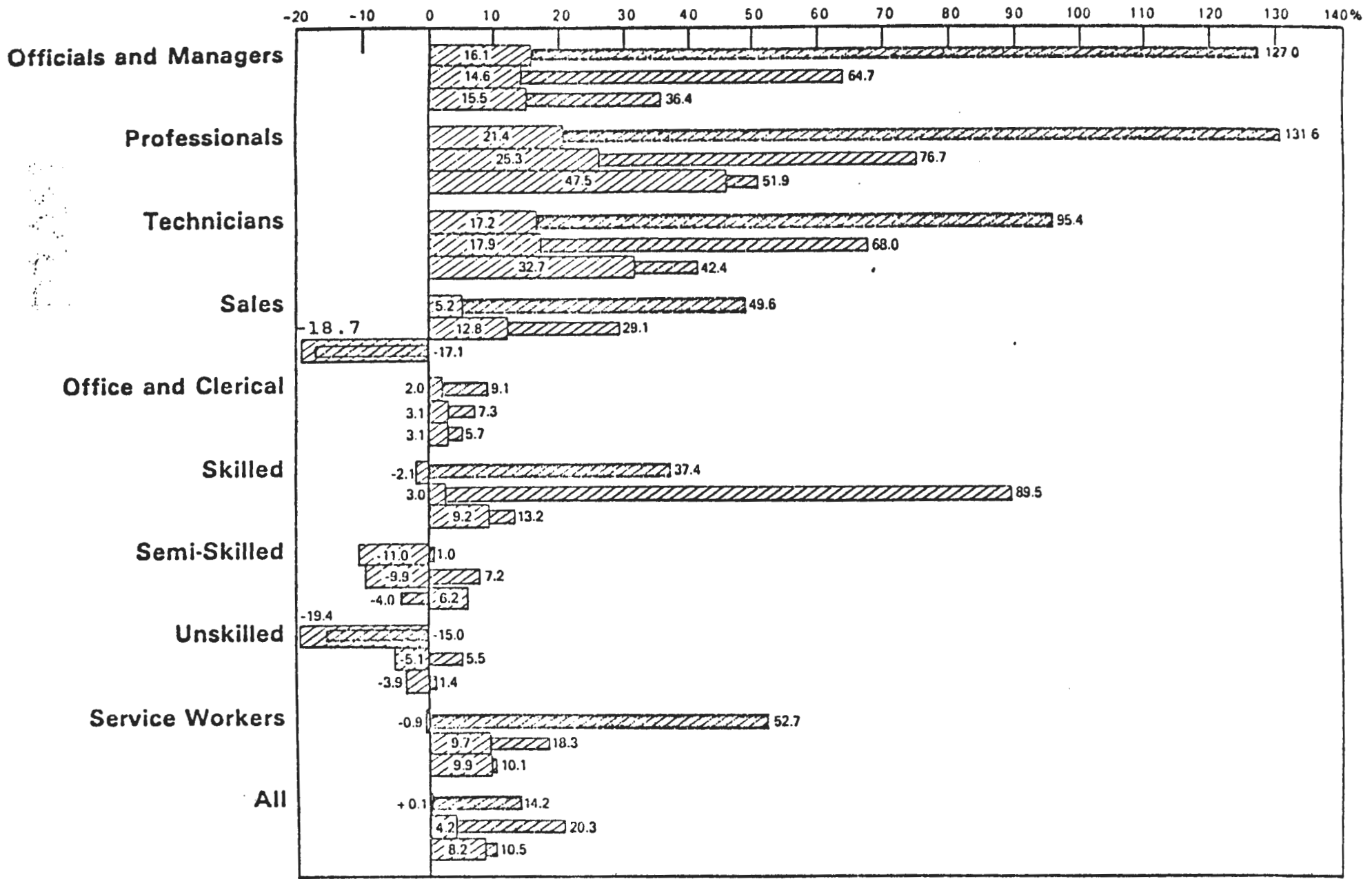
Reviewed  1974 Unreviewed  1974
  1980  1980

Relative Growth of Women's Participation Rates in Three Types of Work Forces, 1974-1980

DRAFT



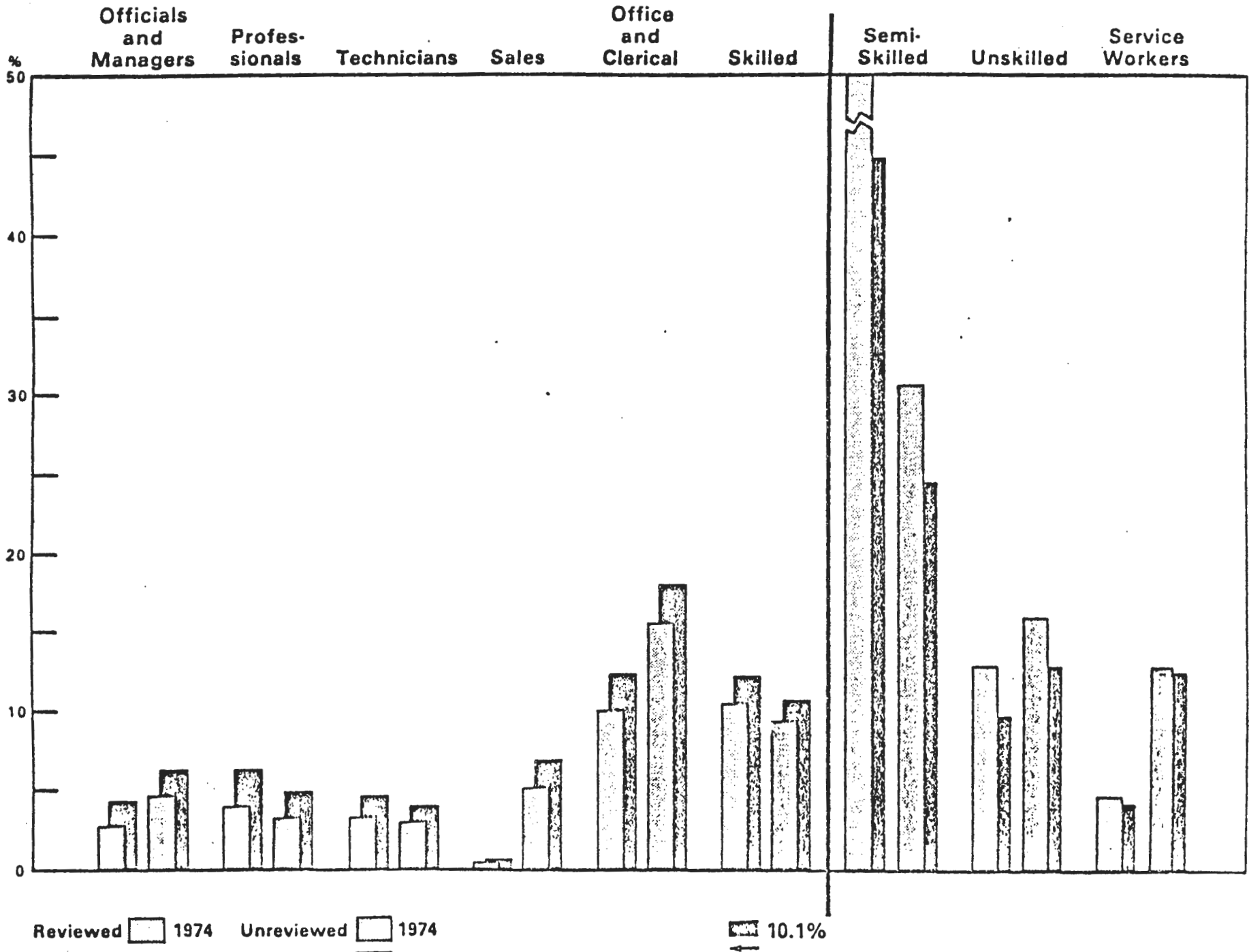
Net Change in *Women's* Employment in Three Types of Work Forces, 1974-1980



