



Job

Barbara F. Reskin

Patricia A. Roos

Explaining

Queues,

Women's Inroads

Gender

into Male

Queues

Occupations

With case studies by

Katharine M. Donato

Polly A. Phipps

Barbara J. Thomas

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Linda A. Detman

and Thomas Steiger

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Preface

Sex segregation has a history as old as the labor force itself. By comparison, our involvement in this project has been short, although the development and fruition of this book have taken most of a decade. The immediate origins of this project lie in our association with two National Academy of Science (NAS) Committees. Patricia A. Roos served from 1978 to 1980 as research associate on the Committee on Occupational Classification and Analysis. That committee produced *Women, Work and Wages: Equal Pay for Jobs of Equal Value* (Treiman and Hartmann, 1981), a report that has played a pivotal role in the struggle for pay equity. Three of its staff members—Heidi I. Hartmann, Pamela S. Cain, and Patricia A. Roos—were instrumental in the establishment of a permanent NAS Committee on Women's Employment and Related Social Issues. As that committee's first study director, Barbara F. Reskin directed a comprehensive study of sex segregation that gave rise to *Sex Segregation in the Workplace: Trends, Explanations, Remedies* (Reskin, 1984) and *Women's Work, Men's Work: Sex Segregation on the Job* (Reskin and Hartmann, 1986). The twin foci of these two NAS committees—pay equity and sex segregation—are no accident. The pay gap between the sexes stems primarily from the segregation of women and men into different jobs and from the fact that women's jobs pay less than those men dominate. Thus, both integrating jobs and eliminating the wage penalty imposed on predominantly female jobs should reduce the pay gap between the sexes.

The two NAS volumes on sex segregation documented its extraordinary

resilience. The sporadic implementation of the few mechanisms that reduced segregation did little to undermine sex segregation. In 1983, however, the Census Bureau released 1980 census data that pointed to women's marked inroads into a small number of male occupations during the 1970s. The resulting publicity in the *New York Times* and *Washington Post* captured our attention. We wanted to discover what forces in these occupations had made them more accessible to women. A cursory examination of the 1980 census data immediately established that women's gains were far from evenly distributed across occupations. Women's dramatic inroads highlighted in newspaper stories were confined to a few occupations such as typesetting and composing and insurance adjusting and examining. In most predominantly male occupations, we learned, women posted only modest gains during the 1970s. This discovery called for a study design that examined the occupations in which women made the greatest numerical headway, while also discerning the factors that affected sex composition across all 503 detailed census occupations. We decided to conduct two separate studies: case studies of occupations in which women's representation increased at least twice as much during the 1970s as it had in the labor force as a whole (the results appear in this volume), and statistical analyses of occupational-level data on all 503 detailed occupations, with the goal of identifying factors linked to changes in occupations' sex composition between 1970 and 1980 (to appear in a subsequent volume). Those statistical analyses permit us to assess the role of variables that eluded examination through case study and to test the generalizability of our findings.

We were fortunate in attracting to the project Polly A. Phipps, then a doctoral student at the University of Michigan, and Katharine M. Donato, then a doctoral student at the State University of New York at Stony Brook. Phipps undertook preliminary case studies of women's inroads into pharmacy and insurance adjusting and examining that helped establish the feasibility of the case study method. Both contributed to our early discussions and helped prepare successful proposals for research support. Phipps was instrumental in identifying useful data sources for subsequent case studies, and Donato played a major role in developing the quantitative data needed for the studies.

The labor-intensive nature of the case study method prompted us to expand our research team. Chloe Bird, Linda Detman, Thomas Steiger, and Barbara Thomas, then graduate students at the University of Illinois, joined the project after Reskin moved to Illinois. Each, along with Donato and Phipps, was the primary author of one or more case studies that appear in this volume. Without their efforts (largely voluntary, because the time the case studies took far exceeded our grant funding), this book would not exist. Equally essential were the contributions of the scores of workers in the fourteen occupations we studied who generously shared their observations and experiences. We are also grateful to our student assistants who aided us with virtually every part of this study: our warm thanks go to Barbara Kritt and Sharon Reitman

from the University of Michigan; Dawn Dworak, Jamie Fetkewicz, Pauline Pang, and Georganne Rundblad from the University of Illinois; Elizabeth Chute, Elizabeth Hein, and Valerie Hilicus from the State University of New York at Stony Brook; Katharine Jones, Hei-Soo Soh, and Sarah Thompson from Rutgers University; and Susan Slater from Stanford University.

