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JOB-SPECIFIC SEX DIFFERENCES IN ORGANIZATIONAL REWARD ATTAINMENT: WAGE DISCRIMINATION VS. RANK SEGREGATION

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ABSTRACT

Aggregate analyses of sexual inequality fail to explore directly the sources of structurally induced earnings differences. These differences may derive from between- and/or within-employer differences in the reward-attainment processes of working men and women. This paper examines the second of these two issues, focusing specifically on within-employer sex differences in salary for the "same job." Two hypotheses are considered: The so-called "wage discrimination" hypothesis refers to inequality generated by male-female differences in the direct rates of return to productive resources and hierarchical rank; the rank segregation hypothesis refers to inequality generated by denying women equal access to the higher-paying ranks to which a particular job ladder leads. Our results suggest that sex differences in salary attainment result more from rank segregation than from wage discrimination per se. The implications for the problem of sexual discrimination and the generalizability of the findings are discussed.

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1. INTRODUCTION

Sociological analyses of male-female differences in earnings attainment have been based largely on individual-level data pertaining to the labor market as a whole (Suter and Miller, 1973; Treiman and Terrell, 1975; Featherman and Hauser, 1976). The special value of these types of analyses lies in their ability to generate a representative account of the aggregate level and nature of sexual inequality. From such studies we learn that even after female levels of productive resources (human capital) are adjusted to male levels there remain significant residual disparities in the earnings of demographically comparable working men and women, disparities that are due largely to differences in earnings structures. Men benefit from higher rates of return to their productive resources--especially schooling, experience, and occupational prestige--and much of the male-female earnings differential is due to this fact (Featherman and Hauser, 1976).

But aggregate analyses of sexual inequality, even if occupation-specific, are precluded from exploring directly the sources of these structurally induced earnings differences. In the first instance, sexual inequality is rooted in systematic male-female differences in the procecesses governing employee-employer exchanges of productive resources for earnings. Earnings differences between men and women holding comparable stocks of human capital and working full-time at comparable jobs within the same occupation may reflect 1) between-employer differences

generated by the unequal distribution of men and women across high- and low-paying employers; and/or 2) within-employer differences created by denying women (a) equal pay for the same job and rank, and/or (b) equal rank for the same qualifications. In the absence of data on specific employers or types of employers, aggregate analyses cannot gauge the significance of the between- and within-employer components of male-female differences in earnings structures.

It is of some consequence for the development of a theory of sexual inequality to determine precisely the role played by these different mechanisms. Recently there has been some progress in this direction, especially as regards between-employer differences resulting from the segregation of occupation-specific labor markets along sexual lines (Cohen, 1971; Sawhill, 1973; Goldfarb and Hosek, 1976). For example, Johnson and Stafford (1974) found in their study of academic faculty that aggregate male-female earnings differences could be partly explained by the differential distribution of men and women across the lower-paying teaching institutions and the higher-paying research universities. Similarly, in their study of retail clerks, Talbert and Bose (1977: 417) found that "the major structural source of economic advantage for male clerks is their greater concentration in higher-paying specialty stores..." as compared to department and discount stores.

Although the subject has aroused much speculation, still less is known empirically about the nature and incidence of within-employer sex differences in earnings. Of special interest here, of course, is the extent to which the economic disadvantage of women results directly from wage discrimination, or is generated indirectly via rank segregation.

Wage discrimination refers to what has been called loosely "unequal pay for equal work." Rank segregation and the inequality it generates results when an employer systematically denies women higher-paying positions; for intraoccupational comparisons, this amounts to denying women equal access to the higher ranks to which a particular job ladder leads. Only the Malkiel and Malkiel study (1973) of professional employees of a single corporation gives a systematic empirical treatment of these different sources of within-employer sexual inequality.[1] They reported that differences in rank, not wage discrimination, accounted for the bulk of the structurally induced male-female salary gap observed in their sample.

This paper continues the trend toward increased disaggregation and builds on the work of Malkiel and Malkiel by examining job-specific sex differences in the processes governing the earnings attainment of management personnel of a large firm in the utility industry. A previous analysis (Halaby, 1977b), based on the full sample of managers, showed that the overall male-female salary ratio and the male-female differences in salary structures observed in this firm are remarkably comparable to those typically observed in aggregate analyses of sexual inequality. This is important because it extends the external validity of our analysis by providing grounds for the belief that the salary processes of this firm may be typical of other employers.

A very simple model of salary determination provides the framework for the analysis:

$$\ln S_m = a_m + b_m E_m + g_m(X_m)$$

$$\ln S_f = a_f + b_f E_f + g_f(X_f),$$

where lnS is the natural logarithm of annual salary, E is years of schooling and X is a set of variables representing the accumulation of human capital through seniority, postschooling work experience gained prior to entering the company, and positions held previously in other companies[2]. The specification of separate equations allows for complete heterogeneity with respect to the structural processes determining male and female salary levels. In the first part of the paper we analyze the differences in corresponding structural coefficients and estimate the average (dollar) difference in salary implied by them; this gives us an overall measure of structurally induced sexual inequality. The next stage of the analysis involves the introduction of variables representing an individual's rank in the company hierarchy. This provides the basis for a decomposition of structurally induced sexual inequality into its wage discrimination and rank segregation components. Finally, we consider the extent to which rank segregation is itself structural in nature.