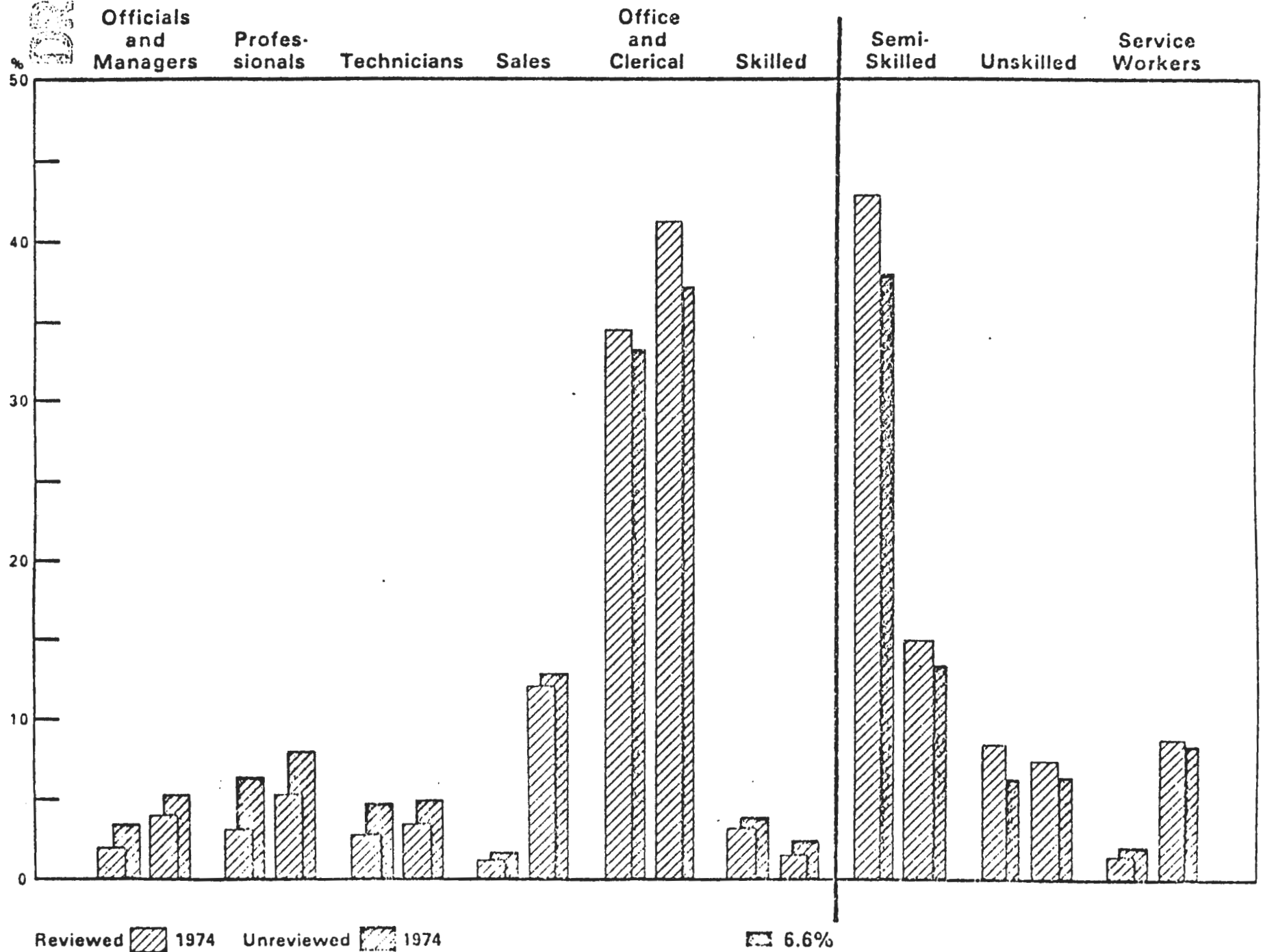
Women in Reviewed Contractor Establishments
 Women in Non-Contractor Establishments
 Women in Unreviewed Contractor Establishments
 Total Employment Change in Respective Job Categories

Distribution of Minorities Among EEO-1 Categories in Reviewed and Unreviewed Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980