Collaborations as complex as this one require a division of labor. Reskin assumed primary responsibility for the case studies, working closely with the graduate students who conducted them. Roos took on the difficult and often frustrating task of preparing the quantitative data that we cite occasionally in the present volume and that form the basis for our second monograph. We each drafted two of the analytic chapters in this book. Roos drafted Chapters 1 and 3, Reskin Chapters 2 and 15. It goes without saying that in revising these chapters—more times than we care to remember—we both contributed to each chapter.

We incurred extensive intellectual debts in the course of this project. Some debtors we cannot acknowledge by name; they are persons who raised tough questions or offered new interpretations or useful examples at colloquia where we formally presented our ideas. Reskin presented parts of the argument that appears in Chapter 2 in colloquia at Loyola University, May 1987; the University of California at Santa Barbara, October 1987; Harvard University, December 1987; Stanford University, Fall 1987 and Spring 1988; the Center for Advanced Study in the Behavioral Sciences, April 1988; the University of North Carolina, April 1988; and the University of Arizona, October 1988. Roos presented an early version of Chapter 3 at a Rutgers Sociology Department Colloquium and at a Rutgers International Relations and Labor Markets Workshop Series. Reskin and Roos presented some of the ideas in Chapter 3 at the Conference on Ingredients for Women's Employment Policy, State University of New York at Albany, in April 1985 and later, along with ideas in Chapter 15 at the Institute for Women's Policy Research's first annual Women's Policy Conference in Washington, D.C. in May 1989. Reskin presented the formal model of queueing and its implications for changing occupational composition at the American Sociological Association meetings in August 1989.

In addition to thanking those who offered insightful comments and questions on the above occasions, we are happy to have this chance to express our gratitude for the substantial contributions of several colleagues. Paula S. England generously shared *Dictionary of Occupational Titles* data that she has updated for use with the 1980 census codes, and Randall Filer gave us his estimated rates of unionization for detailed occupations. Donald J. Treiman provided us with access to the 1970 public use microdata and patiently answered our technical questions, and Elizabeth Stephenson ensured that we received the data in a form in which we could use them. We regret that even asserting our special indebtedness to James N. Baron, Jerry A. Jacobs, and Ronnie J. Steinberg for excellent comments on several chapters fails to

convey the depth of our gratitude. The book profited also from useful discussions with Francine Blau, Ross Boylan, Lee Clarke, Dorothy Sue Cobble, Paula England, Lowell Hargens, Heidi Hartmann, Mary Jackman, Toby Parcel, and Myra Strober. Strober's work with Carolyn Arnold has provided a model for occupational case studies, and the similarity of her conclusions (some developed collaboratively with Lisa Catanzarite) to our own has lent certainty to our confidence in our own findings. Finally, we appreciate the support of Temple University Press production editor Mary Capouya (with special thanks for assigning our book to copyeditor Patricia Sterling) and especially the encouragement and the patience of our editor, Michael Ames.

We conducted this project while in residence at five different institutions, all of which provided support and resources that we appreciate. Roos was on the faculty at the State University of New York at Stony Brook when she began the project, and she finished it at Rutgers University. Reskin began work on this volume while at the University of Michigan and completed it at the University of Illinois. She spent the 1987–88 academic year at the Center for Advanced Study in the Behavioral Sciences where the Center's superb staff and resources permitted her to devote much of her time to this project and other fellows—especially the members of the Feminist Seminar—provided both encouragement and diversion.

Finally, we are grateful to the National Science Foundation for its support (grants SES-85-12452 and SES-85-12586, including supplementary Research Experience for Undergraduate awards to each of us) and the Rockefeller Foundation Program on Changing Gender Roles (grants RF GA OE 8533 and RF 84036). We are happy also to have a chance to acknowledge the support of the University of Michigan Rackham Graduate College (387-895), the University of Illinois Research Board, the Rutgers University Dean of the Faculty of Arts and Sciences (2-09694) and the Rutgers Research Council (2-02079), and the John D. and Catherine MacArthur Foundation that helped support Reskin's year at the Center for Advanced Study in the Behavioral Sciences.