2. DATA

The data upon which this analysis is based were collected in 1960 by Oscar Grusky. Although now somewhat dated, these data do constitute a valuable baseline against which to assess the findings of other studies as they accumulate. They refer to a period prior to the advent of the women's liberation movement and well before full-scale implementation of federal legislation designed to curtail sexual discrimination. Furthermore, they precede in time the dramatic increases in female labor force participation witnessed in the mid and late 1960s.

The data pertain to management personnel of a California-based utility firm, at the time of the study the largest single enterprise of a major public utility holding company in the United States.[3] Questionnaires were distributed to all 2198 managers of the firm; 1649 (75%) usable signed questionnaires were returned. A comparison by salary, sex and position revealed a close correspondence between the sample distributions and the respective population distributions (Grusky, 1966). The analysis that follows is based on observations pertaining to men and women holding jobs the firm classifies as "operators." Of the six major job classes of the firm, this is the only one that is fairly homogeneous with respect to skill requirements and that has enough observations on both sexes to allow for analysis. When allowance is made for listwise deletion of missing observations, we have 81 male and 198 female managers. We note that 90% of the women and 83% of the men began their careers in nonmanagement, nonsupervisory positions.

The dependent variable is the manager's annual salary. Data on salary came precoded into nine intervals closely corresponding to the actual salary-bracket structure of the firm. For this analysis managers are assigned the natural logarithm of the dollar value of the midpoint of the interval into which they fall.[4] For these data a semilogarithmic specification of the salary equation yields a better fit than a linear specification. Furthermore, this type of specification means that the regression coefficients may be interpreted as partial elasticities indicating the percentage change in salary for a unit change in a given independent variable.

Education was originally measured as a six-point scale corresponding to grouped years of schooling. In order to facilitate the interpretation of the schooling coefficients the education categories are assigned a value approximately equal to the actual number of years of schooling completed. Hence, coefficients of education are interpretable as percentage rates of return to a year of schooling.[5]

The accumulation of human capital through experience is captured by three variables. First, we have data on the number of years each manager has been employed by the firm. Information on length of service came precoded into four four-year intervals, but for this analysis each manager is assigned the midpoint (2, 7, 12, and 17 years) of the interval into which he or she falls. Calculations not presented here indicate that, all things considered, this linear coding is preferable to a dummy-variable treatment of the seniority categories.

The second indicator of experience roughly captures the number of years in the labor force prior to entering the firm. This is estimated as the difference, age minus length of service minus schooling minus 5 (Featherman and Hauser, 1976; Rosenzweig and Morgan, 1976). For male careers, at least, this estimate appears to be an excellent proxy for actual years of work experience (Malkiel and Malkiel, 1973, p. 696). It is much less valid for women because of the discontinuities in female labor force participation, especially during the postschooling childbearing ahd homebuilding period of the life cycle (Mincer and Polachek, 1974). Consequently, we may expect some attenuation of the coefficient of this variable obtained for women relative to those obtained for men.

The final indicator of postschooling investment in human capital taps the breadth of experience gained in other companies. This is measured as the total number of positions held in other firms prior to coming to the utility firm. This variable is included in order to determine if a wide range of experience, quite apart from years of experience, is itself a factor in determining salary. If holding many positions in other firms indicates the acquisition of valuable general (productive in many firms) rather than specific (productive in a particular firm) skills (Becker, 1975: 19-37), such an effect should appear.

3. FINDINGS

Sex, Human Capital and Managerial Salaries

Before examining the details of job-specific male-female differences in pay structures it pays to compare the total net influence of sex and each of the human capital factors on salaries. This may be done by taking the complete set of observations and estimating the regression of salary on schooling, the experience variables, a sex dummy and a complete set of human capital by sex interaction terms. The total net explanatory power of a particular attribute may be calculated as the incremental R^2 resulting from the addition of all terms involving the attribute (i.e., both main effect and interaction terms) to the equation containing all other terms (Kmenta, 1971: 456-457). Table 1 displays the results of these calculations.

As indicated by the last column, all variables except prior work experience register a statistically significant impact on salary. Judging

Table 1. Total net contributions (ΔR^2) of sex and human capital factors to the variance explained in the salaries of management personnel of a utility firm, 1960.