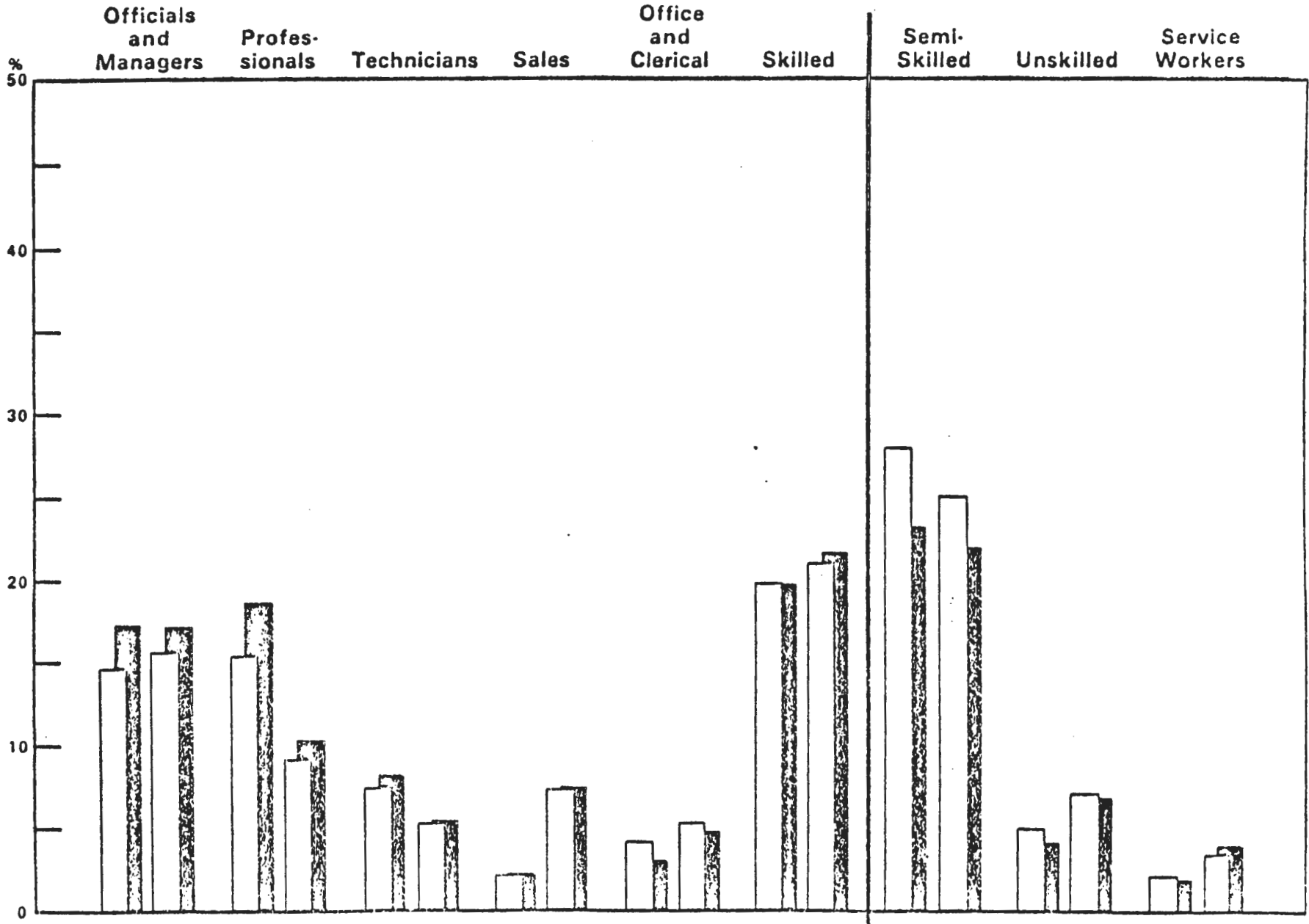
DRAFT



DISTRIBUTION OF EMPLOYEES AMONG EEO-1 CATEGORIES IN Reviewed and Unreviewed Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980



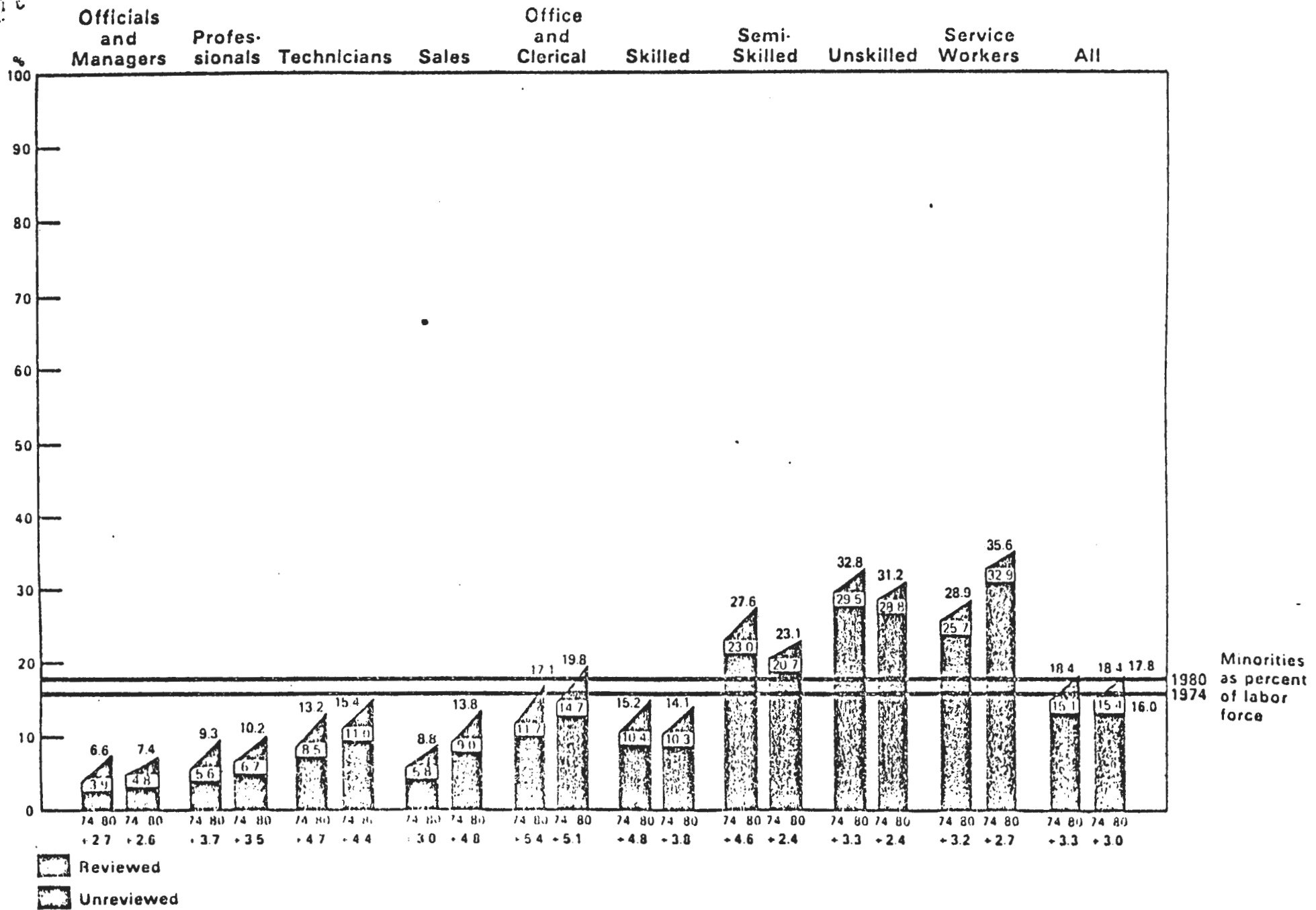
Distribution of *White Males* Among EEO-1 Categories in Reviewed and Unreviewed Contractor Establishments Showing Shift From Lower Three Categories, 1974-1980