Barbara F. Reskin, Urbana, Illinois
 Patricia A. Roos, Metuchen, New Jersey



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Part I

Explaining the Changing Sex Composition of Occupations

1

Occupational Sex Segregation: Persistence and Change

Early in the 1980s the media took notice of a new phenomenon: women's marked progress into occupations traditionally reserved for men. Commenting on newly published data from the Department of Labor and the Bureau of the Census, media accounts such as Frank Prial's were quick to portray women's gains in "men's" occupations as dramatic:

An increasing number of women in the United States are working at what used to be men's jobs. Despite the unemployment rate, the number of women working [for wages] in the United States has risen 21 million, or 95 percent, over the last two decades, according to a new study by the United States Department of Labor, and many of the jobs they have taken are in categories once largely the province of men. (Prial, 1982)

Front-page stories in leading newspapers announced women's advancement in such occupations as executive, lawyer, pharmacist, physician, veterinarian, bartender, bus driver, and baker (e.g., Prial, 1982; Herbers, 1983; Castro, 1985). By 1980, for example, women represented nearly half of all bus drivers and bartenders. Moreover, as Prial noted, women had become the majority in six formerly male-dominated occupations: insurance adjusters, examiners, and investigators; bill collectors; real estate agents and brokers; photographic process workers; checkers, examiners, and inspectors; and production-line assemblers.

Published 1980 census data indeed confirmed that women had posted

Table 1.1
Occupational Distribution over Major Occupational Groups, by Sex and Race,
Civilian Labor Force, 1980

Occupational Group	Men			Women			Percent Female
	Total ^a	White ^b	Black	Total ^a	White ^b	Black	
Executive, administrative, managerial	12.1	13.2	5.4	7.2	7.7	4.5	30.5
Professional specialty	10.5	11.2	5.6	13.7	14.4	11.2	49.1
Technicians and related support	2.9	3.0	1.8	3.0	3.1	3.2	43.8
Sales occupations	8.8	9.6	3.9	11.3	12.2	6.5	48.7
Administrative support, including clerical	6.7	6.5	9.0	30.7	31.9	25.2	77.1
Service occupations	9.4	8.2	17.0	18.2	16.4	29.3	58.9
Farming, forestry, fishing	4.3	4.2	3.4	1.0	1.0	.6	14.9
Precision production, craft, repair	21.0	21.7	15.5	2.4	2.3	2.4	7.8
Machine operators, assemblers, inspectors	10.0	9.2	15.1	9.3	8.1	13.0	40.7
Transportation and material moving	7.5	7.2	11.0	.9	.9	1.0	7.8
Handlers, equipment cleaners, helpers, laborers	6.8	6.0	12.3	2.3	2.0	3.2	19.8
Total ^c	100.0	100.0	100.0	100.0	100.0	100.1	42.5

^a All races.

^b Whites of Hispanic background not included.

^c Sample sizes: 59,625,553 (total men), 49,633,442 (white men), 5,161,234 (black men), 44,092,523 (total women), 35,624,861 (white women), 5,058,243 (black women).

Source: U.S. Department of Labor, Employment and Training Administration (1982:1).

disproportionate gains during the 1970s in some predominantly male occupations (Bianchi and Rytina, 1984). But close inspection of the data suggests that media accounts of women's *progress* were exaggerated—women's representational gains exceeded their growth in the labor force as a whole in only a small number of the detailed occupations for which the Census Bureau collects data, and they even lost ground in a few occupations such as heavy-equipment mechanics, lathe and turning-machine operators, and production testers (U.S. Bureau of the Census, 1984a).

The phenomenon underlying these news stories and census data is the segregation of the sexes into different lines of work. Occupational sex segregation is one of the most enduring features of the U.S. labor market (Reskin and Hartmann, 1986). As Table 1.1 confirms, in 1980 substantial differentiation

by sex existed at the level of aggregated occupational categories. Men tend to be overrepresented in managerial and craft occupations, traditionally the best paid of the white-collar and blue-collar workforces, respectively. They also predominate in transport operative and laboring occupations. Women are the clear majority in service occupations and in administrative-support occupations because of their predominance in clerical jobs. They are also slightly overrepresented in professional occupations because of their preponderance in the typically lower-paid female *semiprofessions* such as nursing, library work, social work, and teaching.