Attribute[a]	ΔR^2	df	F	P
		Operators (N = 279)		
Schooling	.0148	2	7.92	<.01
Work Experience	.0051	2	2.73	n.s.
Previous Positions	.0085	2	4.52	<.05
Seniority	.0862	2	46.1	<.01
Sex	.4278	5	91.5	<.01

[a]Each attribute is represented by all terms involving the relevant variable. For example, the statistics for schooling refer to both the main effect of schooling as well as its interaction with sex. This way of assessing net contributions of particular variables in models containing interaction terms is standard practice (Kmenta, 1971: 456-457).

by the incremental R^2's in column 1, sex is by far the most powerful explanatory factor, accounting for 43% of the variation in salary. Even by the F-statistics, which correct for the disparity in degrees of freedom associated with sex and each of the human capital variables, sex is the most powerful determinant of salary, followed by seniority, schooling and previous positions.

These statistics also indicate that there are sizeable differences in the salary attainment processes of males and females. The F-statistic for sex (F = 91) given in Table 1 is the test statistic corresponding to the null hypothesis of overall equality of male and female pay structures; clearly, this hypothesis must be rejected. Furthermore, the incremental R^2 attributable to sex (43%) may be viewed as a standardized measure of the overall level of structurally induced sexual inequality. Unfortunately, this measure lumps together all sex differences in structural coefficients, regardless of whether they are favorable or unfavorable to women (or men). These statistics do not reveal the direction of male-female structural differences, nor whether structural differences represent disparities in starting salaries (i.e., intercepts) or disparities in rates of return to schooling and experience.[6]

Male-Female Pay Structures

Table 2 gives the estimated male and female salary structures. The figures in the differences column indicate that the sizeable R^2 associated with sex reflects primarily differences in rates of return to schooling and experience rather than in starting salary. The net male

Table 2. Metric coefficients of regressions of (ln) salary on schooling, seniority, work experience and previous positions, by sex.

Independent Variables	Coefficients for[a] Males (1)	Females (2)	Diff (1-2)
Constant	8.432	8.366	.067 (0.20)
Schooling	.0288 (3.05)	.0050 (0.92)	.0237 (2.44)
Seniority	.0209 (3.28)	.0144 (9.03)	.0065 (1.55)
Experience	-.0037 (1.65)	-.0011 (1.15)	-.0027 (1.29)
Previous Positions	-.0090 (0.69)	.0195 (3.32)	-.0285 (2.32)
R^2	.279	.303	.428[b]
Standard Error	.162	.110	
N of Cases	81	198	

[a]Appearing in parentheses below the coefficients are the absolute values of the t-ratios. Relevant critical values are t(.05, one-tail)= 1.67; t(.05, two-tail)=1.99; t(.01, two-tail)=2.37.

[b]This is the incremental R^2 associated with allowing complete heterogeneity by sex.

advantage in starting salary, represented by the difference in intercepts (.067), is small and statistically insignificant. A comparison of slope coefficients, on the other hand, reveals male-female differences that are more decisive, if not always to the advantage of men.

With respect to the effects of schooling and seniority, the most important human capital determinants of salary, male rates of return exceed female rates by a good margin. The female rate of return to a year of service amounts to only 69% of the male rate, with women increasing their salaries at an average rate of 1.4% per year and men increasing theirs at a rate of 2.09%. Women appear to be at an even greater disadvantage with respect to the value of a year of schooling. The female rate of return amounts to only 17% of the male rate, with women getting 0.5% per year of schooling and men getting 2.9%. That women are at a greater disadvantage with respect to the value of schooling than seniority is consistent with both aggregate (Featherman and Hauser, 1976) and firm-specific analyses (Malkiel and Malkiel, 1973). Also consistent with other evidence is that a year of seniority is worth more to females but less to males relative to a year of schooling; in other words, sacrificing a year of seniority for an extra year of schooling makes economic sense for men but not for women.

Male-female differences in rates of return are also evident for postschooling investments in experience made prior to entering the firm, but now the advantage appears to lie with women. To be sure, no reliable comparison is possible with respect to returns to work experience, since both male and female coefficients are essentially zero; however, the difference in returns to positions held in other companies is reliable and sta-

tistically significant. The female coefficient is .0195, whereas the male coefficient is a slightly negative -.009. The explanation of this pattern lies partly in the nature of the effect of previous positions and partly in the male-female difference in average seniority. Experience in other companies probably has its greatest (positive) effect on salary at the time a person assumes employment; but this initial advantage would decay as length of service increases if the rate of increase in salary were less for persons who started in other companies than for those who started with the utility firm. This argument implies that the coefficient of previous positions would be higher among newcomers than among oldtimers, and could even be negative among oldtimers. The figures on the average seniority of males and females are consistent with this argument, women having 9.27 years of service and men having 12.25 years. Of course, these figures are also consistent with an explanation in terms of a temporal trend in this firm toward increasing returns to previous positions.

This evidence of a small female advantage in rates of return in no way compromises the conclusion that, with respect to the most important determinants of salary--schooling and senority--women are at a decisive economic disadvantage. Although sexual inequality per se accounts for 43% of the variance in salary, the inequalities that leave women at a disadvantage alone account for a minimum of 22% and a maximum of 42% of the variance in salary. On the other hand, the differences in coefficients that apparently leave males at an economic disadvantage account for a minimum of 1% and a maximum of 21% of the variance in salary.[7] No matter how the evidence is viewed, then, most of the variance explained by sex is attributable to differences that are unfavorable to the economic

interests of female operators. We can now turn to the task of assigning an actual dollar value to the structurally induced economic disadvantage of women.