Reviewed 1974 Unreviewed 1974 1979 1980 4.8%

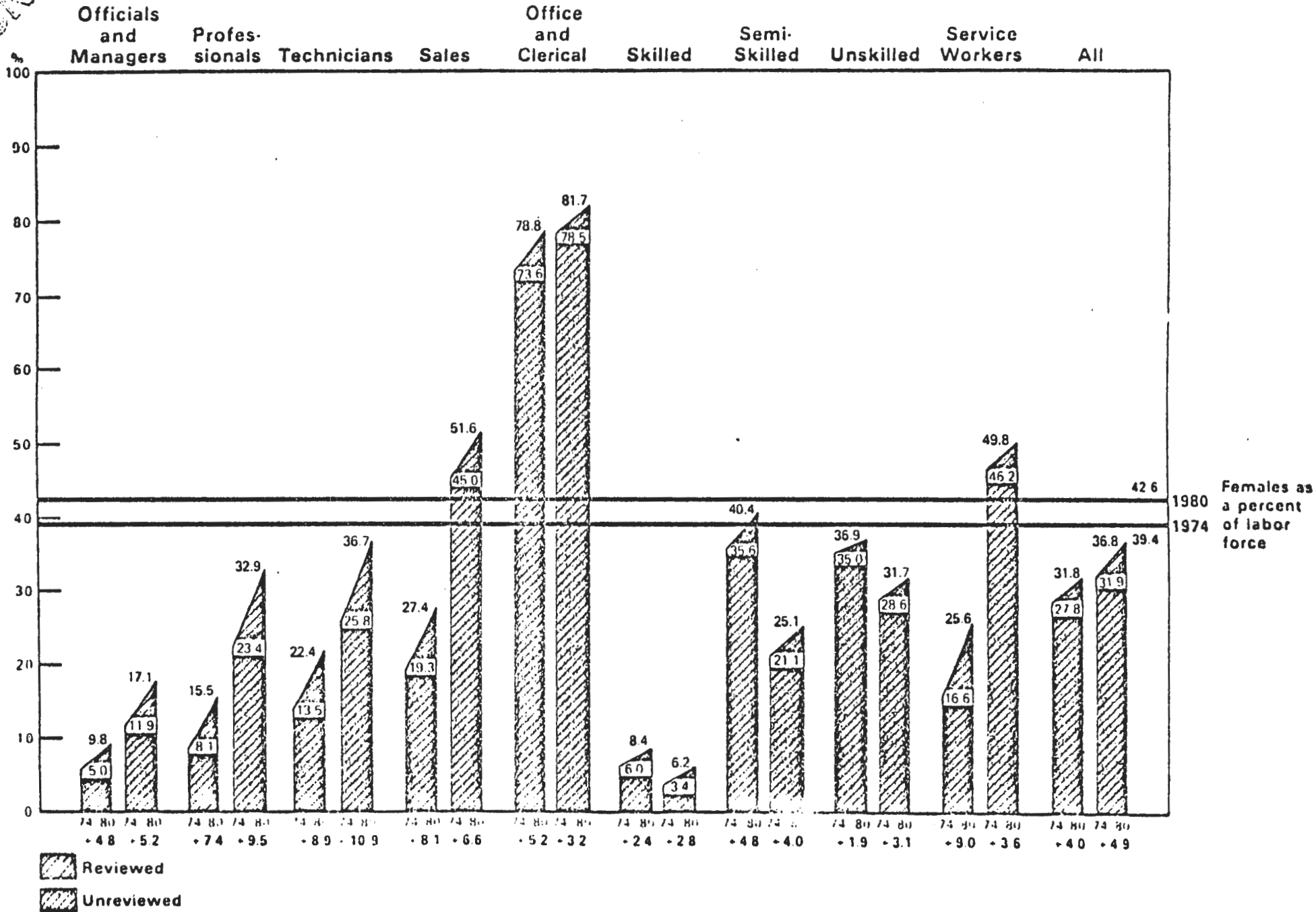
Changes in *Minority* Employment in Reviewed and Unreviewed Contractor Establishments, 1974-1980