Table 1.1 reveals another fundamental feature of the U.S. occupational structure—its segregation by race. Blacks, whether male or female, are less likely than whites to command well-paid managerial or professional jobs.¹ Similarly, relative to white men, black men have garnered few of the better-paid blue-collar craft occupations. Compared with white women, black women are underrepresented in sales and administrative-support occupations. Instead, blacks of both sexes are overrepresented in service, operative, and laborer occupations. Like sex segregation, race segregation is problematic because it relegates blacks to the most poorly paid occupational sectors and hence helps to perpetuate the wage disparity between blacks and whites.

The segregation of the U.S. occupational structure by race and sex extends back to the turn of the century. Gross (1968), for example, found that occupational segregation by sex, as measured by the index of segregation, remained essentially constant between 1900 and 1960, reflecting the unusual persistence of this social phenomenon (see also Jacobs, 1989b).² Table 1.2 updates Gross's occupational segregation indexes across major census groups for both sex and race between 1940 and 1981. The data reveal that occupational segregation by race declined sharply after World War II, especially for women. Nonwhite women, 81 percent of whom are black (U.S. Department of Labor, Employment and Training Administration, 1982:1), have gone a long way

Table 1.2
Occupational Segregation Indexes across Major Census Categories for Sex and Race, 1940–1981

	1940	1950	1960	1970	1981
Segregation by sex among					
Whites	46	43	44	44	41
Blacks and others	58	50	52	49	39
Segregation by race among					
Men	43	36	35	30	24
Women	62	52	45	30	17

Sources: For 1940–70, Treiman and Terrell (1975:167); for 1981, Reskin and Hartmann (1986:19).

toward reducing the occupational gap between themselves and white women. However, *nonwhite women* continue to lag far behind *white men*.

As we show in more detail below, occupational sex segregation has been more resistant to change than race segregation. Despite revolutionary transformations in the industrial and occupational structures, and changes in the composition of the labor force, the degree of occupational sex segregation among whites remained essentially constant between 1940 and 1970. During the same period, with black women's movement out of domestic work, occupational sex segregation among blacks declined to the level of whites. Beginning in the late 1960s another "revolution"—the women's liberation movement—promised to improve women's position in the workplace. By challenging social values, the feminist movement fostered and reinforced antidiscrimination regulations, thus opening to women the doors of some traditionally male occupations. As a consequence of these and other factors, the level of occupational segregation declined at a faster rate during the 1970s than in any other decade in this century (Beller, 1984). Nonetheless, the labor force remained segregated: in 1981 at least 39 percent of black women and 41 percent of white women would have had to change to a different major occupational category to achieve distributions identical to those of men of their race across broad occupational categories (Table 1.2).³

Thus, the 1970s represented a watershed for sex segregation. For the first time in this century women made notable gains in some occupations in which men had typically predominated. However, the level of occupational sex segregation at the end of the decade remained high. In 1980 almost half of all women and 53 percent of men worked in occupations that were at least 80 percent women and men, respectively (Rytina and Bianchi, 1984). Women made inroads into some "male" occupations but little or no progress in integrating most others. White women were more likely than black women to enter customarily male occupations, but black women and men did advance disproportionately into some sex- and race-atypical occupations (Reskin and Roos, 1989; Sokoloff, 1989).

The variability in women's increased representation in male occupations during the 1970s raises three important questions. First, how can we explain women's disproportionate movement into some traditionally male or mixed-sex occupations during a decade in which their advancement into most male occupations was modest at best? In other words, what factors facilitated women's movement into the particular occupations in which they made pronounced numerical inroads? Second, what forms did occupational feminization take? Did women's entry yield genuine sex integration within these desegregating occupations so that women and men did the same kinds of work? Finally, did women's integration bring them closer to economic equity with male incumbents in occupations that became more female during the 1970s? This book provides answers to these questions.