Decomposition of the Male-Female Salary Difference

The average annual salary of female operators ($5324) comes to 64% of the male average ($8266), a female-to-male ratio very close to that obtained by aggregate as well as firm specific analyses (Fuchs, 1974; Malkiel and Malkiel, 1973). The underlying gross sexual salary difference of $2942 is due partly to compositional differences between the sexes and partly to differences in salary structures. The compositional component of the salary gap is the part attributable to male-female differences in mean levels of productive resources, other things equal; in other words, it is the amount by which female salaries would increase if women retained their own salary structures but had male levels of schooling and experience. The structural component of the salary gap is the part attributable to male-female differences in rates of return or prices paid to given resources, assuming equal levels of resources: in this instance the structural component of the salary gap that may not be uniquely attributable to either differences in resource endowments or differences in structural coefficients, but is shared between the two. The size and sign of this shared component reflect the degree and direction of the cross-equation correlation between the male-female difference in resource levels and structural coefficients.[8]

Of these three components, the structural part is, of course, of special interest, since it represents the portion of the salary gap that

cannot be explained by differences in productivity resulting from differences in levels of human capital. Indeed, some analysts treat the relative size of the structural component as a coefficient of sexual discrimination. For our purposes it may be considered a metric measure of the structurally induced economic disadvantage of women.

The results of the decomposition are presented in Table 3. We see that only $285 or 9.7% of the gross male-female salary gap is due to compositional differences. Even if women operators had male levels of schooling and experience, their expected salary would be only $5609, or just 68% of the actual male average. But leaving female levels of human capital unchanged and paying women at male prices would yield a relatively large increase in female salaries. The structural component is $2215 or 75% of the gross salary difference. If females were paid according to the male salary structure their expected salary would be $7539, or 91% the male average. Most of this improvement would result from the hypothetical increase in returns to schooling and seniority; only $213 of the increase would be due to the improvement in intercepts.

We find, then, that most of economic disadvantage of women is due to the unfavorable rate structure that governs their exchange of productive resources for salary. However, not all of the structurally induced inequality can be attributed directly to wage discrimination per se, since differences in the manner in which men and women are distributed across hierarchical ranks has not been taken into account. For any given job, hierarchical rank is the main structural factor intervening between an individual's stock of productive resources and his or her salary. Male-female differences in salary may result not only from unequal pay for the same work and responsibility, but from denying women access to

Table 3. Decomposition of the male-female salary gap

Components	Gross ($)	Percent
Total	$2942	100%
Compositional	285	9.7
Structural	2215	75.3
Shared	442	15.0

the higher-paying ranks. In the latter case inequality reflects inequalities in the allocation of promotions rather than in the allocation of salary per se.[9]

Rank Segregation and Inequality

Table 4 presents the actual rank distributions of male and female operators.[10] Visual inspection alone is enough to confirm that there is a large measure of rank segregation along sexual lines. Female operators advance no higher than rank IV, and only 5.6% manage to get this high. Overall, 94% of the women are confined to levels V and VI, whereas 84% of the men are at or above rank IV. As indicated by the index of dissimilarity, nearly 80% of the women would have to be redistributed in order to obtain equality with the male rank structure.

Before examining the implications of rank segregation for sexual inequality it pays to consider how differences in rank structures result in differences in the process by which human capital is transformed into salary. Within the present framework, the variation in human capital relevant for salaries may be transmitted either directly, or indirectly via the rank structure. The male-female disparity in rank distributions suggests that the allocation of promotions in this firm is more responsive to the variation in the stocks of human capital of men than of women. This in turn implies that proportionately more of the productive potential of women than of men is translated directly into salaries. This is borne out by the results of separate regressions of salary on the human capital variables and a set of rank dummies. While the net effects (as indicated by the net incremental R^2's) of the rank categories are similar

Table 4. Percentage rank distributions for male and female operators.

Rank	Sex	
	Male	Female
II	13.6 (11)	0
III	13.6 (11)	0
IV	58.0 (47)	5.6 (11)
V	11.1 (9)	45.4 (90)
VI	3.7 (3)	49.0 (97)
	Total 100% (81)	Total 100% (198)
Index of Dissimilarity	79.6	

for men (.224) and women (.232), the expected differences in the combined direct net effects of schooling and experience do appear. For men the net incremental R^2 associated with the human capital variables is .078. This direct effect amounts to only 28% of the total variation in salary accounted for by human capital (R^2 = .279, see Table 2). This means that where men are concerned, 72% of the variation in productive resources relevant for salaries is registered indirectly via the rank structure. For women, on the other hand, the combined net direct effect of schooling and experience is .145, which accounts for 49% of the total effect (R^2 = .303, see Table 2) of these variables on salary. Among women, then, the rank structure absorbs only 51% of the variation in productive potential relevant for salaries. Another way of saying the same thing is thatthe system of allocation of higher ranks is more responsive to productivity differences among men than to the same differences among women. Since hierarchical rank is the main direct determinant of salary, it is not surprising that differences in rank structures should have implications for the male-female salary gap.