DRAFT



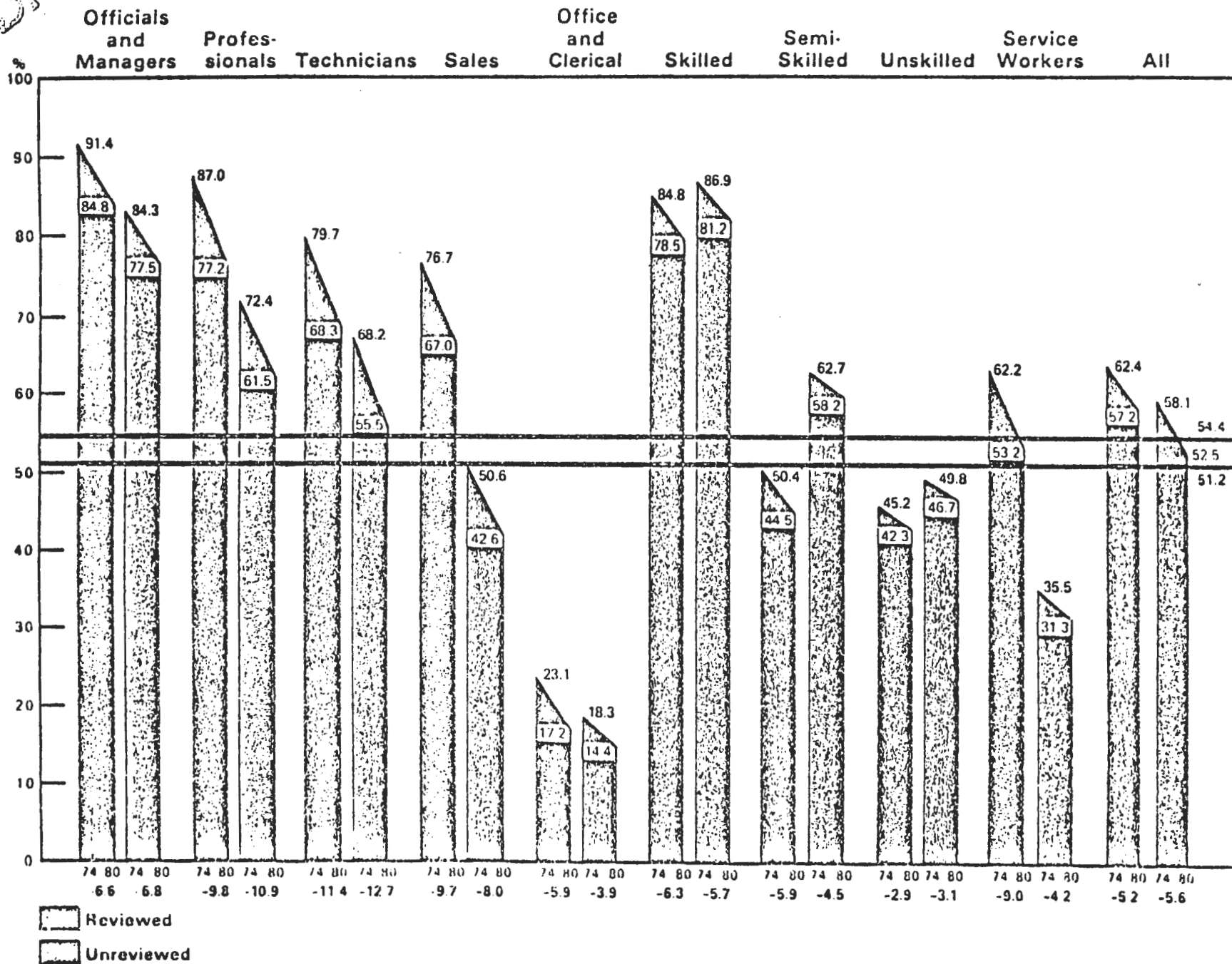
Changes in *Women's* Employment in Reviewed and Unreviewed Contractor Establishments, 1974-1980