The changing race composition of occupations since 1970 (Sokoloff, 1989) raises similar questions, and they are equally pressing. As demonstrated in Table 1.1, the continued segregation of blacks in low-paid, low-skill occupations ensures blacks' continuing economic disadvantage. At the outset we planned to examine changing patterns of both sex and race segregation, but the depth and complexity of our research methods soon convinced us that we could not encompass both in a single volume; hence, this study emphasizes the changing sex composition of occupations. Because we believe that our theoretical approach applies equally to understanding the changing race-sex composition of occupations, however, we plan to examine that question in future work.

|||| Trends in Industrial and Occupational Structure

Broad industrial and occupational changes have transformed the U.S. economy in this century. Most striking has been its *industrial* transformation from a goods- to a service-producing economy. As the data in Table 1.3 indicate, at

Table 1.3
Industrial Employment, 1910–1980

	1910	1940	1980
Goods-producing industries	64.1%	51.4%	32.9%
Agriculture, forestry, fisheries	32.1	18.3	3.6
Mining	2.9	2.2	1.0
Manufacturing	22.8	23.9	22.1
Construction	6.4	7.0	6.3
Service-producing industries	35.9	48.6	67.1
Transportation and other public utilities	8.8	8.3	6.6
Trade	9.3	14.4	20.3
Finance and real estate	1.4	3.1	6.0
Educational and other professional service	4.6	8.0	20.0
Domestic and personal service	10.2	11.4	8.8
Government not elsewhere classified	1.5	3.3	5.4
Total N (in thousands) =	36,130	49,980	99,303

Note: Data are not exactly comparable across time. Data for 1910 and 1940 are based on "gainful workers", for 1980 on "employed civilians." Industries are named as in the 1970 census (U.S. Bureau of the Census, 1975:138). Equivalent 1980 titles are agriculture, forestry, fisheries; mining; construction; manufacturing; transportation, communication, and other public utilities; wholesale and retail trade; finance, insurance, real estate; professional and related services; services other than professional and related services; public administration (U.S. Bureau of the Census, 1986b:388).

Sources: For 1910 and 1940, U.S. Bureau of the Census (1975:138); for 1980, U.S. Bureau of the Census (1986b:388).

Table 1.4
Occupational Employment, 1900–1981

Occupation	1900	1950	1981
White collar	17.6%	36.6%	52.7%
Professional, technical, and kindred workers	4.3	8.6	16.4
Managers, officials, and proprietors	5.8	8.7	11.5
Clerical and kindred workers	3.0	12.3	18.5
Sales workers	4.5	7.0	6.4
Blue collar	35.8	41.1	31.1
Craftsmen, foremen, and kindred workers	10.5	14.2	12.6
Operatives and kindred workers	12.8	20.4	14.0
Laborers, except farm and mine	12.5	6.6	4.6
Service	9.0	10.5	13.4
Private household workers	5.4	2.6	1.0
Other service workers	3.6	7.9	12.3
Farm	37.5	11.8	2.7
Farmers and farm managers	19.9	7.4	1.5
Farm laborers and foremen	17.7	4.4	1.3
Total N (in thousands) =	29,031	58,999	100,397

Note: The data are not exactly comparable. Data for 1900 and 1950 are based on the experienced labor force aged 14 and older, for 1981 on employed persons 16 and older.

Sources: For 1900 and 1950, U.S. Bureau of the Census (1975:139); for 1981, U.S. Bureau of the Census (1982c:388–90).

the turn of the century two-thirds of the labor force produced goods in manufacturing, mining, construction, or agricultural work. The remainder held jobs in the service sector—in trade, the professions, personal services, transportation, and so forth. By 1980 the distribution had flipped, with 33 percent of the labor force employed in producing goods and 67 percent in providing services. Most of the decline in the goods-producing sector stemmed from the shrinking number of agricultural workers. In 1910 nearly a third of the labor force worked in agriculture, forestry, or fishing industries; by 1980, this proportion had dwindled to less than 4 percent. As the need for agricultural workers declined, service industries absorbed much of the slack.

With these industrial changes came the *occupational* restructuring of the labor force (see also Oppenheimer, 1970: chap. 5). Table 1.4, which shows this change, depicts the shift from a farm and blue-collar labor force to a white-collar and service one. For example, from 1950 to 1981 the proportion of the labor force engaged in professional and technical work almost doubled; from 1900 to 1981 it nearly quadrupled.⁴ Although the proportion of skilled