The estimated equations upon which the above discussion is based are presented in Table 5. As these results show, controls for hierarchical rank reduce in magnitude the male-female differences in the coefficients of schooling and experience. Indeed, the difference in intercepts even reverses direction, so that now females have a slight advantage. This reduction in the magnitude of these differences naturally implies a reduction in the proportion of the male-female salary gap induced directly by disparities in rates of returnto human capital. It should be clear, in other words, that much of the male-female salary gap previously attributed to differences in rates of return to schooling

Table 5. Metric coefficients of regressions of (ln) salary on human capital factors and hierarchical rank, by sex, managers of a utility firm, 1960.

Independent Variables	Coefficients[a] For Males (1)	Females (2)	Diff (1-2)
		Operators	
Constant	8.345	8.421	-.076 (0.55)
Schooling	.0111 (1.25)	-.0006 (0.13)	.0117 (1.35)
Seniority	.0141 (3.28)	.0106 (7.65)	.0035 (0.96)
Experience	-.0005 (0.23)	-.0010 (1.30)	.0005 (0.25)
Previous Positions	-.0003 (0.03)	.0152 (3.12)	-.0155 (1.46)
Ranks			
II	.3986 (3.89)	----	----
III	.4695 (4.12)	----	----
IV	.3868 (4.05)	.2433 (8.29)	.1435 (1.78)
V	.1714 (1.67)	.0996 (7.02)	.0718 (0.90)
VI	----	----	----
R^2[b]	.503	.535	.044 (F = 9.7)
Standard Error	.138	.090	
N of Cases	81	198	

[a]Appearing in parentheses below the coefficients are the absolute values of the t-ratios. Relevant critical values are t(.05, one-tail)= 1.67; t(.05, two-tail)=1.99; t(.01, two-tail)=2.37.

[b]The value in the difference column gives the incremental R^2 associated with allowing complete heterogeneity by sex.

and experience is in fact created indirectly via the structure of hierarchical ranks. A more exact breakdown of the male-female salary gap into its human capital and rank distribution components may be obtained by using a procedure analogous to that employed earlier.

Table 6 gives the results of the decomposition. Of the gross $2942 male-female difference in salary, $802 (27.3%) is attributable to human capital factors and $1913 (65%) is attributable to differences in rank structures, leaving $228 shared between the two. The $802 human capital component represents the amount by which female salaries would increase if women retained their own rank structure but had male levels of and direct rates of return to schooling and experience. This assumption yields an expected female salary of $6126, or 74% of the overall male average. Of this $802 improvement, $490--or just 16.7% of the gross salary gap--is structurally induced, that is, due to sex differences in intercepts and direct rates of return to human capital. It should be noted that this $490 direct structural component amounts to only 22% of the total amount ($2215) previously attributed to these same differences in the absence of controls for hierarchical rank.

In contrast, differences in rank structures account for $1913 or 65% of the gross male-female salary difference. This $1913 represents the amount by which female salaries would increase if women retained their own levels of and direct rates of return to schooling and experience, but had the male rank structures. This assumption yields an expected female salary of $7237, or 88% of the male average. However, not all of this improvement is due to sex differences in rank distributions per se. Part of it is due to the fact that the rates of return to ranks IV and V

Table 6. Human capital and rank structure components of the male-female salary difference.

Components	Gross ($)	Percent
Total	$2942	100%
Human Capital		
Compositional	255	8.7
Structural	490	16.7
Shared	57	1.9
Total	802	27.3
Rank Structure	1913	65.0
Human Capital & Rank Structure	228	7.7

relative to rank VI are larger for males than females. Table 6 shows that at both ranks IV and V the coefficients for males exceed those for females![1] If this male advantage is eliminated by raising the returns of women at these ranks to those of men, female salaries would increase $245, leaving $1668 ($1913 - $245) of the salary gap attributable exclusively to the male-female difference in rank distributions.

This $1668--amounting to 58% of the overall salary difference--represents the economic disadvantage of women resulting from their exclusion from top ranks and confinement to the lower levels of the corporate hierarchy. In other words, this is the amount by which women lose out because of the segregation of the rank hierarchy along sexual lines. In contrast, wage discrimination, which reflects economic differences due to disparities in the structural coefficients of the human capital ($490) and rank ($245) variables, accounts for only $735 or 25% of the overall salary gap.