DRAFT



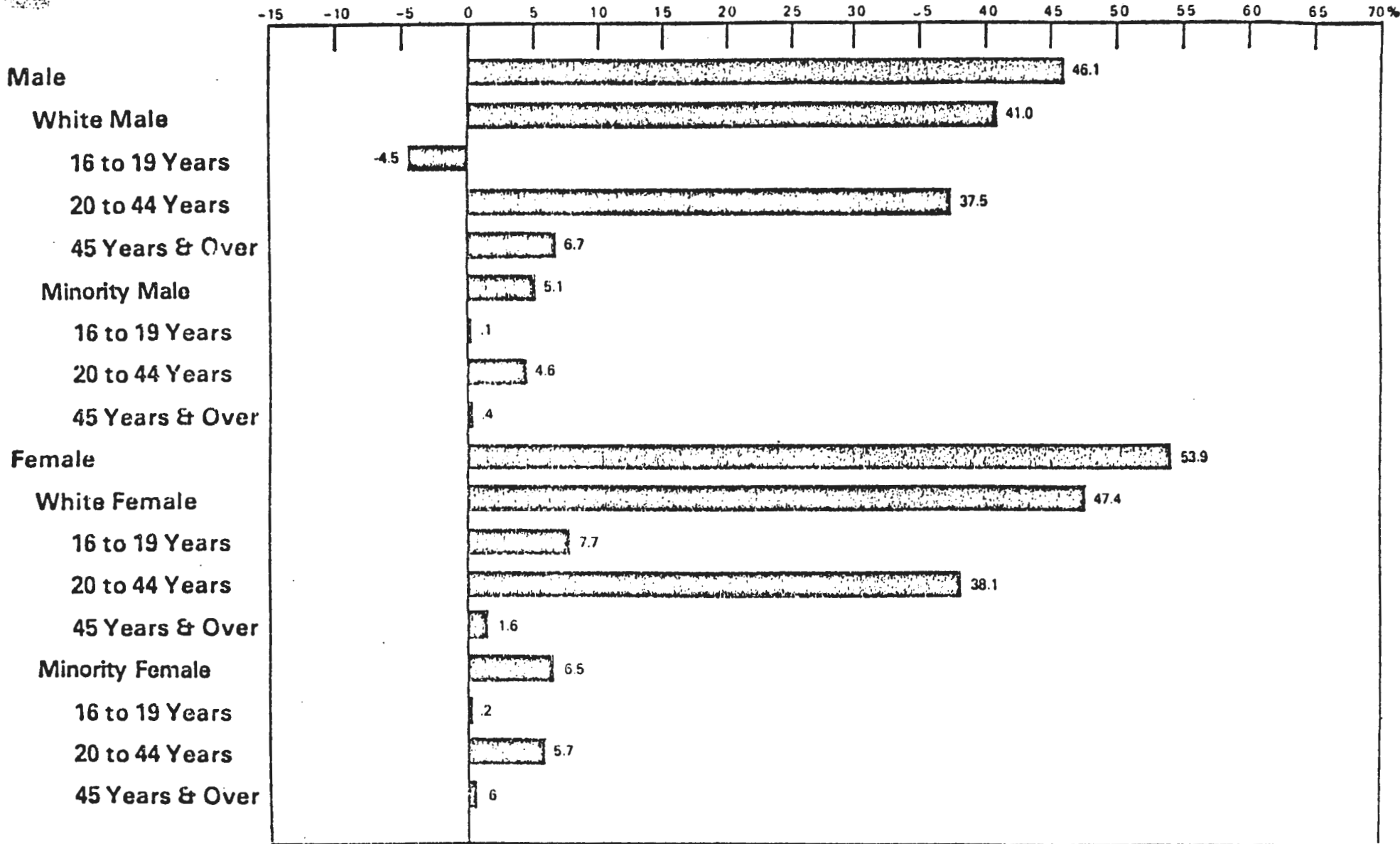
DRAFT

Changes in *White Male* Employment in Reviewed and Unreviewed Contractor Establishments, 1974-1980



White male as a percent of civilian labor force

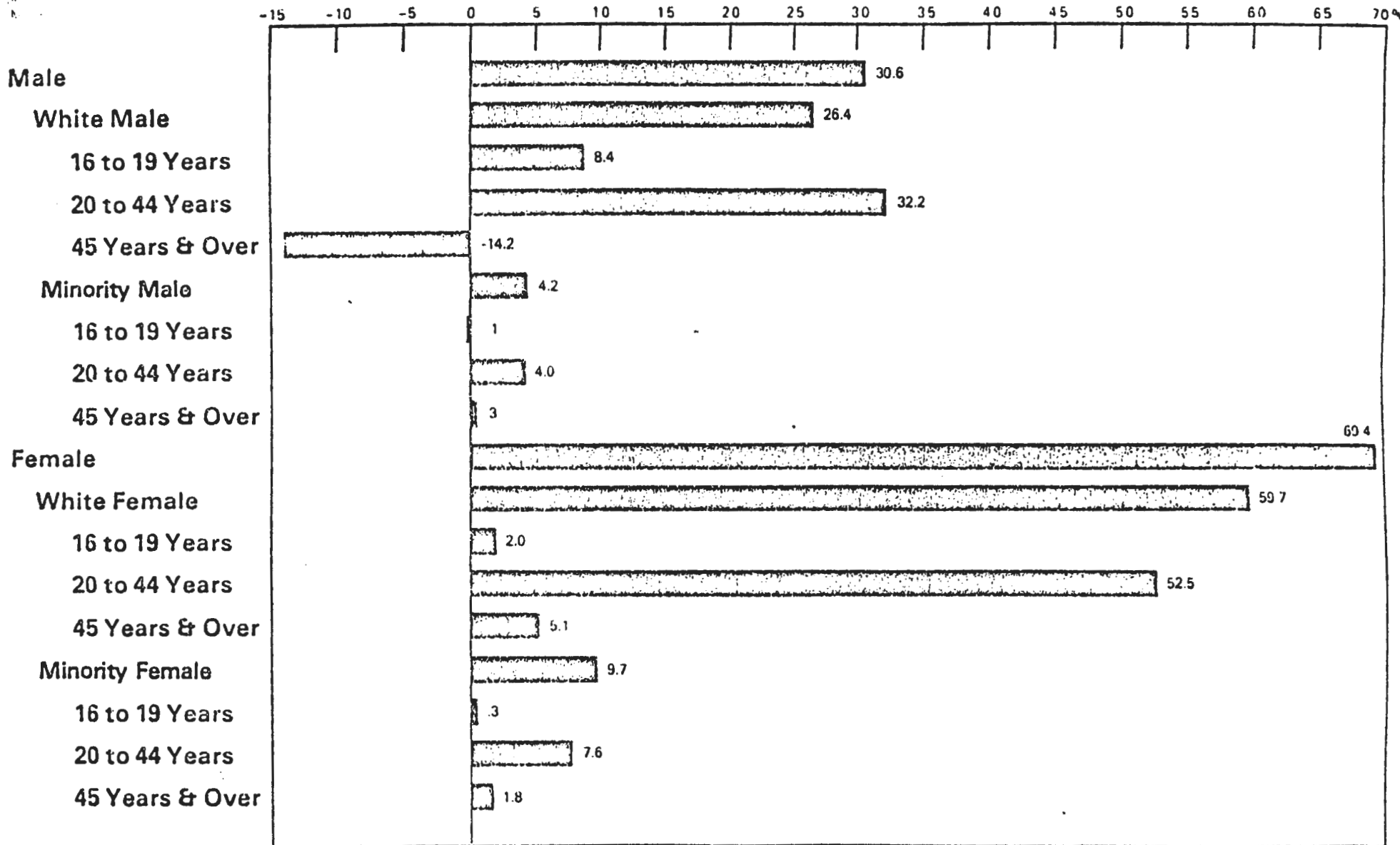
Percent That Selected Groups (by Sex, Race and Age) Represented of the Employment Growth in the United States During the 1969-1974 Period



☐ Indicates That It Is a Subcomponent of the Brown Line Above It.

Source: Bureau of Labor Statistics, USDOL. Employment and Earnings, Selected Issues, 1969 and 1975.
Chart Prepared by OFCCP.

Percent That Selected Groups (by Sex, Race and Age) Represented of the Employment Growth in the United States During the 1974-1980 Period



☐ Indicates That It Is a Subcomponent of the Brown Line Above It.

Source: Bureau of Labor Statistics, USDOL. Employment and Earnings, Selected Issues, 1975 and 1981.
Chart Prepared by OFCCP.