It is also instructive to compare the effects of segregation and wage discrimination in terms of the explained variance in salary. Recall that in the original model of salary determination the incremental R^2 associated with sex was .43 (Tables 1 and 2); that is, sexual inequality accounted for 43% of the total variation in salary, and the better part of this represented the economic disadvantage of women. However, the last figure in the difference column of Table 6 indicates that controlling for male-female differences in rank distributions reduces the R^2 associated with sex to .044; that is, sex alone accounts <u>directly</u> for only about 4% of the variation in salary. Since this 4% represents all differences in structural coefficients, including those that are to the advantage of

women (Table 6), something less than 4% of the variation in salary is due to differences that leave women at a disadvantage. Viewed differently, this means that less than 10% (.044/.43) of the variation in salary induced by structural sexual inequality is transmitted directly and due to wage discrimination per se. The remaining 90% or so of the variation in salary accounted for by sexual inequality is transmitted indirectly via male-female differences in rank distributions. Of course, the crux of the difference in rank distributions is the total exclusion of women from the higher-paying and their confinement to the lower-paying levels of the company reward structure.

Male-Female Rank Differences

While we cannot say definitively why this firm denies women access to the upper-ranks to which the job of operator leads, it is possible to identify the mechanism by which female promotion opportunities are blocked. In this regard there are three alternative factors that may account for the disparity in rank distributions. The first possibility is that women are not as qualified as men for upper-echelon management posts. The concept of "qualified" may embrace such a wide range of personal, productivity-related characteristics that it makes this hypothesis extremely difficult to reject. However, on its face it is in this instance implausible, since this firm does reward schooling and seniority, but male-female differences in average levels of these resources are not large. Even if the differences at the mean were large, this could not explain why no women at all move above rank IV.

The other two potential mechanisms operate via male-female differences in the process by which productive resources are transformed into higher ranks. First, men and women may receive comparable returns to schooling and experience, but men may assume an initial net advantage through their assignment to higher ranks than women at the start of the organizational career. This argument would imply male-female differences in the intercepts but not in the slope coefficients of the structural equations determining ranks. What makes this hypothesis implausible is that the male-female difference in entry rank is very small; as mentioned earlier, most men (90%) and women (82%) began their careers at the bottom of the hierarchy. Furthermore, differences in the intercepts of the rank equations would tend to entail differences in the intercepts of the salary equations, but no significant differences were evident. This leaves, then, sex differences in the actual slope coefficients of the rank equation as the only plausible source of sexual segregation. A male advantage in hierarchical rank would result if the process by which promotions are allocated assigns more weight to the schooling and experience of men than of women. Such an explanation would make sense in light of the results pertaining to salary.

A regression of (a linear coding of) hierarchical rank on the schooling and experience variables yields the following estimated equations:

Males

$$\begin{aligned} \text{Rank} = .433 &+ .193\text{SCH} + .035\text{SEN} \\ &\quad (3.9) \qquad (1.4) \\ &-.003\text{XP} - .118\text{PP} \\ &\quad (0.2) \qquad (1.7) \end{aligned}$$

$$R^2 = .229$$

Females

$$\text{Rank} = .451 + \underset{(2.0)}{.057}\text{SCH} + \underset{(4.4)}{.037}\text{SEN} - \underset{(0.4)}{.002}\text{XP} + \underset{(1.4)}{.044}\text{PP}$$

$$R^2 = .110,$$

where SCH is schooling, SEN is seniority, XP is work experience, PP is previous organizational positions, and the t-ratios appear below the metric coefficients. The intercept and all but one of the slope coefficients is actually larger for females than for males. The one important exception is with respect to schooling, the male coefficient exceeding the female coefficient by a statistically significant margin (.135, $t = 2.66$). The only other statistically significant difference is with respect to the coefficient of previous positions. Women have an advantage here, but neither this advantage nor any other offsets the effect of the male advantage in returns to schooling. This is indicated by a decomposition of the difference between the average rank of males (3.22) and females (1.57). Although 9.6% of the gap is compositional and 6.6% is shared, 83.8% is structural in nature and due to the male advantage in returns to schooling.

Some care is called for in the interpretation of the relation between sexual segregation of the rank hierarchy and this sex difference in the coefficients of schooling. We are not saying, nor need it be the case, that sexual segregation results from or is the by-product of the firm's failure to reward the schooling of women at the same rate as applies to men. It could just as well be the case that denying females access to

higher level positions--as a predetermined matter of company promotion policy--has the effect of reducing their return to schooling below what it would otherwise be. In other words, whether segregation results from differences in the way the company looks upon the schooling of men and women, or whether differences in the value of schooling result from a policy of segregation, is really immaterial. What is important is that it is the male-female difference in returns to schooling, not in returns to experience nor in the overall levels of human capital, that is associated with rank segregation. Since rank segregation cannot be accounted for on the basis of the lower qualifications of women, neither can the salary inequality induced by rank segregation be explained in these terms. In a manner of speaking, rank segregation and the salary differential due to it reflect unequal opportunities for equal qualifications.

4. SUMMARY AND CONCLUSIONS

In this paper I have examined job-specific sexual differences in the in the processes governing the salary attainment of management personnel of a large company. Within-employer comparisons have the advantage of automatically controlling for earnings differences engendered by the unequal distribution of the sexes across high- and low-paying employers. Confining attention to a specific job class not only ensures homogeneity with respect to special job-related skills, but eliminates salary differences that may be associated with the unequal distribution of men and

women across jobs whose ladders lead to higher hierarchical rank. These types of controls permit a more precise assessment of the extent to which sexual salary disparities issue directly from differences in the rates of return to human capital (wage discrimination), or are created indirectly by the segregation of the rank hierarchy along sexual lines.

Probably the first and most general conclusion to be drawn from the findings is that male-female differences in organizational rewards are rooted primarily in differences in the structural processes governing reward-attainment rather than in differences in the levels of resource endowments. Our results support the conclusion that within-employer sexual inequality in salary as well as rank is less a matter of sex differences in mean levels of schooling and experience than it is a matter of the differential significance the reward system assigns to the resources of men and women. In the final analysis, the disadvantage of women may be traced to the less favorables rate structure that governs their exchange of productive contributions for rewards.

My central finding has to do with the mechanism by which structurally induced salary inequality is itself generated. The results indicate decisively that rank segregation rather than wage discrimination per se is the dominant source of the economic disadvantge of women, at least in this company. To be sure, there is evidence that wage discrimination does make a contribution to the male-female salary gap; for equal levels of schooling, experience and rank, women are paid less than their male counterparts in the same job class. But the fact is that the major part of their economic disadvantage is due not to unequal pay per se,

but to unequal access to the higher-paying positions in the job class. Stated differently, women lose and men gain not so much from the way pay is allocated, but rather from the way promotions are distributed.

Strictly speaking, this conclusion brings us about as far as the available data allow. Not answered in any definitive way by our analysis are two very important questions regarding organizational inequality, namely, why are women disadvantaged at all, and why does their disadvantage take the form of rank segregation? In all contexts the common -- and one is almost tempted to say preferred--answer is sexual discrimination on the part of those (men) in control of the allocation of rewards. Although our findings are certainly suggestive in this regard, the evidence produced here does not itself document the operation of discriminatory practices on the part of the employer. Indeed, I know of little hard evidence produced by any analyses that points directly to discrimination with respect to either pay or promotion. At the same time it must be said that to demand hard evidence of discrimination is unreasonable; given that the discrimination hypothesis must necessarily rest on an inferential basis, the appropriate issue concerns its credibility. On this count theoretical and empirical considerations suggest that the discrimination hypothesis is far more persuasive as an explanation of rank segregation than of sex differences in pay for the same job.

In the first place, the empirical evidence showing within-employer sex differences in pay--or what we have conveniently but perhaps misleadingly called wage discrimination--is very thin. Even the evidence of wage discrimination that shows up in our findings may be

easily explained by male-female differences in productivity that reslt from compositional differences not represented in our model. The inclusion of information on time worked per year, absence rates and so forth, as well as finer measures of educational attainment and experience, could possibly explain the structurally induced salary differential that persists even when rank is controlled (see, e.g., Malkiel and Malkiel, 1973). On the other hand, the greater magnitude of the salary differential attributable to rank segregation makes it less likely that it could be accounted for by additional and better indicators of human capital (again, see Malkiel and Malkiel).

Theoretical arguments would also appear to more strongly favor discrimination in rank than in pay. Assuming that an employer has a "taste" for discrimination (Becker, 1971), it would make more sense not to promote women in the first place than to assign them to the same rank as men and then pay them less. Unequal pay for equal rank may be a source of friction even when justified by differences in productive resources; when unequal pay is correlated with nonproductive personal characteristics like sex, it is even more likely to engender a reduction in morale and an increase in discontent. And indeed it should, since it violates the normative principles that underly most organizational reward systems. These principles normally assert an association between an individual's rank and the company's assessment of merit (recall that our findings show that, for men and women alike, rank is in fact the major direct determinant of salary), so that differences in pay not correlated with rank nor with productive resources come under very close scrutiny.

But unequal pay resulting from unequal rank legitimates itself, even when unequal rank is itself rooted in sexual discrimination. Differences in rank that result solely from sexual discrimination do not constitute as overt a violation of the bureaucratic normative principles governing the allocation of rewards. Because hierarchical rank represents the structural expression of merit (as assessed by the organization), failure to achieve high rank is interpretable as ipso facto evidence of lack of merit. Hence, the normative association between rank and merit, together with the vagueness of the concept of merit itself, would permit an organization to practice rank segregation--but not wage discrimination--while remaining outwardly consistent with its own principles. Of course, it is no coincidence that these principles merely reflect the rules governing the efficient organization of a bureaucratic reward system: The discriminating employer would do better to establish a single company-wide salary system and then assign women to the lower-paying positions than to develop a dual salary structure organized around sex.