DRAFT

Differences in Participation Growth
Contractors v. Noncontractors 1974-1980

EEO-1 Job Categories	Difference <u>1/</u> Percent	Standard Deviation <u>2/</u>	Ratio of Difference to Standard Deviation	Critical Value <u>3/</u>
MINORITIES				
Officials & Managers	25.9	1.22	21.14	2.326
Professionals	45.3	.97	46.61	2.326
Technicians	37.8	.90	41.98	2.326
Sales	34.0	.80	42.32	2.326
Office & Clerical	9.3	.56	16.67	2.326
Skilled	16.7	.69	24.30	2.326
Semi-skilled	1.8	.43	4.20	2.326
Unskilled	- 1.2	.38	- 3.16	-2.326
Service Workers	2.5	.46	5.43	2.326
All Jobs	7.8	.17	45.85	2.326
WOMEN				
Officials & Managers	28.9	.61	47.00	2.326
Professionals	47.2	.39	119.91	2.326
Technicians	40.5	.48	86.97	2.326
Sales	13.7	.25	55.81	2.326
Office & Clerical	2.2	.08	27.91	2.326
Skilled	60.8	.85	71.77	2.326
Semi-skilled	25.7	.21	120.06	2.326
Unskilled	3.5	.36	9.72	2.326
Service Workers	11.1	.24	46.53	2.326
All Jobs	13.0	.084	154.04	2.326

See footnotes on next page.

Footnotes Table E

1/ Difference--refers to the percentage point differences in growth of minority and women's participation rates between contractor and non-contractor establishments (see charts 3 & 6).

2/ Column 2 converts the observed difference in participation growth between sectors, presented in column 1, into standard deviation units. This allows comparison with the standard normal distribution, or bell curve, to assess the probability that the observed differences of column 1 are attributable to chance factors. The Standard Deviation(s) measures the average deviation from central tendency. Algebraically, it is the positive square root of a quality called variance (s^2), which equals the sum of square deviations from the mean divided by N-1; derived thusly:

$$s = \sqrt{s^2} = \sqrt{\frac{(X-\bar{X})^2}{N-1}}$$

3/ Critical value--Using a value of 2.326 assumes a 99 percent confidence level. For example, the probability of observing as large a differential (25.9 percent difference in participation rate growth for Officials and Managers in contractors' establishments above that of noncontractors') by chance alone is less than .01. Any time that column 3 is less than column 4, in absolute terms, there is no significant difference between the data shown for contractors and noncontractors at the 99 percent confidence level. On this table, the differences are highly significant.

Differences in Participation Growth
Reviewed Contractors v. Unreviewed
Contractors, 1974 - 1980

EEO-1 Job Categories	Difference <u>1</u> / Percent	Standard Deviation <u>2</u>	Ratio of Difference to Standard Deviation	Critical Value <u>3</u>
MINORITIES				
Officials & Managers	14.3	1.84	7.77	2.326
Professionals	15.1	1.53	9.85	2.326
Technicians	16.1	1.53	10.53	2.326
Sales	- 2.5	3.09	-0.81	-2.326
Office & Clerical	10.9	.78	13.89	2.326
Skilled	9.9	.85	11.70	2.326
Semi-skilled	8.5	.33	25.54	2.326
Unskilled	3.0	.55	5.49	2.326
Service Workers	4.3	.86	5.01	2.326
All Jobs	2.6	.23	11.29	2.326
WOMEN				
Officials & Managers	51.7	1.67	30.97	2.326
Professionals	49.7	1.21	40.93	2.326
Technicians	24.2	1.16	20.92	2.326
Sales	27.6	1.37	20.21	2.326
Office & Clerical	2.9	.13	22.34	2.326
Skilled	-43.9	1.40	-31.30	-2.326
Semi-skilled	- 5.6	.28	-20.07	-2.326
Unskilled	- 5.7	.49	-11.71	-2.326
Service Workers	46.3	1.38	33.65	2.326
All Jobs	1.2	.14	- 8.28	-2.326

See footnotes on next page.

Footnotes Table F

- 1/ Difference--refers to the percentage point differences in growth of minority and women's participation rates in reviewed and unreviewed contractor establishments (see charts 16 and 19).
- 2/ Column 2 converts the observed difference in participation growth between sectors, presented in column 1, into standard deviation units. This allows comparison with the standard normal distribution, or bell curve, to assess the probability that the observed differences of column 1 are attributable to chance factors. The Standard Deviation(s) measures the average deviation from central tendency. Algebraically, it is the positive square root of a quantity called variance (s^2), which equals the sum of square deviations from the mean divided by $N-1$; derived thusly:

$$s = \sqrt{s^2} = \sqrt{\frac{(X-\bar{X})^2}{N-1}}$$

- 3/ Critical value--Using a value of 2.326 assumes a 99 percent confidence level. For example, the probability of observing as large a differential (25.9 percent difference in participation rate growth for Officials and Managers in contractors' establishments above that of noncontractors') by chance alone is less than .01. Any time that column 3 is less than column 4, in absolute terms, there is no significant difference between the data shown for contractors and noncontractors at the 99 percent confidence level. On this table, the differences are highly significant.

SOURCE AND RELIABILITY OF THE DATA

Source

This study was accomplished by utilizing OFCCP's Automated Management Information System (AMIS) and the EEO-1 master files data for 1974 and 1980.

The EEO-1 master file contains employment data for all establishments that are required by Section 709(c) of Title VII to file such data with the Joint Reporting Committee each year. The following kinds of employers are required to file a Standard Form 100 annually:

(A) All private employers who are subject to Title VII of the Civil Rights Act of 1964 and its Amendments, who employ 100 or more persons... and (B) All Federal contractors (private employers) who are not exempt under 41 CFR 60-1.5, and who have 50 or more employees and a contract or purchase order amounting to \$50,000 or more; or serve as a depository for government funds, or as a financial institution acting as an issuing and paying agent for U.S. Savings Bonds and Notes. The EEO-1 files do not contain data on self-employed persons, employees of firms not required to file, (such as, for example, most construction contractors and subcontractors, the greater part of whose work forces are not permanent) and employees of educational institutions, which report their employment under another system (EEO-6 Reports).

In 1980, the master files contained the employment profiles of 173,644 reporting units employing 34.1 million workers.

The employment profiles of the Federal contractor and noncontractor establishments were derived from this data bank for 1974 and 1980. The employment profiles of reviewed and unreviewed Federal contractor establishments were also derived from the EEO-1 file.

The AMIS file was used to identify reviewed Federal contractor establishments and match them in the EEO-1 files. Prior to consolidation of all Federal compliance programs into OFCCP in October 1978, AMIS was a tool of the Defense Department's compliance program. Since that time OFCCP has maintained the AMIS system. However, the data reflect the preponderance of review activity in those industries such as durable and non-durable manufacturing that were assigned to the Defense Department for Executive Order 11246 compliance monitoring prior to 1978.

It should also be noted that in order to obtain the largest possible sample of reviewed establishments for performance measurement, no limit was set on when such establishments were first or last reviewed. Thus, for reviewed establishments, the performance measurement includes establishments which may have been first reviewed relatively recently, as well as those with longer review histories. Even if this results in some degree of understatement of the performance

of the reviewed group, the patterns found by the study are sufficiently strong to permit discounting of the effect.

In order to utilize the most effective means of measuring OFCCP's effectiveness, data were delineated into nine EEO-1 job categories within 10 major industry classifications by white male, minority, and female characteristics.

Changes in employment growth over time for the selected group were compared between Federal contractors and noncontractors and between reviewed and unreviewed contractor establishments. This 3-way break effectively measures the changes in employment concentrations as a result of establishments experiencing compliance reviews as opposed to those which have not.

Data Validity

To test the validity of the data used in this report, OFCCP contracted with an independent consulting firm, Welch Associates, of Santa Monica, California. Welch Associates matched the AMIS and EEO-1 master files data with the Current Population Survey data and compared the 1974 and 1980 employment changes with the changes shown over a longer period, 1970-1980. This comparison also included the noncontractors not required to file EEO-1 reports.

Several tests were run to verify the statistical validity of the data. Student t tests were applied to the data. Welch Associates also developed "ratios of differences to standard deviations" for

the participation rate growth between 1974 and 1980 shown as column 3 in Tables E and F. Using the null hypothesis: $\bar{r}_c = \bar{r}_n$ we assume there is no difference in the growth rates of contractors and noncontractors. However, since the numbers in column 3 in all but one category for both tables are higher, in absolute terms, than the comparable number in column 4, we must reject the hypothesis $\bar{r}_c = \bar{r}_n$ and accept that $\bar{r}_c - \bar{r}_n > 2.326$ (or $\bar{r}_c - \bar{r}_n < -2.326$) at the 99 percent level of confidence.

Using the 99 percent confidence level, the critical value 2.326 is used to measure the statistical significance of the differences in participation rate growth between contractors and noncontractors, and reviewed and unreviewed contractors.

Tables E and F can be used as a guide to indicate the significance of the differences in minority and women's participation rate growth in contractors' and noncontractors' work forces, and in those of reviewed and unreviewed establishments. For example, in the minority "Officials and Managers" category on Chart 3, using 2.326 as a critical value, the data on Table E indicate that the probability of observing as large a differential (25.9 percent) by chance alone is less than .01; and the average deviation from central tendency is 1.22. By comparing columns 3 and 4 data in Tables E and F, one can readily see that in only one category (minorities in sales) that compares reviewed

v. unreviewed contractors is column 3 (ratio of difference to standard deviation) less than the critical value in column 4. Thus, in that category the difference between the two contractor groups is not significant at the 99 percent confidence level. However, in all the other categories tested, the ratios at column 3 are much higher, in absolute terms, than the critical value in column 4; thus, the differences reported are highly significant.

Glossary

Following are explanations of certain terms as used in this study and report.

Contractor --- An employer who has contracted to supply goods or services to the Federal government in the amount of \$10,000 or more and who has agreed to refrain from discrimination and to take affirmative action to promote equal employment opportunity. The contractor is covered by Executive Order 11246 and by Title VII of the 1964 Civil Rights Act.

Non-contractor --- An employer who is not a contractor with the Federal Government and is not covered by Executive Order 11246, but is covered by Title VII.

Reviewed Contractor Establishment --- Any one of a Federal contractor's establishments, the personnel practices of which have been examined by OFCCP or a predecessor agency to determine its compliance with the contractual obligation to refrain from discrimination and take affirmative action to promote equal employment opportunity.

Unreviewed Contractor Establishment --- Any one of a Federal contractor's establishments which has not been examined as described above.

EEO-1 Form --- A report required to be filed annually by all employers of 100 or more persons with the Joint Reporting Committee under the 1964 Civil Rights Act. The report lists the total number of employees at each establishment by race and sex, and grouped in nine major job categories.

Participation Rate --- The percentage of an employer's work force, or job category within that work force, occupied by members of a particular group.

Minority --- A person belonging to any of the following population groups: Black, Hispanic, Asian or Pacific Islander, American Indian or Alaskan native.

Executive Order 11246 --- The Order signed by President Lyndon B. Johnson on September 24, 1965, requiring Federal contractors to refrain from discrimination against employees or applicants for employment because of race, creed, color or national origin, and to take affirmative action to ensure that applicants and employees are treated without regard to their race, creed, color or national origin. It was amended by Executive Order 11375 to include sex.

EEO-1 Job Categories --- The nine major job categories under which employers group their employees when completing the EEO-1 form.

They are the following:

1. Officials and Managers
2. Professionals
3. Technicians
4. Sales Workers
5. Office and Clerical
6. Skilled (also called Craft Workers)
7. Semi-skilled (also called Operatives)
8. Unskilled (also called Laborers)
9. Service Workers

Each of these categories embraces a broad range of specific occupations, varying considerably in earnings levels. Officials and Managers, for instance, include such diverse positions as corporate executives and first-line supervisors. Professionals include engineers, lawyers, nurses and pilots. Dental technicians, computer operators and drafting personnel all fall in the Technicians category. Sales Workers include both retail sales-persons and sellers of weapons systems. Secretaries and clerks are found in Office and Clerical. A carpenter would be classified as Skilled, a lathe operator as Semi-skilled, and a manual laborer as Unskilled. Service Workers include such occupations as security guards and janitors.