Obviously, none of this proves that employers do not discriminate with respect to pay, any more than it proves that they do discriminate with respect to rank and promotions. What it does suggest is that if we believe that structurally induced sexual inequality is rooted in sexual discrimination, then we should also believe that discrimination is more likely to operate and to greater effect via rank segregation than wage discrimination. This in turn would imply that subjective

feelings of discrimination among working women should be more pronounced with respect to disadvantages in rank and promotions than in pay per se. Thin as it is, evidence cited by Cohen (1971:435) indicates that this is the case. He reports that the 1969 SRC working conditions survey shows that the "most frequently mentioned form of discrimination was that women are given fewer promotions than men." Although it would be unwise to lean too heavily on this evidence, it is consistent with our results and the conclusions we have drawn from them.

Finally, something should be said regarding the generalizability of our results. Although it is impossible to state with any certainty the degree to which our findings extend to other employers and types of jobs, not to mention other time periods, the little available evidence bearing on the question of external validity suggests that this firm's salary practices are not atypical. It is worth mentioning again that the estimates of the simple human capital model of salary determination, whether based on the subsample of managers analyzed here or on the full sample, yield a pattern of coefficients remarkably similar to those obtained by aggregate analyses of national samples. More important still is the degree to which our findings parallel those reported by Malkiel and Malkiel. They also found that sexual inequality in the company they studied operated primarily via differential rates of assignment to higher-paying positions rather than through wage discrimination.

This similarity is especially striking in light of the several major respects in which the two studies differ. Our data are for 1960, pertain to nonprofessional management (line) personnel engaged in fairly

routine work, and refer to a job in which females constitute a numerical majority; their data are for 1969, pertain to highly educated professional staff engaged in work of a technical and scientific nature, and refer to a job in which males are a numerical majority. That the two studies should yield similar results even in the face of such differences reinforces our belief in the generalizability of our conclusions. Of course, this does not prove that the relative effect of rank segregation and wage discrimination on within-employer sexual inequality is not conditional on the nature of the organization or job; it probably is affected by both organizational and job characteristics, and probably varies over time as well. But on the basis of the available evidence, thin as it is, and until additional research is brought to bear on the issue, the null hypothesis must be maintained.

NOTES

[1]Most research on organizational reward-attainment processes has focused exclusively on the careers of men (Beattie and Spencer, 1971; Wise, 1975), thereby precluding the treatment of sexual inequality. Although there have been qualitative accounts of male-female differences in organizational reward-attainment (Kanter, 1977), the study by Malkiel and Malkiel is the only quantitative analysis of which I am aware.

[2]Father's occupation, father's education, and nativity (local-, extralocal-, and foreign-born) had no effect on the salaries of men or women, and therefore were excluded from the analysis. Marital status has the expected effect--married men earn more while married women earn less than their single counterparts--but it is very small and statistically insignificant.

[3]This company's definition of management personnel--and the one used here--covers all employees having supervisory responsibility. This does, of course, conform to the definition that usually informs organizational research.

[4]The dollar values of the interval midpoints are 4620, 5490, 6480, 7230, 7740, 8310, 9790, 12910, 17234.

[5]The education codes are: less than high school - 10; high school graduate - 12; some college - 14; college graduate - 16; post-graduate work - 18.

[6]The intercepts of the salary equations may be interpreted as rough estimates of starting salary net of the effects of education, previous work experience, and previous positions (see Halaby, 1977a).

[7]These minimum values refer to the explained variance uniquely attributable to differences representing male (1%) and female (22%) economic disadvantages. The 20% difference between the minimum and maximum values is the explained variance that is shared owing to the covariance between male and female disadvantages.

[8]The decomposition procedure discussed here is straightforward. The observed average salary of men and women may be written as

$$\bar{S}_f = \exp(h_f(E_f, X_f))$$

$$\bar{S}_m = \exp(h_m(E_m, X_m)),$$

where $\bar{S}_f$ = \$5324 is the female average and $\bar{S}_m$ = \$8266 is the male average, and the h-functions on the right-hand side stand for the estimated salary equations given in Table 2. The expected salary of women who are paid according to their own salary structure but have male levels of schooling and experience is $S'_f = \exp(h_f(E_m, X_m))$; the expected salary of women who retain their own levels of resources but are paid at male prices is $S''_f = \exp(h_m(E_f, X_f))$. The compositional, structural and shared components are then given as $(S'_f - \bar{S}_f)$, $(S''_f - \bar{S}_f)$, and $(\bar{S}_m + \bar{S}_f - S'_f - S''_f)$ respectively. A nice exposition of the decomposition procedure is given by Winsborough and Dickinson (1971).

[9]It is correct to speak of differences in rank distributions as reflecting differences in promotions because most men and women started their organizational careers at the same rank.

[10]The rank categories represent a classification of the positions of operators according to the authority and responsibility associated with

them; for details see Grusky (1966). As the actual distributions indicate, no operators achieve the top (rank I) level of the hierarchy.

[11]This result contrasts with results obtained for the full sample of managers, which show that there are no overall net sex differences in the rank coefficients. Apparently, sexual differences in the rates of return to increments of rank are confined to instances in which men and women occupy the same job class.

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